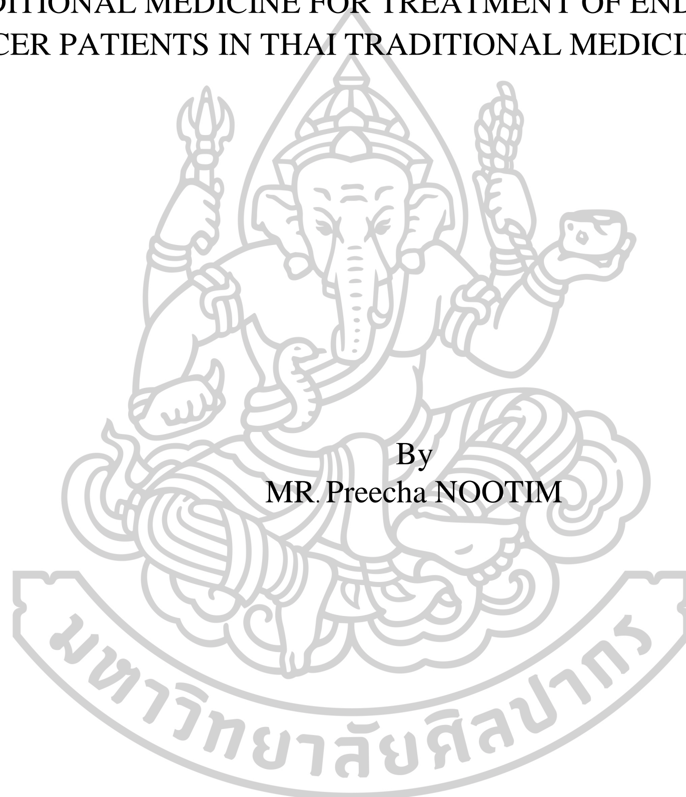
DEVELOPMENT OF PALLIATIVE CARE MODEL USING THAI TRADITIONAL MEDICINE FOR TREATMENT OF END-STAGE LIVER CANCER PATIENTS IN THAI TRADITIONAL MEDICINE HOSPITALS



By
MR. Preecha NOOTIM

A Thesis Submitted in Partial Fulfillment of the Requirements
for Doctor of Philosophy (SOCIAL AND ADMINISTRATIVE PHARMACY)
Graduate School, Silpakorn University
Academic Year 2019

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นายปรีชา หนูทิม

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Title	Development of Palliative Care Model Using Thai Traditional Medicine for Treatment of End-stage Liver Cancer Patients in Thai Traditional Medicine Hospitals
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MR. PREECHA NOOTIM : DEVELOPMENT OF PALLIATIVE CARE MODEL USING THAI TRADITIONAL MEDICINE FOR TREATMENT OF END-STAGE LIVER CANCER PATIENTS IN THAI TRADITIONAL MEDICINE HOSPITALS THESIS ADVISOR : ASSISTANT PROFESSOR NATTIYA KAPOL, Ph.D.

Current cancer modern medical treatment in mainly a treatment for inhibition of hepatocellular carcinoma proliferation in different stage, however, liver cancer is the still most diseases with high incidence and mortality rate. Moreover, modern medical treatment has several side effects. Thai traditional medicine is an alternative for the treatment of end-stage liver cancer patients. This research aimed to develop a palliative care model using Thai Traditional Medicine (TTM) for treatment of end-stage liver cancer patients in TTM Hospitals. Five TTM hospitals implemented the model comprised of 1) Thai Traditional and Integrated Medical hospital 2) Uthong hospital 3) Wattana Nakhon hospital 4) Khun Han hospital and 5)Sawang Daen Din Crown Prince Hospital. The methods were conducted in 3 phases including 1) the study of situations, problems, and obstacles in the care of end-stage liver cancer patients in TTM hospitals, 2) the development of the model of palliative care for end-stage liver cancer patients with TTM, and 3) the implementation and assessment of the possibility of using a palliative treatment model for liver cancer patients with TTM at TTM hospitals. The results showed that the palliative care model for end-stage liver cancer patients composed of 1) the roles of healthcare professional team 2) treatment of end-stage liver cancer patients guidelines 3) holistic care guidelines, and 4) guidelines for referral system and home visit. The model was applied to TTM hospitals with 3 different platforms, which were stand alone, paralleled and integrated services. After the implementation, the evaluations were conducted in 3 groups of participants; healthcare team, patients and caregivers. Data were analyzed by descriptive statistics such as frequency, percentage, mean, standard deviation and compare the evaluation score between before and after implementation with paired t-test statistics. Regarding possibility evaluation, all health care providers agreed that the palliative care model using TTM for treatment of end-stage liver cancer patients was possible at a high level for implementation. The satisfaction of health care team and the patients' symptom were significantly changed after the implementation. Clinical outcomes in physical and mental aspects of patients were improved significantly ($p<0.05$). Patients and their caregivers' satisfaction toward palliative care services were at highest level (M=4.38;SD=0.46) and (M=4.22;SD=0.38); respectively. In conclusion, the developed palliative care model using TTM for treatment of end-stage liver cancer patients can be implemented in the TTM Hospitals. The TTM model should be adjusted according to resources and policy of each hospital. However, outcome evaluation for testing the effectiveness of the model in the long term is highly recommended for further study.

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CHAPTER I
INTRODUCTION

Importance and Background

Nowadays, the problem of illness among people is likely to change from communicable diseases to non-communicable diseases or chronic diseases such as diabetes, high blood pressure, cardiovascular diseases and cancer, which is a chronic disease that requires close care over a long period of time. Since patients with chronic diseases cannot be cured, improper care may worsen symptoms and quicken the end of their lives. In addition, patients may suffer from pain both physically and mentally, resulting in complicated problems which must be faced by patients and their families, who are forced to rely on advanced medical technology to support their lives. Chronic diseases require continuous treatment and care over a long period of time, when the disease prognosis worsens to the final stage, patients often suffer from physical and mental problems, such as pain, anxiety, depression and breathing difficulties, as well as familial and societal problems, all of which cause periodic hospitalization in the last days of life. Among such chronic diseases, more human and economic resources are used in the treatment of cancer and its effects than any other, making cancer an important health problem world-wide. It is the number one cause of death in Thailand, with the mortality rate increasing from 91.2: 100,000 populations in 2010 to 104.8: 100,000 populations in 2013, 107.9: 100,000 populations in 2014 and 112.8: 100,000 populations in 2015 (Ministry of Public Health & Bureau of Policy and Strategy, 2016). In particular, liver cancer is common throughout the world. Data from the World Health Organization and the International Agency for Research on Cancer shows an incidence of 1 to 523,000 cases per year that liver cancer is found in 7.9 percent of males the fifth highest among all cancer patients. Liver cancer is also found in 6.5 percent of females, the most common cancer, and 1 per 226,000 cases per year, commonly found in East Asian countries. The liver cancer incidence is more than 20 per 100,000 cases per year, patients with liver cancer worldwide die at a high rate (Ei-Serag, 2012). Untreated liver cancer patients have a 1 year survival rate of 17.5% and a 2 year survival rate of

7.3%(Cabibbo et al., 2010). Data of the year 2014 from public health statistics, Ministry of Public Health, Thailand found that liver cancer was a leading cause of death and chronic illness, ranking number one cause of premature death, and was the most common cancer in males and the fifth most common in females (Ministry of Public Health & Bureau of Policy and Strategy, 2016). Risk factors for liver cancer in patients around the world are chronic hepatitis B or C infections, cirrhosis and alcohol drinking. For various reasons, chronic hepatitis B infection remains a leading cause of liver cancer in Thailand,(Ei-Serag, 2012) with more than 6 million Thais diagnosed as hepatitis B carriers. (Merican et al., 2000)In addition, alcohol consumption is a major cause of liver cancer as Thai people consume the fifth highest amount of alcohol in the world.

The treatment guidelines for liver cancer patients with modern medicine are known as the Clinical Practice Guidelines (CPG), which is the standard form of treatment for patients in hospitals. It is divided into 1) Diagnosis and symptoms, and 2) Treatment. Treatment will depend upon the stage of the disease as diagnosed by the physician. Liver cancer patients are treated with radiation therapy to destroy the cancer tissue, surgical treatment and liver replacement. Chemotherapy is one of the most widely used methods. However, the use of chemotherapy results in adverse effects, especially effect on the digestive system which found 38.8% of cancer patients, followed by effect on blood system, 38.3% of cancer patients. The most common symptoms are fatigue, lassitude, nausea, vomiting, hair loss, infection, abnormal blood clotting, anemia or leukocytopenia, buccal ulcers and constipation or diarrhea. Some chemotherapy drugs may cause constant pain which takes different forms such as burning pain, numbness like pain, pain in the hands and feet, headache, muscular pain including gastritis like abdominal pain.(Thai association for the study of the liver, 2015).

End-stage cancer patients show terrible clinical symptoms and a decrease in their ability to perform duties, affecting themselves and their families physically, mentally, socially, and spiritually (Kittikorn Nilmanut, 2012).The most common and

worst symptom is pain (Sasikarn Nimmanrat & Chatchai Preechawai, 2007), and patients will suffer psychologically from the instability caused by the disease. Faced with unavoidable death (Wongjan Petchpichetchean, 2011), patients experience anxiety, depression, despair, and fear of dying alone (Kittikorn Nilmanut & Kongsuwan, 2013). Any part of life left unfulfilled (Temsak Pungsassamee, 2007) results in the end of life being a time of grief, as well as having an impact on the roles and responsibilities of patients and families (Tapp, 2000).Therefore, end-stage cancer care focuses on reducing pain and circumstantial symptoms to increase the quality of patients' lives, and allowing patients to die with dignity in accordance with the guidelines that patients and their families have expressed to be their will (Temsak Pungsassamee, 2007)

The end-stage patient care system in health care centers in Thailand involves patients being taken into care in the general ward without separation from other patients. Moreover, it is the last resort, resulting in holistic care not being delivered (Sawittri Maneepong, 2008). Care focuses on physical therapy rather than the psychological, social and spiritual needs of patients. This leads to suffering from treatment and does not improve the quality of life. The factors affecting the care quality for end-stage patients are death perception, life experience, adaptation, maturity, mental support, society and culture and personal beliefs. Moreover, there are multidisciplinary factors such as age, experience of medical personnel, the relationship between the profession and patients, knowledge and skills in caring for terminally ill patients, multidisciplinary service and collaboration systems (Tussanee Tongpratheep, 2004). Therefore, if there is a system of caring for a terminal patients which deals with the various factors and psychological, spiritual and social treatments, there will be a better quality of life for patients (Sirimart Piyawatthanapong, 2009).

At present, Thai traditional medicine practitioners have entered into a multidisciplinary team, playing a role in caring with Thai traditional medicine being considered as another profession close to the patient. They play a very important role in the care of patients, especially in cases of chronic diseases, so that patients have the option of effective care. Thai traditional medicine practitioners can be representatives

of a multidisciplinary team and care for terminally ill patients, both in the hospital and in the community, and constantly supply data to patients and provide patients with choices, as well as access to quick, easy and comprehensive service. Therefore, palliative care for end-stage patients is as important to patients living normal lives. Body and mind care, thought adjustment, understanding the reality of life's impermanence, living the remaining life to be valuable to yourself and others, practicing preparations to deal with physical pain and smiling at death when it occurs are considered a beautiful art patients and non-patients should learn, practice and set in carefulness. Increasing the cancer treatment model with the combination of Vipassana Meditation and the use of alternative medicine fits with the trend of Thai traditional medicine, and is well known among people, especially the care and rehabilitation of cancer patients. It can be seen from the fact that cancer patients favor treating cancer by using Thai traditional medicine and herbal medicine, herbal compresses and in addition, they prefer to go to treatment with folk healers in different regions. The advantages of Thai medicine and herbs being a holistic health care choice that goes beyond physical treatment, including using encouragement and good spirits to deliver services to patients. Furthermore, it is a less expensive treatment which uses local resources, resulting in ways to treat cancer from temples and folk healers, as well as increasing of purchasing health supplements from advertisements. These products are either in good quality or inferior quality. It is wasting of money and time searching for cure. From the literature review, there was no study of palliative care of end - stage liver cancer patients using Thai traditional medicine in Thai traditional medicine hospital. For this reason, I am interested in the study of palliative care for end - stage liver cancer patients using Thai traditional medicine in the Thai traditional medicine hospital.

At present, the Government and the Ministry of Public Health have a policy of promoting the use of Thai traditional medicine integrated with modern medicine for the treatment and rehabilitation of cancer patients. It has been found that Thai traditional medicine is increasingly accepted, especially by patients with chronic diseases such as cancer, paralysis, paresis and aches. Treatment with Thai traditional medicine and Thai

massage has helped restore patients back to normal and reduce the occurrence of complications. In 2014, the proportion of outpatients using traditional Thai medicine services was 16.5%, which increased to 17.5% in the year 2016 (Petrakard, Limpananont, Chantraket, & al., 2007).The government has a policy of improving the quality of life of the people by enacting policies to promote and support the use of Thai traditional medicine in the public health system. In particular, there has been the establishment of 21 Thai traditional medicine hospitals, where operate with integration of Thai traditional medicine, herbal medicines, and promoting supportive care for terminal-stage cancer patients with Thai traditional medicine ("Elimination of liver fluke and cancer of the bile duct in the public," 2017). According to the survey of statistical data, the numbers of liver cancer patients who are treated in a 1-year cycle from January 2017 at Thai traditional medicine hospitals in which the research was conducted were as follows:

1) Sawang Daen Din Crown Prince Hospital, Sakon Nakhon - 147 cases

2) Thai traditional medicine and integrated Medicines hospital – 210 cases

3) Watthana Nakhon Hospital, in Sa Kaeo Province – 80 cases

4) Uthong Hospital, in Suphanburi Province - 100 cases

5) Khun Han Hospital, Sisaket Province - 95 cases

Nevertheless, there is no service in Thai traditional medicine hospital dedicated to liver cancer patients. Guidelines for treating cancer patients, particularly liver cancer patients, remain unclear. Thai traditional medicine practitioners still lacking expertise in the treatment of liver cancer patients. Thai Traditional medicine recipes have less academic information to support the treatment, as well as fewer documented outcomes. From the literature review, there was no study of palliative care of end - stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals, despite many liver cancer patients being treated with Thai medicine. For this reason, I am interested in the study of palliative care for end stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals

Research questions

1. What are situations, problems, and obstacles in the care and treatment of terminal liver cancer patients in Thai traditional medicine hospitals?

2. What form should the palliative care of end-stage liver cancer patients take in Thai traditional medicine hospitals?

3. Is it possible to use developed models of palliative treatment for end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals?

Objectives

1. To study the situations, problems and obstacles in the care of end-stage liver cancer patients in Thai traditional medicine hospitals

2. To develop a model for the palliative care and treatment of end-stage liver cancer patients with Thai traditional medicine

3. To assess the feasibility the palliative treatment model for end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals

Scope of study

This study aims to develop a model for the treatment of end-stage liver cancer patients with Thai traditional medicine at the Thai Traditional and Integrated Medicine Hospital.

Definition of Terms

End-Stage liver cancer patient means a patient who has been diagnosed by a physician with stage 3 or 4 liver cancer.

Palliative care model for end-stage liver cancer patients with Thai traditional medicine refers to the practice guidelines for palliative care of end-stage liver cancer patients with Thai traditional medicine. That consists of a maintenance plan and participation of multidisciplinary teams. In palliative care of liver cancer patients with

Thai traditional medicine, patient care is provided to the community by Thai traditional medicine practitioners and the multidisciplinary team, and emphasizes the holistic care of physical illnesses and psychological, social, and spiritual problems by putting patients and families at the center for ongoing patient care, as well as promoting patient care after discharge. It is collaboration between the multidisciplinary care teams, patients, and families.

Thai traditional medicine hospital means a hospital that is nominated by the Department of Thai traditional and alternative medicine as a Thai traditional medicine hospital with the following criteria:

1. There are 3 or more Thai traditional practitioners working.
2. There is a list of not less than 50 Thai traditional drugs (not less than 20 items in the National Drug List)
3. There are at least 5 IPD beds
4. There is a 20% contribution of Thai traditional medicine in the outpatient department.
5. There is a list of more than 5 extemporaneous remedies.
6. There are one or more clinical researches.

Benefits of the study

1. Palliative care for end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals has been improved and provides effective care.

2. End stage liver cancer patients who come for palliative care with Thai traditional medicine have a better quality of life.

Research Framework

Phase I **Current Situation Analysis**	**Phase II** **Treatment Model Development**	**Phase III** **Implementation and Evaluation**
1) 6 building blocks - Financing - Services delivery - Health workforce - Information - Medical products & Technologies - Leadership, policy & governance 2) Palliative care by the World Health Organization (WHO) - Patient screening - Diagnosis and providing information - Service participation decision - Assessing the ability level of the activities of patients - Palliative care - Discharge planning/ data transfer - Following up and evaluation	1) Create a draft palliative care model for liver cancer patients with traditional Thai medicine from Phase I analysis results 2) Focus group discussion with experts in each of the 5 hospitals - Criteria for assessing patients - Treatment guidelines - Holistic care - Factors promoting or supporting and the obstacle factors - Tools or assessment forms and various notes - The role and duty of Thai traditional practitioners and multidisciplinary team	1) Implementation of palliative care for end stage liver cancer patients by Thai traditional practitioners and multidisciplinary teams 2) Service provider satisfaction towards patient care model 3) The satisfaction of the final stage of liver cancer patients towards the care model 4) Satisfaction of primary care givers towards patient care model

CHAPTER II
LITERATURE REVIEW

In order to develop a model for the palliative care of end-stage liver cancer patients, researchers studied from related documents, articles, and various research by defining the study topics as follows:

1. Cancer
2. Thai traditional medicine theory
3. Thai traditional medicine and the last phase of life
4. WHO 2010 palliative care concepts
5. Palliative care concepts for end-stage liver cancer patients
6. Thai Traditional Medicine Hospitals
7. Researchers related to the development of end-stage cancer care
8.

1. Cancer

Liver cancer is one of the most common cancers in Thailand and many developing countries, accounting for 5.6% of all cancer diagnoses. It is 4 times more common in males than females (Bosch, Ribes, Cleries, & Diaz, 2005). In Thailand, liver cancer is the second most common cancer after lung cancer (Bureau of policy and stretegy & secretary, 2008). Most patients are aged 40-60 years. At present, the mortality rate of liver cancer patients is increasing because it is a disease that is characterized by rapid neoplastic cell division in metastatic stages. In addition, cancer can occur in more than 1 location, and it is found that liver cancer patients often also have cirrhosis, resulting in various methods of treatment being less effective than they should be.

Liver cancer causes

Liver cancer can be divided into 2 types, which are liver cancer caused by the liver itself, known as primary liver cancer, and liver cancer caused by metastases from other organs, known as secondary liver cancer. Examples of primary liver cancer are

hepatoma, or Hepatocellular cancer (HCC), and cholangio cancer. Most cases are hepatoma. and cholangio cancer are characterized by the following:

1. Hepatoma or Hepatocellular cancer (HCC)

Liver cell cancer means cancer that is caused by cells in the liver. This is the most common type of liver cancer (about 75 - 80% of all liver cancer patients) and can be found in all parts of the country. Most are caused by hepatitis B and C infections. (Sherman, 2005). Blood can be transmitted in a number of ways, such as blood transfusions, blood contact, injections, tattooing, sex and being transmitted from mother to fetus, causing the infected person to became a carrier (presence of infected agents in liver without symptoms), or resulting from chronic hepatitis finally becoming cancer. liver cancer patients often had a history of hepatitis B/C virus infection during childhood (usually found in congenital infections). When they entered middle age (40-60 years of age), liver cancer developed.

This type of liver cancer is also more common in people who drink heavily and patients with liver cirrhosis. In addition, regularly eating foods that are contaminated with Aflatoxin from fungi, such as ground peanuts, dried peppers, onions, garlic, brown rice, dried grapes, dried fish, cassava, fermented bean paste, bean curd and tofu, are also significant causes of liver cell cancer. They are supplementary causes to this type of cancer in people infected with the hepatitis B virus.

2. Cholangio cancer

Cholangiocarcinoma refers to cancer that is caused by cells lining the bile duct in the liver (Biliary tree). It is commonly found in patients living in the northeast and northern region (Sriamporn, Jintakanon, Kamsa-Ard, & et al, 2003), and is caused by chronic liver fluke infection. Patients are infected by eating raw or medium cooked fishes in the marshes (such as Mae Sadaeng, Cyprinidae, hard-lipped barb, sicklefin barb, etc..). Liver fluke in these fishes will be buried in the bile duct. If it is left without medication, the bile duct cell lining will become cancerous.

Furthermore, it is found that consumption of preservatives or nitrosamines (Nitrosamine) (3 - 3), which is a toxin in fermented protein foods (such as pickled fish, pickled pork, oranges, and sour pork), meats that contain saltpeter (such as Chinese sausage, sausage, salted meat, salted fish) and smoked foods (such as smoked fish and smoked sausage) are also major causes of this type of cancer cells as well.

Clinical features of liver cancer

Most symptoms develop slowly, especially in the early stages, with only few symptoms, or often without symptoms. Therefore, patients with liver cancer will always see a doctor at a remarkably high stage, meaning the chance to be treated by surgery is very low. The most common symptoms are:

1. Abdominal pain is always found and is often the symptom that prompts patients to visit the doctor. The pain ranges from mild or dull pain) to severe pain. The position will be under the right costal margin or epigastric. It may be referred to as shoulder pain. The pain may be constant or intermittent. The symptoms will increase during heavy breathing or exercise.
2. There is a lump under the costal margin or the chest. The patient will come to the doctor with a lump under the right costal margin or chest which grows gradually. Physical examinations find the liver becomes a convex lump characterized by non-uniform enlargement, a nodular surface, a hard or firm consistency, and sometimes there is tenderness.
3. It is always found with fever. Patients usually have either a low grade fever or a high fever of 39-40 degree Celsius, which can be intermittent or continuous.
4. Hepatocellular failure such as jaundice, ascites, symptoms of hypertension, hemoptysis, and hepatic encephalopathy. Symptoms vary depending upon the stage of cirrhosis of the liver.
5. Systemic manifestation

5.1 Paraneoplastic syndrome is usually found more in liver cancer of children with hepatoblastoma than with HCC in adults.

5.2 Hematologic change is found in various forms resulting from hepatocellular failure with cirrhosis of the liver. For example, anemia, easily bleeding, bruises, bleeding gums, epistaxis, etc..

5.3 Deterioration of health causes an inability to work. Such symptoms could be debility, anorexia, weight loss, cachectic, etc..

In the treatment plan, the doctor needs to gather repetition examination results to determine the disease prognosis in order to select appropriate treatments for the best results. In this consideration for a comprehension among doctors from various departments treating cancer, the stage of cancer has been divided into 4 stages as follows:

Stage 1 means that the disease has not spread, carcinoma on situ

Stage 2 means that the disease has early locally advanced spreading.

Stage 3 means that the disease has late locally advanced spreading.

Stage 4 means the disease has metastasized.

In that division, the doctor will rely on the 3 informative reports, namely the size and localized spreading, information indicating the spread into lymph nodes and information indicating other spreading. The stages of liver cancer are also categorized in the following way:

1. The size and progression of the tumor is represented with the letter T as follows:

TX unknown

TO non- specify the size

T1 size not more than 2 cm, not invading the blood vessels

T2, size not more than 2 cm invaded into the blood vessels,
Size not more than 2 cm with multiple in numbers
Over 2 cm in size, not invading into blood vessels

T3, more than 2 cm in size, invaded into blood vessels
Not larger than 2 cm in size, multiple, invaded into blood vessels

T4, Multiple in numbers with advance spreading out f the liver

2. Advanced spreading into the lymph nodes uses the letter N as a symbol:

Nx unknown

N0 not aggressive

N1 aggressive

3. Metastasis uses the letter M as a symbol:

MX unknown

M0 non-metastatic

M1 Metastasis

Once all of the 3 information has been obtained, it will be grouped into stages as follows:

Stage 1	T1	N0	M0
Stage 2	T2	N0	M0
Stage 3 A	T3	N1	M0
Stage 3 B	T1-3	N1	M0
Stage 4 A	T4	N0-1	M0
Stage 4 B	T1-4	N0-1	M1

Treatments of liver cancer

There are various treatments for liver cancer in Thai traditional medicine. Medical treatments that are selected by taking into account important factors such as liver function, the location of the lesion and invasive status, usually are:

1. Surgical resection can be a curative treatment for HCC, but only about 20% of HCC patients are in a condition suitable for surgery. An important factor that the surgeon must consider before planning surgical treatment is such as the size of the tumor, which usually should be no more than 5 cm to be suitable for surgery. However, from research studies, it is clear that tumor size is not the only important factor in disease prognosis. Sometimes the size of a tumor can be greater than 10 centimeters and still be suitable for surgery, especially in the absence of other inappropriate factors, because there are no other palliative

treatments available for large tumors. Contraindications for hepatic resection is liver cancer with major blood vessel invasion, such as the main portal vein or the inferior vena cava or the right atrium and cancer with distance metastasis to other organs such as the lungs, lymph nodes, bones etc..

2. The treatment of liver cancer by method of radiofrequency ablation (RFA) is used in cases where the liver tumor size is smaller than 5 centimeters with less than 3 locations in patients unsuitable for resection or for bridging to transplantation.
3. Chemotherapy in hepatocellular carcinoma with metastasis or with locally advanced HCC which is unsuitable for regional therapy such as TACE or SIRT (Selective Internal Radiation Therapy), but still has a healthy body (Performance status ECOG 0-1) and good liver function (child-Pugh A), systemic therapy is recommended, such as sorafenib or chemotherapy in cases in which access to the sorafenib group is not possible.
4. In the past, external radiation for liver cancer was limited because the liver is an organ that is less resistant to radiation. From the report, it is found that the liver can withstand a dose of only 30 Gm, resulting in the treatment being completed in just a short time. Subsequently, 3-dimensional conformal radiation therapy, 3D-CRT, was developed and used in the treatment of liver cancer using radiotherapy either alone or in combination with arterial chemotherapy. Studies have shown that high levels of radiation can be given to the liver by limiting the amount of normal liver that receives radiation, resulting in better treatment. Together with fewer side effects, indications of radiotherapy as an alternative to treating malignant cancer include:
    1. Liver cancer patient with less than 3 lesions or larger in size, contraindicated in surgery of TACE, or RFA etc..
    2. The patient rejects other treatments, such as surgery, TACE RFA, etc..
    3. Patients who fail from other methods of treatment such as TACE and RFA, etc..

4. Patients with pressure effect that causes portal vein thrombosis or obstructive jaundice, is used in combination with TACE and percutaneous ablation therapy to relieve local symptoms caused by the spread of liver cancer to various organs.

Impact of illness with terminal cancer

1. Impact on patients - When there is spreading of cancer to various bodily organs, it will increase according to the number of organs invaded. and the number of symptoms experienced by patients also increases. The ability to perform activities decreases rapidly during the last 4 - 6 weeks of life. The impact of terminal stage cancer on patients can be summarized as follows:

   The physical impact - Patients can experience many disturbances at the same time, many of which are severe. Common symptoms of cancer patients in the final stages include pain, fatigue, anorexia, repetition, as well as problems with breathing, nausea, sleep, constipation, decreased concentration or confusion (Vachon, Kristjanson, & Higginson, 1995) significant symptoms interfere with the quality of life of cancer patients during the 4th week and final weeks of life and include pain, tiredness, fatigue, difficulty in breathing, delirium, nausea, depression, and anxiety. Breathing difficulty is more pronounced and increases near death. Psychological effects include denial, anger, fear, burden, anxiety, and depression. If the patient does not accept the truth of the disease or still hopes to have a chance of being cured, there is a higher chance of anger, which can often be directed towards close ones. If the disease goes undiagnosed or the treatment provider is unable to improve its symptoms, patients can feel fear of dying alone and the process that leads to death (Bunmard Jansirimongkol, 2012).

   Social impact - some people may have to leave work, which causes financial problems, frustration, and anxiety of the family. Some patients also feel loss,

such as a loss of prestige or power, loss of roles and individuality, the loss of being able to perform normal daily activities or duties, and the separation of oneself from society. In facing death that cannot be avoided, the patient often removes themselves from society, reduce relationships with other people, show a reduced response to stimuli, have feelings of desperation, and hopeless (Bunmard Jansirimongkol, 2012).

Spiritual impact - Patients may feel a loss of faith in religion, a lack of value or power or feeling that they have failed in life. If the patient does not receive a response based on religious doctrine such as forgiveness, are abandoned to die alone, lack a family or any social network, loose of hope in all matters, including the facing of suffering, all cause the patient to experience mental stress (Nittaya Sombatkaew, 1997).

2. Impact on the caregiver and family

Physical impact - When patients have weakened, the demand for care from caregivers steadily increases according to the progression of the disease pathology. As a result, caregivers often suffer from emotional and behavioral problems. Care is therefore a heavy burden that may have a number of adverse effects on caregivers. Fatigue is high and other health problems such as headache, back pain, loss of appetite, and indigestion are also common (Loke, Liu, & Szeto, 2003)

Mental impact - Caregivers will have the most anxiety and depression during this period (Kristjanson & Ashcroft, 1994). This will cause more mental stress than physical since it is a time when caregivers are required to provide the most care for patients, especially if the patient has weakened or is suffering from illness. Caregivers often develop anxiety, frustration, and a sense of hopelessness and guilt for not being able to help patients. This, coupled with the difficulty in obtaining information and clear answers from health personnel, may increase a caregiver's depression. It is difficult to communicate about cancer with family members and patients. There is less open communication to protect the patient from talking on negative topics such as symptoms, dying, fear about the future and fear of being

alone, which is a predicted fear with the passing away of patients (Grunfeld et al., 2000).

3. Impact on roles and responsibilities - Caregivers must stop work, stop social and leisure activities to take care of the sick. It makes communication with other people more difficult. Caregivers are limited to the home along with patients, causing feels of fatigue and negative effects on the physical, mental, and emotional well-being of caregivers, and subsequently patient care (Loke et al., 2003).

4. Economic impact - Due to the caregiver having to reduce their number of working hours or to miss work entirely to look after the sick, financial problems often arise quickly, especially when treatments must be purchased. This is one factor causing stress to the caregiver (Loke et al., 2003). When the patient comes to the end period, some caregivers have to reduce the number of hours worked or have to leave work altogether (Grunfeld et al., 2000). As a result of this, it can be concluded that end-stage cancer patients and their families need the type of holistic care, which cannot separate any one component, even if the patient is in a desperate state from treatment. However, the psychological and spiritual expectations of the patients still exist. Therefore, nurses and multidisciplinary care personnel should not neglect the patients' psychological or spiritual needs or focus solely on their physical needs by overlooking the individuality of each patient and family.

5. Psychological problems in terminally ill patients and their families

5.1 Depression is most common, especially near death and in young patients. The ability to complete activities is decreased. There are few social networks which help patients to deal with social and spiritual concerns (Wilson et al., 2007). Depression may be caused by suffering from physical symptoms which are not properly managed, side effects from certain drugs such as morphine and analgesics including metabolic disorders in the body or from the effects of indirect illnesses.

5.2 Anxiety is more common when the patient has reached the end of their life. If the patient has a high level of anxiety for a long time, it may affect the health and quality

of life of the patients.(Hickman, Tilden, & Tolle, 2004) studying the concerns of patients in later stages by inquiring with the caregivers after the patient died, found that the biggest concerns to patients are loss control of body functions and dependence and burden on others, while the least concerns are events that will occur after death, being respected, the desire to be alive, the use of painkillers and places of death. Fear is the emotional response of a person to something dangerous. It clearly includes suffering from symptoms such as the inability to control feelings, loss, being alone, death, and what will happen after death. (Tsai, Wu, Chiu, Hu, & Chen, 2005) studied the relationship between fear of death and good death, and found that patients with a mild fear of death will tend to die calmly or die very well, while the elderly have a higher level of fear of death than the younger, especially during the 2 days before death. However, the fear of death decreases when the patient receives palliative care. Therefore, it can be said that taking care to alleviate fears will help patients to die calmly and reduce requests for doctors to help them to die faster. Helplessness occurs when a person faces an event that cannot be controlled, even if that person tries to resolve the situation, it does not affect the outcome. Therefore, individuals predict that future events will not be controlled as well. There is often a loss of control of bodily functions and a greater reliance on others. In addition, staying in an unfamiliar hospital environment together with receiving brutal care and relying on others may cause patients feel a loss in their ability to control their own environment. They cannot see the future, have no hope, feel lonely and unsure in the future and realize of helplessness conditions (Henkel, Bussfeld, Möller, & Hegerl, 2002).The reaction of patients and their families to the loss and the guidelines for caring for terminally ill cancer patients are often found to be the same psychological problems: anxiety, confusion, stress, depression, despair, hopelessness, put the most important item at the end of the list, a fear of pain while dying and of being abandoned to face death alone. Suffering from death causes separation from loved ones. They also lose everything in life. Therefore, the mental state of the family is also affected. In addition, the family has a role to care for patients as they deteriorate to the point that they are unable to help themselves. Family members

also have the added burden of patient care, resulting in a mental state of feeling crushed. Caring for the family care is important from the illness to the after death. The psychological reactions of terminally ill patients and their families to loss will occur when a severe loss is suffered.

2. Thai traditional medicine theory

In the Thai Traditional Medical Scriptures, the word "cancer" is mentioned in many places, but no definitions are given. From literature reviews, the word "cancer" is a chronic disease that is difficult to treat, similar to the diseases in the group abscesses, also called "malignant abscesses", or an abscess characterized by necrosis, infection, inflammation, gangrene, which is a spreading rot, difficulty in treating or incorrect treatment to the point where it becomes chronic (Khun Sophitbannalak (Amphan Kittikhachon), 1970).

In Thai traditional medicine, liver cancer refers to the characteristics of liver disability, such as liver abscesses, honeycombing, Kasai-lin-krabue, Sannibat-katat-Srisa-duan, etc., by which the occurrence of disease events and the pathogenesis of diseases Occur for a variety of reason according to Thai traditional medicine theory, particularly in accidents such as falling from trees, being smashed or crushed or being wounded or hurt internally without treatment. It may also be caused by feverish infections such as the hepatitis virus, eating raw or spoiled food, hyphenates behaviors or a disease with an unknown cause. In Thai traditional medicine theory, liver cancer is an ancient disease caused by karma. When it is not treated, it becomes chronic, leading to disorders in bodily systems, and disable eventually results in cancerous abscesses, Kasai, hemorrhoids, sannibhat and mahasannibhat. These are the primary causes of diseases that are ultimately associated with liver cancer.

In summary, liver cancer, according to the concept of Thai medicine theory, is caused by the pitta (fire element) which is accumulated over a long time, causing other remaining elements to malfunction until finally; the Earth element (organs) grows into tumors or cancer.

1) Cancer according to the Uthorn (gut) diseases scripture

This scripture mentioned diseases in the abdominal cavity resulting in a distended abdomen. It is caused by the abnormal elements called "maan", which is the nature of cancer, such as liver cancer, intestinal cancer, uterine cancer, etc..

2) Cancer according to the Kasai scriptures

The scripture describes the disease caused by body degeneration, becoming chronic as it remains untreated until there are symptoms of various incurable diseases including cancer.

Kasai is a disease that causes deterioration, emaciation, and poor health. This is due to either the diseases or fever destroying the physical health little by little for a continuous period without treatment. Kasai includes various diseases and disorders which may or may not be related. The mutual symptoms are emaciation, debility, weakness, anemia, icterus, body aches, muscular tenderness, dropsy, heaviness of limbs, loss of appetite, Insomnia, coughing, sometimes hemoptysis, dark urine or dripping of urine, numbness of hands and feet, sweat over palms and soles, night sweat, chest and costal margin pain, freckles, loss of muscle singular, occasional shivering, and chronic constipation.

3) Cancer according to the Dhatu-banjob scripture

In Thai traditional medicine, the cause of cancer according to the scripture, which mention of chronic diarrhea and constipation are:

1. A fever due to chronic toxicity – this causes abnormal elements and abnormal stools.

2. Eating food that is not part of the patients normal diet, or overeating raw meat, spoiled meat, oily food, pickles or rotten food, causes abnormal functioning of the dhatu (elements), resulting in flatulence, acid eructation, abdominal discomfort, GERD, and abnormal stools.

3. Four elements become over-functioning, causing bodily malfunctions and disabilities.

4. The elements of disease origin - Tesho (fire), wayo (wind) and aapo (water) are affected, causing the earth element to also be affected. The results are a severe condition called large sannibhat or mahasannibhat.

There are 15 important symptoms according to the the Dhatu-banjob scripture, which are as follows:

Disease cause abdominal pain, a loss of appetite, vomiting, insomnia, shivering sensations, incontinent excreting, tightness of the chest, body aches, anxiety, restlessness, raving, rambling speech, intense thirst, and emaciation. When it becomes chronic, the following odors may also be produced:

1. **The smell of rotten fish** mixed with Ama-shin (a twist). It happens with diseases originating in Aapo (water). Bleeding and phlegm production is increased, and is Comparable to that seen in chronic dysentery, colonic colitis or colon cancer with there are 4 symptoms here, namely fecal incontinence, incontinent urine, chest pain and drooling.
2. **The smell of rotten grass** mixed with mal-ashin (dirt). It happens with diseases originating in Tesho (fire). There is a disability in the of fire function resulting in gastric ulcers, indigestion or fever with diarrhea which are matched with 5 common symptoms - severe dry mouth, dizziness, sweaty droplets and incontinent stool and urine. These are comparable to diarrhea of typhoid fever and malaria.
3. **The smell of spoiled rice** mixed with wiwat-achin. It happens with diseases originating in wayo (wind), excluding Guccisayawata and Kotthasayawata which cause diarrhea in all cases. When considered together with the 5 common symptoms, including a stabbing pain in the abdomen, a sore throat, nasal congestion, and body aches, it may be concluded to be allergic rhinitis, frequent sore throat or low-grade fever. Infectious germs may cause gastroenteritis as food intake happens too quickly for digestion to be complete, with some food remaining undigested. In turn, this causes

intestinal bacteria to cause a stabbing abdominal pain and diarrhea, and fever caused by poor absorption, with various causes resulting in diarrhea with bad smells.

4. **The smell of rotting corpses** mixed with wat-ashin (existing disease). It happens with diseases originating in kamdao (combination of kapha and earth element). There are 3 common symptoms: chest pain, abdominal pain and swelling throughout the body.

   From etiology and the common symptoms, it is reminisant of many chronic diseases such as liver disease, liver and biliary tract cancer, pulmonary tuberculosis, intestinal tuberculosis, intestinal cancer, and intestinal parasites infestation. It is common for a protein deficiency to cause dropsy in such cases.

For medical treatment, there must be a consideration of the feces. Abnormal defecation symptoms and causes are as follows:

1. The color is black, red, white or green

2. The consistency is thick and mucus-like; it is a solid mass stained with blood. It might be rough or fine in texture with the same morphology as cat feces, chicken feces, or turtle feces.

3. The smell is normal, or similar to the 4 bad smells mentioned above.

4. **Number of times excreted** a day, is usually from 2-8.

5. Time of act either during the day or night. There may be irregular deification in relation with the diet.

6. Symptoms - There are 15 important symptoms mentioned above.

7. Cause; if correctly diagnosed, it results in correct drug administration (Khun Sophitbannalak (Amphan Kittikhachon), 1970)

In Patient care according to Thai traditional medicine principles, overall, it is considered as the traditional way of life in Thai society. It is a culture and tradition that has been passed down since ancient times. In Thai traditional medicine textbooks,

palliative care is not mentioned clearly or divided into specific categories. There are mentions of holistic care and treatment covering birth, disease etiology, holistic treatments, the last period of life perception and also includes the end of life (Institute of Geriatric Medicine, Department of Medical Services, Ministry of Public Health, 2004), which use the principles of "Thammanamai", including Kayanamai, Jittanamai and Cheewitanamai as follows:

1. Kayanamai consists of medication, food and correct diet, exercise and body movement, correct treatment with herbal medicine, and suitable food for patients. In the past, these treatments were mainly administered by folk healers and patients' families, both of whom would provide medicine and food to patients, as well as ensuring patients are given other forms of treatments such as massages.
2. Jittanamai is the care of the mind and feelings of the patients. Thai traditional medicine emphasizes the minds of the patients by encouragement the patients to fight the illness, caring like a family member and always visiting and talking to the people who the patients love, know, are familiar with, and will respect them after their death, giving love and understanding and rituals based on beliefs, and faith to build the morale of patients.
3. Cheewitanamai is living in a good environment. According to Thai traditional medicine, the ideal location for a patient to stay is clean and airy, surrounded by trees and shade, with access to clean food. Nowadays, it can be difficult to avoid food that contains potentially disease-causing elements, such as residue of chemical contamination, that of fermentation, pickles and various non-standardized dishes. Access to clean food often depends on the caregiver's financial situation and their understanding of the patient's condition.

3. Thai traditional medicine and the last phase of life

The Maranashaansutra scripture is a scripture that talks about the perception or vision of a person before dying. The symptoms that appear in the scripture are divided into 2 types, mental and physical, symptoms as follows:

1. Mental symptoms are symptoms that people who are near to death or people have an abnormal mixture of the four elements in the body. There are various phenomena by which the date of death can be predicted. The Maranashaansutra scripture states beliefs of rebirth by five phenomena seen before death. The symptoms are classified as mental symptoms before death.
2. Physical symptoms are symptoms of the four elements, each with different characteristics. With the symptoms shown, it is possible to predict the date of death. The predicted duration of life is detailed according to the symptoms of each element.

4. WHO 2010 palliative care concepts

1. The concept of palliative care

Palliative care concepts Of the World Health Organization (WHO) have the following details:

1.1 Meaning

1.2 Duration of palliative care

1.3 Palliative care principles

1.1 There are various definitions of palliative care, as follows:

The World Health Organization(World Health Organization, 2018) has defined palliative care as care management for improving the quality of life of patients and families who are facing problems from life-threatening illness. It is a comprehensive care assessment, prevention, and relief of suffering with early diagnosis, assessing and managing pain and problems, in physical, psychological, social, and spiritual aspects including having a system to support the natural process of dying, not rushing or prolonging suffering, using a multidisciplinary approach to assess and manage the

problems according to the needs of patients and families, as well as the care of grief , and introduction and counseling for families after death (Bereavement care). The international Association for Hospice & Palliative Care (International Association for Hospice and Palliative care, 2008) provide the meaning of palliative care as care for patients in stages with aggressive symptoms (progressive) and aggressive spreading (Far-advanced), in which patients may not live for a long time (short life expectancy). Care focuses on prevention and reduction of sufferings along with maintenance of a quality of life according to the remaining potential (Rungnirun Praditsuwan, 2005) has given the meaning of palliative care as a supportive care that can be performed in patients with cancer at all stages, but is always focused on the last years of the patient's life. It is palliative care coupled with more curative treatment when the disease has spread to the end. Patients and families will suffer more physically, mentally, socially, and spiritually. The care of patients and families will focus on the quality of life and when the patient's death comes, the doctors, nurses and health team have an important role to play with the family to help him die in peace and dignity, also known as good death. (Temsak Pungsassamee, 2007) has given a comprehensive definition of palliative care from diagnosis to death. In order to reduce suffering from disturbances, physically, mentally, socially, and spiritually, the patient is allowed to live to their full potential and continues after the patient's death in order to help the patient's family adjust (Jonpajong pengjad, 2004) gave the definition of palliative care to be medical care and nursing of all kinds according to needs of patients that cannot be cured. The care can be combined with psychological, social and spiritual care as needed by patients and families throughout the period of illness. The care of the patient's family after the death of the patient is based on the concept of palliative care according to the guidelines of the World Health Organization. (World Health Organization, 2018).These guidelines refer to the provision of care to promote the quality of life of terminal cancer patients and their families who are facing problems from life-threatening illness. It is a comprehensive care assessment, prevention and relief of suffering from pain and disturbances physical, mental, psychological, social and spiritual, as well as a system to support the natural process of

dying, To this end, it uses a multidisciplinary approach to assess and manage the problems of meeting the needs of patients and families, as well as coping with the grief of loss (Bereavement care) through counseling, helping the family to adjust and continue living.

1.2 Palliative care phase

The Palliative Care Expert Group (Kittikorn Nilmanut, 2012) has divided palliative care into 5 phases:

Phase 1: A stable phase is a phase in which the patient's symptoms are adequately controlled. The symptoms are relatively stable, which is the control of disturbances and quality of life or the situation of the family and caregiver as planned. The needs are met according to the care plan.

Phase 2: The unstable phase is the phase in which patients have new problems. The occurrence or the severity of the problem that is already increasing quickly which patients, family, caregivers need urgent care and management or emergency treatment by members of the multidisciplinary department

Phase 3: The degenerative phase sees patients gradually deteriorate with new predicted problems occurring. Family and caregivers experience increased suffering from illness. Therefore, they need a specific care plan to provide care and advice as needed.

Phase 4: The terminal care phase is nearing death phase. The care will focus on the mind, emotions and spirit of the patient until the period after the loss.

Phase 5: The bereaved phase is the period after the death of the patient; the caregiver and family are in a melancholy period. Supportive programs have been planned to provide advice as needed from the information mentioned above. The separation of the stages of palliative care is a way of thinking that is rooted in Western culture. It provides a systematic care service according to the concepts personal, symptomatic care. However, it is still lacking from the viewpoint of patients and families in the context of treatment according to Thai local wisdom, especially Thai traditional medicine.

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1.3 Palliative care principles

Palliative care principles, as defined by the World Health Organization (World Health Organization, 2018), help physicians widen their consideration for patients. The duration of palliative care is uncertain, lasting from days to years. Palliative care consists of:

1) Early diagnosis of incurable disease

2) Holistic assessment and management of pain and other disturbances

3) Reducing suffering and improve the quality of life for patients and families

4) Realizing that death is a normal process of life

5) Not prolonging life or stop death

6) A multidisciplinary team looking after patients and families to meet their needs

7) Organizing a support system for patients and their families when facing death.

8) Organizing a support system and family counseling in grief from the loss and separation

Temsak Phungrasami has addressed the heart or the 4C key principles, which consist of patient and family centered care, covering all needs physically, mentally, socially, and spiritually (Temsak Pungsassamee, 2007). Are these the 4C key points you mentioned? If so, put them into a separate sentence in list form. Jonphajong Pengjad (Jonpajong pengjad, 2004) discussed the type of palliative care That is given to patients with diseases that cannot be cured throughout the duration of the illness by providing comprehensive medical care for the control of physical symptoms, as well as providing care and support mentally, socially, culturally and spirituality. Principles of care consist of 2 parts: 1) Attitudes to the care - caregivers must be aware and sensitive to other people's feelings, pay attention and try to understand the suffering, respect the individuality, and accept the society, culture, religion and other cultural factors of the patient. The care consists of good communication between the team and patients and families, and the provision of comprehensive care by personnel in many branches. There

is coordination in the care team providing the best quality care for specific patients. (Kittikorn Nilmanut, 2012) discussed the principles of care, consisting of 1) providing patient-centered care for decisions related to caring and family participation in decision-making processes 2) Giving importance and value to live until the end and promote the quality of life of patients until the last day 3) Providing care based on the culture of the patient which researching the patient's cultural core, and understanding the value of cultural beliefs and being aware of cultural differences. 4) Providing comprehensive care and focusing on total physical, mental and spiritual. 5) Giving continuous attention to care. 6) Working as a team of health personnel and other personnel. 7) Effective communication and 8) Continuous education in the development of effective and successful end-of-life care.

In conclusion, the principles of care for terminally ill cancer patients in this research is based on the World Health Organization's palliative care model

1) Emphasizing comprehensive care including the physical, mental, social, and spiritual aspects, and managing and alleviating suffering from physical symptoms together with promoting emotional, psychosocial and spiritual comfort for patients, taking into account cultural diversity and beliefs. The goal is to improve the quality of life of patients and families so that life can be lived to its fullest.

2) There is coordination in an effective care team.

3) Patients receive referrals between hospitals or between care units to ensure continuity in health care.

4) There is monitoring of the sorrow of the family after the death of the patient.

5. Palliative care concepts for end-stage liver cancer patients

5.1 The following are the definitions of terminal cancer patients: (Wannee leelakul & Nanthaya Euamongkol, 1999) define end-stage cancer patients as: 1) Having symptoms of cancer that can not be cured. There are various symptoms indicating that a patient will not live for long, but a limit cannot be placed on the duration of life. 2) Patients with metastasis or the spread of the disease are unable to control the symptoms.

Treatment is only to alleviate pain or suffering caused by the symptoms. 3) Patients who have a recurrence of the disease after treatment and unable to be cured again. (Sirimart Piyawatthanapong, 2009) gave the definition of terminal cancer illnesses of patients and their families as 5 characteristics: an aggressive disease, an inability to cure the disease, close to death, suffering and it is connection to karma. It is a social and cultural meaning that relates to the beliefs of people who have a foundation based on the Buddhist principles of karma. The health team has defined 4 types of terminal-stage cancer illnesses, the limitation of duration of life, suffering both physically and mentally, incurable nature of the disease and helplessness. In conclusion, end-stage cancer refers to cancer patients who have illnesses entering the final stage of the disease, and cannot be cured, and when the symptoms worsen until reaching the end of life. Most patients have a short duration of life. The final care in life is based on the concepts and principles of palliative care by emphasizing the importance of providing holistic care, resulting in happiness, both physically and mentally, and relief from suffering in every dimension, especially the management of pain and disturbances, physical, mental, psychosocial and spiritual, in accordance with the culture, beliefs and religions of patients and families, so that patients can spend time at the end of their lives happily.

5.2 Palliative care for terminal cancer patients

5.2.1 Physical care - Physical problems for end stage patients who experience, including pain, difficulty breathing, fatigue, anorexia, nausea, vomiting, constipation, insomnia and confusion (Suwanna Kittinaowarat, Chatchanat Na Nakorn, & Jonpajong Pengjad, 2008)

1) Pain is a perceiving process of body describing discomfort in terms of feelings and emotions in relation to injury or destruction of tissue (Steinman, 2009). In terminal cancer patients, pain is complex and complete (Total pain)(Leleszi & Lewandowski, 2005), with physical pain affecting the psycho-emotional, social and spiritual dimensions, that is to say, when pain occurs, the patient is worried that he or she will not be well managed. At the same time, patients may be afraid

of being abandoned or separated from society and losing social status, becoming weary, hopeless, faithless, and unaccepting of death, resulting in spiritual pain.

2) dyspnea or shortness of breath (breathlessness), is a discomfort felt when breathing. Patients may say breathing feels difficult, similar to suffocation. Suffocation can be divided into 2 main reasons, which are:

1. Physical reasons – This may be caused by cancer spreading to the lungs, chest or abdomen or side effects from treatment, such as pneumonia or having an embroider or lump in the lungs, respiratory obstructions, pericardial and pleural effusions, lung infections, heart failure, arrhythmias, ascites, etc. (Oxberry & Lawrie, 2005)

2. Psychological reasons - If the patient has anxiety and fear, breathing often becomes more difficult. It will cause more anxiety as the cycle continues endlessly and breathing management is difficult.

1. Management of breathing difficulties can be achieved using the following medications:

1.1 Using oxygen supply in patients with severe hypoxia (O2 saturation <90%). Thai is not recommended for patients without hypoxia. (O2 saturation> 90%).

1.2 Using bronchodilators sprays or methylxanthines, such as theophylline orally (Peeranuch Jantarakupt & Porock, 2005)

1.3 Using steroids to relieve Breathing difficulties in aggressive cancer patients with lymphadenitis due to metastasis of lung cancer from radiotherapy.

1.4 Use of morphine and derivatives to prevent aggravations and reduce the severity of constant difficulty in breathing (Leleszi & Lewandowski, 2005). Morphine has the effect of reducing anxiety and reducing oxygen utilization, increasing oxygen accumulation, and reducing pulmonary congestion.

1.5 The use of benzodiazepines has a sedative effect, reducing anxiety and promoting sleep resulting in reduced oxygen demand and severity of symptoms (International

Association for Hospice and Palliative care, 2008; Peeranuch Jantarakupt & Porock, 2005)

1.6 Using drugs or other treatments to correct the cause of breathing difficulties, such as giving diuretics to patients with heart failure, giving blood to patients with anemic condition, giving antibiotics to patients with infections and radiation to patients with an obstructed respiratory tract from cancer.

2. Management of difficulty breathing without medication consists of:

2.1 Breathing training and correct posture

2.2 There shall be a break before the activity begins to avoid unnecessary effort.

2.3 Place items for easy handling and activity planning

2.4 Stay in a well-ventilated room. The window should be opened or using a fan to gently blow air into the patient's face.

2.5 Suggestions for eating small meals, preparing easily digestible foods with sufficient calories and nutrients.

2.6 Other therapies such as music therapy, imagery creation, or meditation practice to relax will help improve breathing and reduce anxiety.

3. Confusion (delirium)

Confusion is caused by a physical illness leading to abnormal brain activity. The patient has acute confusion and the symptoms change and fluctuate, but can be resolved back to normal (Macleod, Scrimshaw, Emmerson, Chang, & Lester, 1999)

Managing confusion by medication

1. The use of drugs to reduce violence or to control symptoms, including anti-psychotic drugs such as haloperidol, is conducted to treat all types of confusion, except for symptoms of alcohol withdrawal or benzodiazepines, olanzapine, etc..
2. The use of medication to correct the cause of confusion includes antibiotics in infected patients, giving sugar in patients with low blood sugar, providing steroids in patients with high intracranial pressure or giving fluid when the confusion is caused by reduced body water content. (Leonard, Agar, Mason, & Lawlor, 2008)

3. If drugs are the cause of the confusion, the patient should consult a doctor to adjust the medication and limit the number of drugs to the minimum possible treatment for managing symptoms with medication.
    3.1 Regularly describe the effects of the medication on the patient, including date, time, and place, and the name of the care provider to the patient, emphasizing clear and concise communication.
    3.2 Educate families about natural care and forecasting of symptoms, observation of symptoms and behavior of patients.
    3.3 Avoid binding the patient, for example with urinary catheterization, except in the case of problems with urination.
    3.4 Reduce patient stimulation by providing vision and hearing aids to patients.
    3.5 Calming the environment, dimming lights at night.
    3.6 Provide health personnel and relatives familiar to patients to dispense care in a calming manner.
    3.7 Pay more attention to what the patient is trying to communicate during confusion than with the diagnosis of the disease.
    3.8 Show patients that care givers understand what is happening by accepting patients unconditionally, respecting their individuality and behaving as normal.
    3.9 Doctors report when hallucinations become dangerous.
4. Nausea or vomiting occurs when the brainstem control center is stimulated by various causes at the same time. There is management of gastroenteritis or vomiting by medication.
    4.1 Dopamine inhibitor groups such as haloperidol, chlorpromazine etc.. Side effects found include drowsiness, palpitations, fast heartbeat, low blood pressure, dry mouth, and dry throat.
    4.2 The group of cholinergic inhibitors such as scopolamine, etc.. Side effects found are drowsiness, dry mouth, headache, low blood pressure, loss of appetite, constipation, or diarrhea, etc..

4.3 The group of serotonin inhibitors includes ondansetron, grainsetron, dolaseton mesylate etc.. Side effects found are headaches, constipation, drowsiness, and increased liver enzymes etc..

4.4 Anti-nausea and vomiting medication, such as domperidone, etc.. Side effects are drowsiness, fatigue, headache, diarrhea, and spasms of the esophagus.

4.5 Antihistamines, such as promethazine, cystizine, etc. Side effects include drowsiness, headaches, spasms, and insomnia.

4.6 The group of glucocorticosteroids such as dexamethasone, methylpredisoline.

4.7 Cannabinoid groups such as nabilone, etc.. Side effects include dizziness, drowsiness, headaches, depression, and decreased blood pressure while changing posture.

4.8 Benzodiazepines such as diazepam, lorazepam, etc.. Common side effects include drowsiness, depression, decreased motion, fatigue, dizziness, and dry mouth, sadness.

Management of nausea and vomiting without medication

1. To be in a room with good ventilation without odor or stimulation.

2. Avoid pungent food, dairy products, coffee, red meat, fried, oily or spicy food.

3. Eat dry and salty foods that are sweet or salty. Eat foods with low food temperatures.

4. It is recommended to eat little but often.

5. Avoid drinking water before and during a meal.

6. It is recommended to regularly clean the mouth and the teeth after every vomiting.

7. After eating for 2 hours should sit slightly up right and should lie down after eating for 2 hours

8. Press the point with your finger at the point which is 3 inches lower than the wrist, by pressing the said point for 5 minutes 3 times a day, or as required.

9. Music therapy to divert the patient's attention while symptoms occur

5. Anorexia refers to a person's perception of feelings in loss of appetite and unintentional reduction in food intake compared to that in normal conditions. It may be caused by disorders of the digestive system, such as sores in the mouth, mucous membranes, inflammation of the mouth, nausea and vomiting, changes in taste, constipation, fever, sepsis or dehydration, or causes from treatment such as chemotherapy, radiation or receiving certain drugs such as antibiotics or psychosocial support factors, culture and environment includes depression, anxiety, types of food, environment while eating, such as eating alone or together in the family, etc..

Management of anorexia using medication

1. Anorexia drugs, such as progestogens, megestrol acetate and Cannabinoid drugs and the Corticosteroids.
2. Medication to cure anorexia including pain medication, are these al types of medication? If so, put medication after each one and will help patients to eat more. [61]
3. Providing nutrients and fluid resuscitation must be administered with consideration of the benefits to and needs of patients, and must provide information to patients and families, including respecting the decisions of patients.

Managing anorexia without medication

1. Provide food the patient likes and wants to eat.
2. Avoid pungent or spicy food, especially for patients receiving chemotherapy.
3. Choose foods that are highly nutritious and are easily digestible.
4. Let the patient clean their mouth before eating.
5. The restaurant has good ventilation and creates a good atmosphere for eating

6. Give the patient and their family the opportunity to express worries about anorexia, and help patients and families to accept the symptoms and changing diet patterns.

6. Constipation means defecating less than 3 times a week or having difficulty in excretion with reduced frequency. The causes of constipation include diseases of the abdomen and pelvis, compression of the intestines from abdominal tumors, obstruction of guts from radiotherapy, compression of the spinal cord, hemorrhoids and perforated ulcers around the anus, disorders of the metabolic system and chemical imbalances or receiving morphine and its analgesics, anti-vomiting drugs, antidepressant drugs, gastric enamel or other reasons, such as an environment lacking privacy, relying on others to go to the bathroom.

Constipation prevention

1. Stimulate body movement and exercise of the abdomen and pelvis.
2. There should be training for the patient to sit on the toilet seat for 5-15 minutes after eating.
3. Drink warm water for about 20 minutes before defecation and about 1.5 liters per day. Patients should be encouraged to drink coffee because it stimulates the intestines.
4. Eat foods that contain at least 30 grams of fiber per day.
5. Massage the stomach in the direction according to the anatomy of the digestive tract.
6. Make the environment private during excretion. There is a device to call for help at the bed and in the bathroom with assistive devices for excretion.
7. It is recommended to sit in a position where the knee is bent higher than the hip and the body is leant forward, the elbows rest on the knees when defecating, stomach and back straight.

Management of constipation by medication

1) Bulk forming laxative 2) Lubricant laxative 3) Emollient laxative 4) Stimulant or irritant

Management of constipation without medication

1. Enema
2. Use of non-laxative interventions, Thai herbs such as *Senna siamea*, *Cassia fistula*, *Senna alata*, *Senna Alexandrina,* or *Ocimum × citriodorum*, etc.

5.3 Psychological care for terminally ill patients and their families

1) Giving love and compassion to humans - Care must be based on love and compassion, which is to treat patients with dignity and respect. Imagine that we need to lie in bed like a patient. How much suffering do we ourselves have? Or when a member of our family has to be in the same condition as them, what can we do? This thinking will give the caregiver a feeling of compassion for the patient.

2) The use of effective communication includes the use of words, of voice, facial expressions, gestures, and various other behaviors. There must be a good relationship to make the first impression, create good relationships with each other, and create acceptance and trust.

3) Easy consultation emphasizes feelings of sincerity for the patient and care giver as appropriate for the situation at that time. Talk about the sympathy of the sadness that occurred and ensure both parties are ready to exchange ideas with each other. Welcome patients and their relatives to share their experiences and feelings. Give comfort through words as much as possible so that there is mutual respect and trust. Use communication in both spoken and body language that is gentle, polite, helpful, friendly and respects the personal emotions of everyone, not summarizing events from what has been seen or heard or using personal feelings to judge actions. Patients and their families must also be sure that what they share will be confidential. In addition to listening to the subject, it is also necessary to determine if the patient is intending to harm themselves or others. In this case, help from relevant parties is needed.

4) Calm the mind and relax the patient if they still does not know the truth about their illness. Helping the patient to have a calm and relaxed mind is difficult. Therefore, it

must be evaluated thoroughly to provide appropriate care, such as exercising faith and religious beliefs. It helps to liberate the outstanding things and helping to get a response under the realities of the situation.

5.4 Social problems and care for terminal cancer patients and their families

Social problems

1.) Feeling of burden to others. End-stage cancer patients will feel anxious about being a burden to others (Chochinov et al., 2006). Studies have found that 40 percent of terminal cancer patients feel low-level tension from being burdens to others, and 23 percent feel severe levels of tension The factors that relate to the feeling of being a burden are despair, depression, high fatigue, poor quality of life, emotional well-being and unhealthy. The feeling of being a burden to others causes patients to be stressed, feel guilty and experience diminished self-esteem. (Kittikorn Nilmanut, 2012) studied the feeling of being a burden to others in 15 aggressive cancer patients. It was found that the feeling is a concern of the patients that the illness causes increasing complications as well as physical, social, and emotional burdens for others. However, it will make the patient try to adjust to maintain their status. There are studies that show that end-stage cancer patients think that their suffering with pain affects those around them, especially their family members. And, if they express such sufferings, it will increase the burden on others, so patients hide the sufferings from relatives, choosing instead to tolerate pain in order to maintain relationships with their families.

2.) Suffering caused by creates feelings of frustration, disappointment, and distress to the patient when attending health services in a medical unit. It is caused by differences in the paradigm of life and illness between health personnel, patients and their families. Health personnel focus on physical therapy, but for the patient, life is a holistic matter and all illnesses affect the whole life, not just physical illnesses. (Kissan, Clarke, & Street, 2001)

3.) Social death refers to the termination of a patient's relationship with their surrounding society before the physical death actually occurs. It reflects the feelings of loss of one's role and identity from illness. When the progression of the disease intensifies, patients have to stay in hospital often until they have to leave work and lose their role of social responsibility. Some types of treatment, such as chemotherapy, may reduce the immune system and cause hair loss. This affects the image of the patient at the same time as the patient feels more tired. Therefore, they do not want to go out to socialize with neighbors. Also, they worry about what people around will say about their illness in a negative way. These factors cause suffering for patients. Therefore, they try to avoid socializing, and avoid inviting relatives or close people to visit their house. These situations cause the patient to separate or withdraw from society and leads to social death before physical death occurs. Caring for social suffering is important in order for patients to have a good relationship and trust with their nurse. It has been found that an important component of emotional support for patients in the last phase of care is compassion. Care and concern for individual patients can be achieved by paying attention to the patient's social background. Holistic care for patients is not just physical treatment. It includes making the patient feel special. The social care guidelines for terminally ill patients and their families include:. (Kittikorn Nilmanut, 2012)

1. Promote social well-being for patients
    1.1 Promote open dialogue about illness when the patient is ready so that patients can make plans for the future and prepare for death.
    1.2 Support the use of appropriate stress management methods, such as providing information to support decisions, providing encouragement in the practice of the patient, etc..
    1.3 Facilitating religious activities by inviting religious leaders to visit and bless the needs of patients and families.
    1.4 Engage families and people close to the patients in the care and support to promote social relationships and self-esteem of the patients.

1.5 Coordinate with relevant agencies such as benefit units in the event that the patient is concerned about the cost of treatment, or other agencies that provide assistance to patients and their families.

1.6 Let patients participate in decision-making activities in the care of the end of life.

1.7 Help manage the suffering from physical symptoms so the patient can maintain the ability to do daily activities and help themselves as much as possible.

1.8 Inquire about social needs and search for unfinished business, including helping to meet the needs of the care that occurs to patients.

2. Relief of psychological suffering that occurs:

2.1 By using targets as the center, feelings of value in the patient and goals in their life can be promoted in such activities as finding the value of the patient, a life review interview, setting realistic hyphenate goals, the modification of thought structures, promoting creativity, and mental treatment for self-awareness.

2.2 Expression support means an expression of acceptance and respect for patients, listening to real conditions, patient care, examining the patient's normal feelings and stimulating the expression of patients.

2.3 Setting the environment to be comfortable using cognitive behavioral therapy form anxieties such as the art of healing, relaxation, and physical relief and strengthening of social support as a basis for organizing activities to distract

2.4 Staying with the patient means the nurse spends time with the patient and pays attention to the suffering of patients, using touch to soothe the patient's mind.

2.5 Education and coping skills training includes strengthening awareness of one's own competencies, providing true information about illnesses, clarifying the history of the mind, and promoting problem solving.

2.6 Religious methods are the use of religious practices to help alleviate suffering including religious care and prayer.

3. Prevention and assistance for patients with helplessness emphasizing information to change the judgment of the event as follows

3.1 Helps to see the events in a better way and helps the patients to see that health personnel are a positive presence, correcting or mitigating those unwanted events as well as allowing the patient to talk to other patients with the same illness, and being able to adapt successfully to the event so that the patients see what is happening to others as well.

3.2 Increase feelings of control in certain situations by their own successful actions as a positive reinforcement for the patient, such as helping patients participate in pain management by themselves, or place the doorbell ring near the patient's hand and come to inquire as soon as the ring is heard, for help etc..

3.3 Helps to change the point of view from oneself to the external environment. It can be changed with no effect in other dimensions of life and helps patients monitor, assess and manage symptoms.

4. Ensures the medication is received according to the treatment plan and observes the side effects. The drugs used to correct or relieve mental stress include anxiety-reducing drugs, antidepressant drugs, etc.. These anti-depressant drugs also help to treat other symptoms, such as loss of appetite, insomnia, lack of interest in things and the thought of being worthless. Side effects are cardiac arrest, low blood pressure, blurred vision, etc.. Antidepressant treatment is often given in combination with other psychological therapies, such as behavioral therapy and rehabilitation therapy.

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5.3 Problems and spiritual care in terminally ill patients and their families

1) Psychological problems of end-stage patients and families -Mental stress or suffering is a condition in which the values and belief systems that are anchors and give hope, including the meaning in a person's life, are changed or disturbed (Kittikorn Nilmanut, 2012) It is found in terminal cancer patients in events such as spiritual pain or crises, hopelessness, loss of power, panic syndrome and the desire to die or the desire to hasten death.

1) Spiritual pain , spiritual pain (spiritual pain , spiritual crisis) is caused by the loss of meaning in life. It often occurs when a person unexpectedly finds

themselves in an event that suddenly threatens the identity of the person and leads to the loss of anything in life, such as self-esteem, (Kittikorn Nilmanut, 2012) the meaning in life, peace and tranquility, the ability to change oneself to a meaningless existence, worthlessness that is caused by the loss of future potential.

2) Hopelessness a negative impact on future success, and predicting the possibility of not achieving the expected goal including expectations of future creates uncertainty. Patients with hopelessness are always obsessed with the past. They cannot see the solution or other possibilities and abandon all plans, including hope, instead living in a void without a future, feeling as if their life has failed (Kittikorn Nilmanut, 2012)

3) Loss of power (powerlessness) is a condition in which people perceive themselves as not being able to influence or control the incidents resulting from illness. End-stage cancer patients are more likely to experience power loss because patients have deteriorated health and must rely more on others, causing the patients to feel that they are of no benefit to the surrounding society, being a burden to others, that their own life lacked meaning, seeing the future spacing and eventually leading to the loss of power. (Kittikorn Nilmanut, 2012)

4) Demoralization syndrome is caused by the inability of the patient to achieve or reach his or her own expectations (Kristjanson & Ashcroft, 1994) The patient feels that their life is meaningless, valueless, and hopeless. The patient feels ashamed and separated from society, depressed and desires to die. Demoralization syndrome affects the ability to make decisions about the late care of patients.

5) The desire to die or hasten death is caused by the patient being unable to tolerate future events. They see that life is a misery and a threat to their identity, and accelerating death or committing suicide is a way to help patients escape from the future event. It is often linked to religious care which is the way to spiritual healing. Moreover, it is also related to faith and traditional practices that

shaped the patients and their families. Spiritual care can occur when there is a desire to have patient made to feel comfortable and their spiritual needs met. Nurses use themselves as a whole and use their spirit to provide holistic nursing care. (Kittikorn Nilmanut, 2012)

2) Psychological care for terminally ill patients and their families emphasizing the combination of various methods as follows:

1. Building relationships and developing trust between patients, nurses and the care team will help meet the patients' spiritual needs, including stop talking to the patient on a regular basis or using the following topics to promote relationships and an expression of will to provide attention caring. (Kittikorn Nilmanut, 2012)

2. Listening attentively gives the patient time to understand that the nurse is good willed and wants a meaningful relationship. It also helps to promote a feeling of safety for the patient (Taylor, 2005) and gives the patient the opportunity to share life stories, concerns, fears, beliefs. The nurse also has an opportunity to show understanding towards the patients and allows further ways to provide help.

3. Engaging the family in caring and giving importance to the family in spiritual care by encouraging the involvement of important people or family members that the patient always wishes to have visit. It is found that allowing them to visit at and say goodbye in the last moment before death helps patients to die peacefully (Jones, Huggins, Rydall, & Rodin, 2003)

4. Promoting hope helps the patient to discover ways to confirm their faith in order to get hope, strength and good memories during the end of life, and should help manage and alleviate physical suffering by monitoring and evaluating symptoms continuously. Providing information about what is expected and determining the duration of what is expected, supporting religious beliefs promotes self-confidence and social strength (Kittikorn Nilmanut, 2012)

5. Helping to find meaning in life and clarify the value of life by encouraging the patient to share stories of their past which are both positive and negative in nature. This helps patients to realize that their life is in order and their goals and end-stage illnesses are a challenge to being alive (Kittikorn Nilmanut, 2012) Furthermore, this also aids adaption to the occurrence of spiritual suffering, and promotes spiritual well-being and awareness to good death as well as a reduction in suffering (Leleszi & Lewandowski, 2005)

6. Taking care to comfort, control, and relieve symptoms. This helps to promote hope for patients (Kittikorn Nilmanut, 2012). Regularly assessing symptoms, promoting comfort and confidence in patients by effectively managing symptoms that cause suffering also help to the same end.

7. Arranging the patients' environment to minimize sound disturbances will promote self-reflection of patients (Puchalski, Lunsford, Harris, & Miller, 2006). Keep the environment calm, close to familiar homes and environments. (Devi Chaiyasen, 2009). Relatives are in a good position to help keep a patient's mind calm and keep them from depression.

8. Promoting activities for patients to follow religious beliefs such as meditation, prayer, or other practices helps to promote well-being for patients with faith in religion (Koon Potong, 2012) encouraging patients to access religious services. Religious books and equipment that promote reflection and spiritual growth, such as dharma books, al-Qura or the Bible should be procured. Similarly, inviting relevant speakers to share their experiences of adversity helps patients to deal with their situation people who have experience of advancing adversity as well as patients to share their experiences (Devi Chaiyasen, 2009)

9. A living will is a document in which patients identify their needs in matters that are primarily related to medical care to be used as a guideline in making treatment planning decisions, such as the use of life-saving procedures in case the patient wants to live. If the patient is still feeling well, the doctor will talk to

the patient by providing information about illness and treatment procedures, and let the patient consider whether to receive the treatment or not, and who has the right to choose to die peacefully and with dignity. The importance of the final phase of life need will play a huge role in providing help to save lives or allow death by natural mechanisms without prolonging time (Swaeng Bunchalermwipart, 2017)

2.7 Continuity of care

2.7.1 Chularat Srilikhittanon defined the meaning of continuous care as a health service plan provided by the service unit for service users during the illness, until the recovery period and restoration of health or entering into the final phase of life, continuously in the location followed by the needs of the patients. (Chularat Srilikhittanon, 1994)provides the meaning that it is a medical treatment process that health care providers provide to patients in accordance with procedures, either in a hospital or during and after discharge from a hospital, with good communication and coordination between health teams in hospitals and community services units. Patient and family involvement and the process of continuous patient care consists of planning the discharge of patients and caring for patients at home.(Prapatsri Shawong, 1992) provides the meaning as patient care by the service centers from patients being admitted to the hospital until being discharged from hospital, and there is follow-up for further care at home.

2.7.2 Components of continuous care

1) Discharge planning: End-stage cancer discharge planning must be a joint consultation between the multidisciplinary team, patients and families, and it should start as soon as possible. Teaching should start as soon as the patient is hospitalized. After teaching and before returning home, patients or relatives should get practical trials and be evaluated in terms of knowledge and skills until patients and families are sure that the patient or relative can act correctly and safely. It is a process that occurs systematically and continuously, including

providing support and encouragement to patients, caregivers, and their families to be fully prepared before they are discharged from hospital (Kritsana Sawaeng, Teeraporn Sathiraankur, & Rewadee Sirinakorn, 1996). The final discharge plan for cancer patients consists of 1) participation in the multidisciplinary team and involvement in caring for patients both inside and outside the facility. 2) Participation of patients and their families or caregivers. 3) The introduction of the nursing process used in discharge planning. 4) Having a discharge planning guide used as a medium for multidisciplinary team to receive patients' information. 5) is a continuous referral system for every stage of illness.

2) Referring requires the transfer of information of terminally ill cancer patients regarding illness problems, the received treatment plan, the needs of patients and families and ongoing care plans from a health service unit providing care to another facility for continuous care. And when the treatment is completed, the patient will report the results back to the health service unit that sent the patient as well.

3) Home Health Care or Home Care is a proactive health service at home for terminal cancer patients and their families to be continuously taken care of with support and good coordination from multidisciplinary institutions and networks, to be able to look after themselves appropriately according to their potential and their ability to contact staff at all times in case of emergencies.

In conclusion, continuous care for cancer patients at home is a collaborative work of the multidisciplinary team that has good coordination of nurses in the hospital and in the community, as well as patients, families, volunteers, public health networks or people involved in the community, to ensure continuity of medical services both in terms of services received before entering a hospital to services received after discharge from a hospital to prevent complications and create a system to coordinate with the other related units in order to alleviate suffering from disturbances. Patients can stay at home as needed and die peacefully when it is the right time.

4) Caregivers at home

Caregivers have an increasingly important role in caring for end-stage cancer patients because these patients will be able to help themselves less or at all. This provides patients with physical, mental, emotional, and spiritual care from familiar people and loved ones. The presence of a loved one helps to reduce tension and anxiety at the end of life. Caregivers will help respond to the needs of patients more precisely than medical and public health personnel. They help patients to have better mental health and meet patients' needs, simultaneously reducing the problem of insufficient beds of the hospital. It helps to reduce the burden on the government by providing services for patient care and reducing the cost of patients and their families in hospital stays (Pornthip Keyuranon, 1984).Palliative care for terminally ill cancer patients should focus on providing patients with comfort and relief from sufferings various physical, mental, social and spiritual disturbances. It requires good cooperation and coordination between patients, caregivers, families, multidisciplinary teams and networks in the community. This will help alleviate the suffering of patients and their families and encourage patients to prepare to face the death peacefully.

2.8 Multidisciplinary role in palliative care for end-stage cancer patients

Physicians provide the diagnoses, care and management of disturbances and refer patients to a nearby health care unit or higher service facility.

Nurses provide nursing for comfort, pain management and disturbances, responding to psychosocial and spiritual needs, providing knowledge and counseling to patients and families and instructing the use of medical devices and nutrition care. Prevention of complications assists in making decisions in situations of ethical conflicts, acting to protect the rights of patients and their families, encouraging to act according to beliefs as well as care to reduce suffering, helping who to adapt when facing the end of life and taking care of the family's sorrow after the patient has died. In

addition, the team coordinates and supports the work of palliative care for terminal cancer patients.

Social workers are responsible for assessing psychosocial needs, providing support to patients and their families with psychosocial and economic problems, and planning costs regarding care. Utilizing rights under health insurance and finding social support resources for patients and families are also their duty, as well as economic care and assisting in the management of dead bodies.

Pharmacists provide adequate care and medication advice for patients.

Physical therapists provide treatment to alleviate symptoms and prevent various complications to improve the quality of life of patients.

Religious leaders provides spiritual support, emphasizing strengthening, the acceptance of life's end and forgiveness, and help in carrying out activities according to religious beliefs along with the performance of rituals.

Volunteers provide psychological support without compensation. They are friends to listen to problems, providing encouragement or other support, such as taking a patient to see a doctor, help with housework, preparing food, staying as a friend and consoling the family after death. They provide care according to the needs of patients and are a supportive guide in getting and understanding information about the diagnosis, treatment, and prognosis, and jointly make decisions about maintenance, health care and peaceful cultural diversity.

6. Thai Traditional Medicine Hospitals

The study of the operation model of Thai traditional medicine hospitals (The institute of Thai traditional medicine, 2013) is a transcription of the operating lessons of the Thai traditional medicine hospital in the southern region. There is Thai Traditional Medical Hospital development which is a Project of the Department of Thai Traditional and Alternative Medicine that has been operating since the fiscal more than one year. There are 9 Thai traditional medicine hospitals under the Office of the permanent Secretary, Ministry of Public Health, consisting of 1) Phra Pokkhlao

Hospital, Chanthaburi Province 2) Chao Phraya Abhaibhubej Hospital, Prachinburi Province 3) Wang Nam Yen Hospital, Sa Kaeo Province 4) Watthana Nakhon Hospital, Sa Kaeo Province 5) Uthong Hospital, Suphan Buri Province 6) Khun Han Hospital, Sisaket Province 7) Thoeng Hospital, Chiang Rai Province 8) Denchai Crown Prince Hospital, Phrae Province 9) Tha Rong Chang Hospital, Surat Thani Province. Thai traditional medicine hospitals under The Government hospital, namely 1) Thai Traditional Medical Hospitals and Integrative medicine (Yosse), and there are additional studies in the Thai traditional medicine hospital which operate under the Ministry of Education, as well as temples cooperatively developed to operate as 4 Thai traditional medicine hospitals: 1) Sakon Nakhon Thai Traditional Medical Hospital, Luang Pu Fabrasuphat 2) Thai Traditional Medicine Hospital Suan Sunandha Rajabhat University 3) Thai Traditional Medicine Hospital, Prince of Songkla University 4) Thai Traditional Medicine and Complementary Cancer Hospital, Sakon Nakhon, Arokya, Kham Pramong Temple, totally 14 sites. The collective aim is to systematically study the operating results, success factors, format analysis, and make policy proposals to expand and develop Thai traditional medicine hospitals by conducting both quantitative and qualitative studies with surveys and in-depth interviews of executives, practitioners, and people using the service, synthesize important findings to contribute to the development of Thai traditional medicine hospitals, transcribe the lessons and create the appropriate form of presentation as follows:

1. Thai Traditional Medical Hospital Establishment Policy

National Health Act, 2007, Section 5, The Constitution on the National Health System, Section 47 (7) stipulates that there must be an important matter regarding the use promotion, and development of local wisdom in Thai traditional medicine, health, folk medicine and other alternative medicines.

The Health System Constitution, 2009, Section 7 stipulates the establishment of a Thai traditional medicine hospital to be a standard model for services, education, research and training of personnel in at least 1 site per region.

As the resolution of the 2nd National Health Assembly, dimension 7, 2009, Thai traditional medicine, folk medicine and alternative medicine are the main health services of the country, parallel with the modern medicine systems. In Resolution 1.3, a separate Thai traditional medicine hospital will be established to be a research and learning center, and a center for health care in each region to show the uniqueness of the Thai traditional medicine system that is consistent with the cultural context and local health wisdom.

As the resolution of the 2nd National Assembly, Resolution 7, 2009, found that Thai traditional medicine hospitals have been established by 2 departments, which are

1) the Department of Thai Traditional Medicine Development and Alternative Medicine by the director general of the Department of Traditional Medicine Development and Alternative medicine. They try to push and further support concepts Of Dr. Pennapha Subchareon, ex-Deputy Director-General of the Department of Thai Traditional and Alternative Medicine to carry out the establishment of a Thai traditional medicine hospital under the Office of the Permanent Secretary, Ministry of Public Health in order to operate as a Thai traditional medicine hospital since 2004.

2) The Committee on the development of local Wisdom on National Health under the National Health Commission, has established Thai traditional medicine hospital in educational institutions which teach Thai traditional medicine and supported the establishment of Sakon Nakhon Thai Traditional Medical Hospital, Luang Pu Fab Suphattho, focusing on Buddhist medical concepts and linking local wisdom with health and community health systems.

2. Policies to support the development of Thai traditional medicine hospitals

From the policy on the establishment of Thai traditional medicine hospitals, management strategies support for Thai traditional medicine hospitals as the country's primary health service system parallel to modern medicine according to the 2nd National Health Assembly Resolution 7, 2009 are as follows:

2.1 The National Strategic Plan for Thai Wisdom Development and Thai Way of Health No. 2, 2012 - 2016 by the National Health Commission specified in

the 2nd strategic issue no. 2.2 (2) that the Development of Thai traditional medicine hospitals to be a model for academic development, training services, and a connection to the health systems of communities and academic communities.

2.2 Policy to support the budget of the National Health Security Office (NHSO) with the Thai Traditional Medicine Fund in the fiscal year 2015, allocated funds to the Thai medical service fees at various levels of the service, including 1) primary care units / Tambon Health Promotion Hospital 2) government and private care units (tertiary Hospital / general hospital / district hospital), including service units that are a source of professional experience in Thai traditional / applied Thai medicine, and 3) 21 Thai traditional medicine hospitals of the Department of Thai Traditional Medicine and Alternative Medicine with the allocation of funds into a county global budget according to the amount of Universal Coverage population, the number of service units and service contributions in the past year in the proportion of 40:30:30. For Thai traditional medicine hospitals, allocation is according to the rate set by the government primary care unit, (tertiary hospital/ general hospital/ district hospital), with no payment exceeding 200,000 baht/ place/ year, and additional expenses not exceeding 300,000 baht/ place/ year. The total amount is not more than 500,000 baht/ place/ year. The aim of the indicators:

1) Citizens with health insurance under the National Health Security Office receive Thai traditional medicine services according to the benefits package 20% increase. 2) There are a minimum of 30 types of herbal medicines prescribed (ED & NON-ED). 3) There are a minimum of 5 drug formulas dispensed 4) There are Thai traditional medicine services for in-patients. 5) There is at least 1 clinical research conducted.

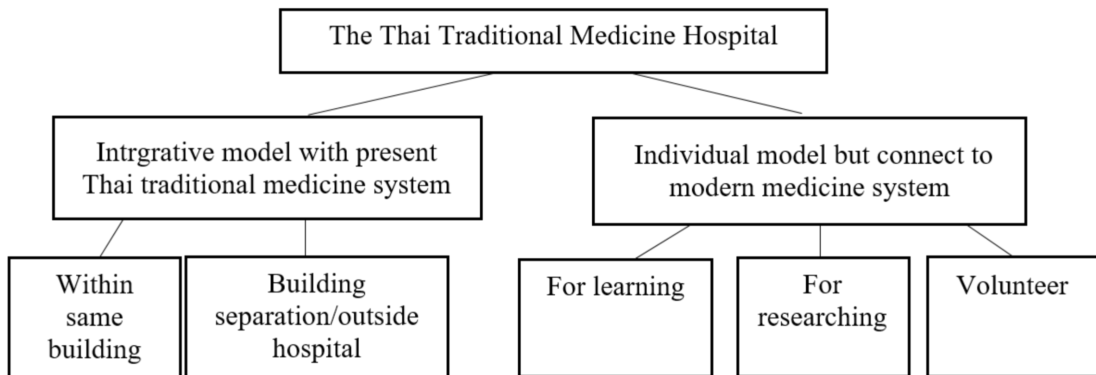
2.3 Policy on parallel OPD service systems or outpatient treatment services with Thai traditional medicine parallel to modern medicine, according to the policy

of the Minister of Public Health, Prof. Dr. Rajata Rajatanavin, no. 2.8, supporting the integration of Thai traditional medicine and herbs, logging in to the complete health service system by supporting an increase in use in hospitals, increasing financial support in the health insurance system and increasing the list of herbal medicines in the National Drug List by integrating into the integrated health service system, integrating with modern medicine in at least 50% of hospitals nationwide by 2015. To promote the use of Thai wisdom, the amount of Thai traditional medicine and alternative medicine should be given to 18 percent of patients using the outpatient department, providing people with efficient access to modern medical services alongside Thai traditional medicine.

2.4 Policy of service plan according to the resolution of the executive meeting of the Ministry of Public Health on May 8, 2015, approved the service of Thai traditional medicine and the integrated medicine service plan. The Department of Thai Traditional Medicine and Alternative Medicine established a board of directors to organize the Thai traditional medicine service level assessment in public health facilities and has arranged for Thai traditional medical hospitals as a tertiary service. It is integrative Thai traditional medicine for medical treatments with services for both OPD and IPD in general diseases, complex diseases and complications and in cases of difficult diagnosis and treatment, caring for terminally ill patients through health promotion services, disease prevention, rehabilitation, proactive work in the community, being a training center in Thai traditional medicine and conducting researches in Thai traditional medicine, as well as being able to refer patients within the health service network at the provincial level appropriately.

3. The operating model of a Thai traditional medicine hospital

From the analysis, establishment and operation of Thai traditional medicine hospitals under the Thai Traditional Medicine Hospital Development Project of the Department of Thai Traditional Medicine and Alternative Medicine in 14 locations, the operating model is divided into 2 formats. The results of each operation are shown in the chart below.



From the study of forms and performance of the model hospitals of Thai traditional medicine in various issues, including working structure systems, general management, budget and financial management, consultancy and referral services, data and informative systems management, research and development of knowledge and wisdom, it is found that Thai traditional medicine hospitals has a certain level of potential and readiness. It is different according to the context of each location as shown in the table below.

Characteristics	Integrative model	Individual model		
		Learning	Researching	Volunteer
Establishment	<u>Government sector</u> - 9 hospitals under public health permanent secretary office 1) Prapokklao Hospital, Chanthaburi Province 2) Chao Phraya Abhaibhubejhr Hospital, Prachinburi Province 3) Wang Nam Yen Hospital, Sa Kaeo Province 4) Watthana Nakhon Hospital, Sa Kaeo Province 5) Uthong Hospital, Suphan Buri Province 6) Khun Han Hospital, Sisaket Province 7) Thoeng Hospital, Chiang Rai Province 8) Denchai Crown Prince Hospital, Phrae Province 9) Tha Rong Chang Hospital, Surat Thani Province <u>a hospital affiliated with department of Thai traditional medicine:</u> 1) Thai traditional medicine and integrative medicine hospital, Yosse	1. Educational institution (Suan Sunandha Rajabhat University, Prince of Songkla University) 2. Cooperation of local government educational institutions (Rajamangala University of Technology Isan, Sakon Nakhon Campus, Sakon Nakhon Thai Traditional Medical Hospital, Luang Pu Fab Suphattho)	1. Government. sector (Thai Traditional and Integrated Medicine Hospital (Yotse) under the Department of Thai Traditional and Alternative Medicine)	1. Temple + Community (Hospital of Thai Traditional and Integrated Medicine on Cancer, Sakon Nakhon, Arokaya Hospital, Kham pramong Temple)
Structure and mechanism	1. It is a unit of the modern medicine system management by the Board of Directors of the general Hospital. 2. There is a board of directors of the Thai Traditional Medical Hospital as the special supervisor. 3. There is a group leader, or the department head is responsible under the general hospital director.	1. There is an order to appoint an agency under management of the university. 2. There is a board of executive directors.	1. There is an order to appoint a hospital under the management of the Department of Thai Traditional and Alternative Medicine. 2. There is a board of executive directors.	There is an order to appoint a hospital, a hospital establishment committee, and a meeting for evaluation, as the hospital has just officially opened. (But the temple has taken care of cancer patients for over 10 years.)
Financial sources	1. From national financial support 2. From the hospital maintenance payment 3. From donations	1. From national financial support 2. From the hospital maintenance payment (after the income has been received)	1. From national financial support	1. From donations

Characteristics	Integrative model	Individual model		
		Learning	Researching	Volunteer
Service system	1. Integrated with modern medicine 2. Outpatient clinic for services (parallel OPD system) 3. The inpatient system is in the same building as modern medicine, or separate but with a consultation with the physician. 4. Implementation of the standards of Thai traditional medicine promotive hospital, rated very good to excellent. 5. Providing services in accordance with the practice guidelines of each location. 6. There is a clear service fee rate. 7. Patients can access in 3 ways which are 1) Direct route, one is at the Thai traditional medicine hospital, two is screening points, 2) OPD screening points refer cases, 3) modern medicine physician refers cases.	1. Full branches of Thai traditional medicine services 2. Providing services for patients with general diseases according to professional standards and chronic diseases. 3. One system for both outpatients and inpatients 4. There is no modern medical system but linking the referral system to the nearby general hospital 5. Pass the hospital standard with very good level. 6. There is a practice guideline. (OPD) 7. There is a clear service fee rate. 8. Coordinate with nearby general hospitals to consult and refer 9. Patients can directly access the service	1. Full branches of Thai traditional medicine services 2. Providing services for patients with general diseases according to the professional standards of chronic diseases and cancer for research, such as Benjamarut Research, Liver Cancer Treatment 3. There is an outpatient service system during preparation for inpatient services. 4. There is no modern medical service system but linking the referral system with nearby general hospitals. 5. Provide Thai traditional medicine as major services 6. There is a combination of traditional Chinese medicine but there is no integration. 7. Pass the hospital standard with very good level 8. There is a practical guideline. 9. Direct access to the service 10. There is a clear service fee rating. 11. Patients can withdraw	1. Use Buddhist principles, Homeopathy, naturopathy, and herbal medicine 2. Treatment for cancer patients 3. There are outpatient and inpatient services. 4. Passed the hospital standards with very good level 5. Patients and relatives can request treatment directly and stay in the temple to rest. 6. Do not charge treatment fees despite donate.

Characteristics	Integrative model	Individual model		
		Learning	Researching	Volunteer
			treatment fees as according to government officials' rights and National health insurance privileges, while social security rights are under cooperating.	
medical supplies	Use Thai traditional medicine in the national drug list and non-the National drug list consisting of a single drug, a specific formulated drug, individualized decoction remedy and dosage forms such as tablets, capsules, capsules, liquid medicine, salty and oil.	Use Thai traditional medicine in the National Drug List and Non-National Drug List, a specific formulated drug, individualized decoction remedy and dosage forms include tablets, capsules, pills, water, cream, oil.	Use Thai traditional medicine in the National Drug List and Non-National Drug List and focus on the drug formula used for research studies	There is ritual during process of dispensing traditional medicine.
Information system	Preparation of patients ·medical records in Thai Traditional medicine by computer system using the hospital card number according to the general hospital medical record. There are records of diagnosed data and treatments on OPD card from the first visit and continuing in following visits in order to evaluate the treatment results and use as information for the next treatment.	Preparation of patients ·medical records in Thai Traditional medicine by computer system. There are records of diagnosed data and treatments on OPD card from the first visit and continuing following visits in order to evaluate the treatment results and use as information for the next treatment.	Preparation of patients ·medical records in Thai Traditional medicine by computer system. There are records of diagnosed data and treatments on OPD card from the first visit and continuing following visits in order to evaluate the treatment results and use as information for the next treatment.	Diagnosed data is recorded and stored on OPD card and computer system.
Referring	There is a refer-in system and refer-out system, both from the hospital and outside the hospital. The most referred symptoms are cardiovascular system symptoms, nervous system, skeletomuscular system, digestive system, and muscular system. Referral group of symptoms are the skeletomuscular system, and skin.	Refer-out system from outside the hospital the most refer-out symptoms were the cardiovascular system, nervous system, skeletomuscular system, digestive system and muscular system.	Receiving system (referring and outgoing system) both from departments within the hospital and outside the hospital. The most referring out syndrome is digestive system. The most	There is no clear system, however if the relatives of the patients want to take the patients for treatment elsewhere, there will be nurses to advise and coordinate the place for further treatment.

Characteristics	Integrative model	Individual model		
		Learning	Researching	Volunteer
			referring in-out syndrome was muscular system.	
Proactive work	In-depth operations coupled with health promotion operations of nurses in searching, monitoring and surveillance in the community, including the mobile medical unit and support of Tambon Health Promotion Hospital.	The mobile Thai traditional medicine unit, Thai traditional medicine project to the community, Transfer knowledge, training sessions in schools and educating through various media.	Issued a mobile Thai traditional medicine unit in a nearby community and educating through various media.	Conducting a project with organizations that participate in volunteerism to find cancer patients.
Knowledge management	There is knowledge enhancement including 1) collecting of knowledge and wisdom 2) collecting knowledge from work 3) Creating new innovations / research 4) Exchange of knowledge 5) Being a place for internship from the Institute of Thai Traditional Medicine. 6) Conducting research studies both independently and in combination with various departments.	Knowledgeable 1) collecting of knowledge and wisdoms 2) collecting knowledge from work 3) Creating new innovations / research 4) Exchange of knowledge 5) Being the main place for practice of Thai traditional medicine students before practice in various positions and is a training place for students from different institutions.	There is knowledge creation, including 1) collecting of knowledge and wisdoms 2) collecting knowledge from work 3) Creating new innovations / research 4) Exchange of knowledge	

Understanding and being aware of the different in knowledge between modern medicine and Thai traditional medicine will help health personnel be able to communicate and provide comprehensive care for end-stage cancer patients with empathy (Todd and Baldwinn, 2006), and promote cross-cultural services. Modern medicine professions must have knowledge, understanding and practice based on Thai traditional medicine and the beliefs, values and cultural behavior of patients in order to increase trust between patients and the Thai traditional medicine profession and the modern multidisciplinary team, so that peaceful death and dignity are promoted.

Therefore, when caring for end-stage liver cancer patients, the modern multidisciplinary team should provide the opportunity for patients to have their choice of care and live the life they desire. The care provided is consistent with the patient's cultural background. As such, using the knowledge of Thai traditional medicine for palliative treatment of liver cancer patients with cooperation between Thai traditional medicine practitioners and multidisciplinary teams will meet the diverse needs of patients and families extensively. Working as a team for palliative care and end-of-life care creates the characteristics of an interdisciplinary team in which all care-related professions are involved in patient care planning with the one goal. It is to promote quality of life and promote peaceful death. Working as a multidisciplinary team consists of health personnel from many professions participating in caring for patients based on their expertise, employing good communication and coordination between caregivers within the service unit and between the service centers, in order for patients to receive comprehensive and continuous care.

7. Researchers related to the development of end-stage cancer care

Wassana and group had studied the development of a palliative model for caring for terminally ill cancer patients at The Maharat Nakhon Si Thammarat Hospital. It was found that development of a palliative care model for last-stage patients using the holistic care concept and emphasizing patients and families as a center, as well as participation from professional teams, patients and caregivers or families, has an ordered developing process and team coordination respectively. It is a development that focuses on practical situations. Through problem analysis, situations, limitations, development opportunities, exchanging knowledge, brainstorming, and learning together, Practitioners and the team were able to see the importance by palliative care models and the problems together, and create a common sense mutual ownership of problems. This resulted in clear and uniform supervision guidelines which the service team put into practice and were convenient to use, resulting in good quality care for patients and caregivers on the whole. (Wassana sawasdeenarunat, Amornpan Tareerat, & Tantip wisetthan, 2015)

Nathshanakant and group had studied factors related to the quality of life of cancer patients who decided to undergo treatment with Thai traditional medicine. There are many factors in deciding to undergo treatment. From the study, it is seen that the patients decided to use Thai medicine in non-governmental services. Therefore, government agencies should systematically expand the development of cancer care for the family, and there should be a form of family care for all stages of the disease because the stage of cancer relates to the quality of life of the patient. In addition, Thai traditional medicine can provide care for end-stage cancer patients both in the outpatient department and the inpatient department, with clear treatment guidelines. (Nathshanakant Jirapornpong, Arunporn Itharat, Phechnoy Singchongchai, & Napatsaran Roekrungrit, 2015)

Wannaporn Patniboon and group had studied the development of guidelines for caring for terminally ill cancer patients in the inpatient ward, and clinical practice guidelines for caring for end-stage cancer patients in the special surgery ward of Det Udom Crown Prince Hospital. The tools used in the study are clinical practice guidelines for the care of end-stage cancer patients. The guidelines focus on allowing patients to plan their own deaths with dignity, making the patient accept death peacefully and according to the principles of "good death", which preserves the quality of life of individuals in the last stages of their lives. Data collection tools include questionnaires of nurses on the clinical practice guidelines and the family satisfaction assessment form. They revealed that the guidelines were easy and convenient for use. There are clear procedures suitable for use. These guidelines have a positive impact on clients and the possibility of implementation at high levels. Family satisfaction was indicated to be high as a result of the established clinical practice guidelines. This leads to reliable guidelines that can be used in practice and can be implemented as guidelines for caring for end-stage cancer patients with Thai traditional medicine (Wannaporn Patniboon, Jirapan Pratumaon, & Kaewmafai, 2012)

Patcharee and group had studied the effect of using the palliative care model in terminal cancer patients on job satisfaction of staff nurses and patient service satisfaction. It is clear that job satisfaction of staff nurses and service satisfaction of patients before and after palliative care was significantly different at 0.5 (Patcharee Charoenphon, 2003).

Thitima had studied palliative care for end-of-life patients from admission to hospital to retuning home. The study found that there is a form of care beginning from the hospital to discharge and returning home. It is appropriate and accepted by all parties for providing care. Patients and families expressed a high level of satisfaction (Thitima Phosri, 2007).

Seefah wehachat & Panadda Limthongcharoen had studied the development of a caring model for terminally ill patients of professional nurses at Bang Lamung Hospital and found that the form of terminal care by professional nurses at Bang Lamung Hospital consists of 1) creating understanding and acceptance in patients and relatives in relation to the sickness of patients, 2) promoting the participation of relatives in caring for patients, and 3) preparing for the patient to reach the final phase of life in peace (Seefah wehachat & Panadda Limthongcharoen, 2007).

Devi Chaiyasen had studied the development of a nursing model to meet the spiritual needs of terminally ill cancer patients. It was found that forms include: Component 1: The principles of the model such as the principles of holistic care in the nursing process.

- Component 2: The structure of the model includes 1) the structure of personnel 2) the location, equipment and tools used in the form 3) budget structure 4) management structure.

Component 3: Implementation in the form as follows: 1) Knowledge preparation in communication, knowledge, advising and clarifying the understanding of the use of the developed model for those involved, preparation of equipment and locations, budget, and management such as is suitable and enough allocated manpower. 2)

Providing care to patients from the initial stage until discharge. There are 3 phases, which are the admission phase, the continuous care phase, and discharging phase(Devi Chaiyasen, 2009).

The holistic patient centered care using the nursing process Developed by (Tussanee Tasprasit, Phimolrat Phimdee, Sasipin Mongkolchai, Paungpayom Jullapan, & Yupayong Puttatum, 2011) to study the development of palliative care for people with terminal cancer in a tertiary hospital. The results showed that palliative care models for people with end-stage disease consisted of 1) components put into the process for managing personnel and the environment, 2) the care management process consisting of nursing care management. Care management by the multidisciplinary team, methods of care and tools for care according to the stage of illness with final-stage cancer from the stable phase, the collapsing phase, the near-death phase and the after-death phase. 3) Expected results include outcomes for people with cancer and their families, personnel and organizations.

Wannaporn Patniboon and group had studied the development of a palliative caring model for people in the Roi Et network. Samples were professional nurses who were responsible for the primary care for end-stage patients at the department. The study found that after receiving a palliative care model for 4 phases

1. Admission phase: build relationships, assessment of awareness of disease diagnoses, providing information and advising patients and families.

2. Continuous care phase in the hospital: assessment of the symptoms and signs according to the pathology of the disease, family, and holistic needs.

3. Discharging phase: assessment of the readiness along with a plan for patients and families facing upcoming deaths. 4. Home follow-up phase by visiting patients at home and assessing nurses' satisfaction towards the implementation of the model. It was found that the overall satisfaction score is at a high level and the opinions of nurses on operational supervision on facilitation and spiritual needs support was up to 100 percent (Wannaporn Patniboon et al., 2012).

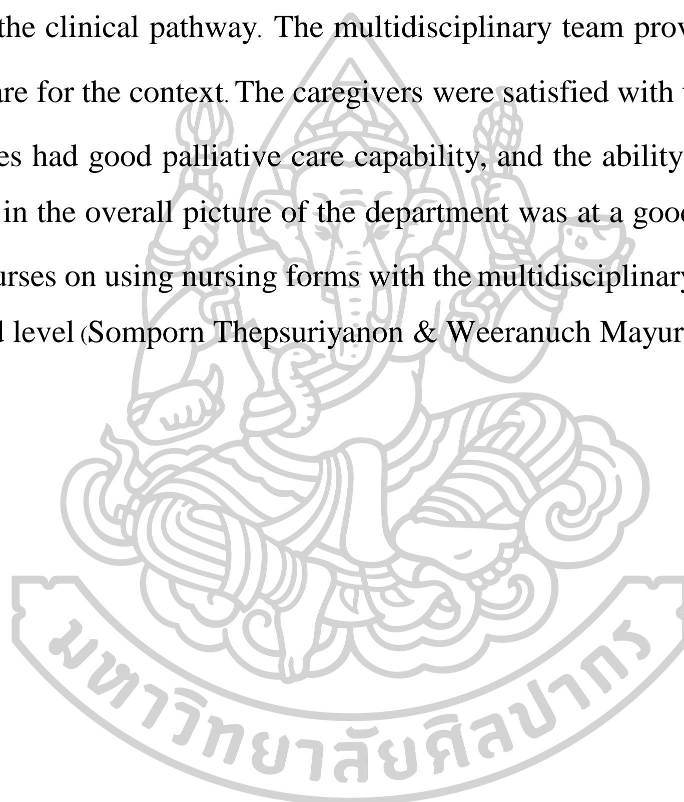
Tussanee Tasprasit had studied the development of palliative care systems in terminally ill patients at Udonthani Hospital. It was found that the palliative care system of the end-stage patients was developed by a multidisciplinary team is and consists of palliative care manuals for end-stage patients, and a referral system from the hospital to the community in the research network. The research found that when the patients received more holistic care, family satisfaction towards combination care in end-stage patients was at a high level. Nurses follow the developed care system leading to good results for patients. studied the development of palliative care for cancer patients in Sappasitthiprasong Hospital, Ubon Ratchathani, the results showed that the palliative care for the final stage of cancer patients consisted of 1) surrounding factors in care, including concepts of caring for personnel, environment, and supporting factors. 2) The care management process includes nursing care management, administrative management between multidisciplinary teams, and management of care in each phase : stable phase, transitional phase and the final phase. 3) Expected results include outcomes for patients and families, personnel, and the organization (Tussanee Tasprasit et al., 2011).

Somporn Thepsuriyanon & Weeranuch Mayuret had studied the development of care models for end-stage cancer patients with palliative care at Pra Pathum Worarat Suriyawong Special Ward 5, Sappasitthiprasong Hospital, Ubon Ratchathani. It was found that the palliative care model for cancer patients with palliative care consisted of:

- Component 1: Principles of care, including palliative care principles of the World Health Organization and joint care principles with multidisciplinary team.
- Component 2: The structure of the care system consists of 1) the personnel structure, which are case managers, the nursing team, and the multidisciplinary team. 2) The care management structure includes the provision of treatment by a multidisciplinary team, and the management of the nursing system in the

wards using case management together with the nursing care. 3) The structure, the environment, the tools, and the equipment that support the care.

- Component 3: Procedures are as follows: 1) Knowledge preparation and modifications of personnel. 2) Patient care procedures, from initial acceptance until discharge and collaboration with the multidisciplinary team based on the patient and family principles as the center. 3) Nursing according to the practice guidelines for palliative care for cancer patients with the multidisciplinary team and the clinical pathway. The multidisciplinary team provide a suitable model of care for the context. The caregivers were satisfied with the highest level. The nurses had good palliative care capability, and the ability to support palliative care in the overall picture of the department was at a good level. The opinions of nurses on using nursing forms with the multidisciplinary team were at a very good level (Somporn Thepsuriyanon & Weeranuch Mayuret, 2013).



CHAPTER III
METHODOLOGY

This research studied situations, problems, and model development, and aimed to evaluate the feasibility of using a palliative care model for patients with end-stage liver cancer using Thai traditional medicine. It was conducted from September 2017 to May 2019 with the details of the research process divided into 3 phases as follows:

Phase I The study of situations, problems, and obstacles in the care of end-stage liver cancer patients in Thai traditional medical hospitals.

Phase II The development of the model of palliative care for end - stage liver cancer patients with Thai traditional medicine.

Phase III The implementation and assessment of the feasibility of using a palliative treatment model for liver cancer patients with Thai traditional medicine at Thai traditional medical hospitals.

Population

The population in this study was divided into 3 groups which were:

1) Service providers consisting of physicians, pharmacists, nurses, and Thai traditional medicine practitioners responsible for the treatment of liver cancer patients with Thai traditional medicine from Thai traditional medicine hospitals.
2) End stage liver cancer patients receiving services at Thai traditional medicine hospitals.
3) Primary caregiver group responsible for the care of end - stage liver cancer patients admitted to Thai traditional medicine hospitals.

The research settings

This research: conducted in 5 Thai traditional medicine hospitals, consisted of

1) U Thong Hospital, Suphanburi Province

2) Thai Traditional and Integrated Medicine hospital, Department of Thai Traditional and Alternative Medicine

3) Sawang Daen Din Crown Prince Hospital, Sakon Nakhon Province

4) Watthana Nakhon Hospital, Sa Kaeo Province

5) Khun Han Hospital, Sisaket Province.

The researchers selected these five hospitals because of their continuous services to cancer patient care and their having more than 30 herbal medicines in the hospital drug list.

Protecting the rights of volunteers

This research was approved by the Ethical committee on human studies in Thai traditional medicine and alternative medicine with documentary registration number 503.13/424, dated 11 September 2017, project code 06-2560. The researcher conducted the sample group rights protection by introducing himself. Then, he clarified the purpose of the study, data collection procedures, and study duration. The notifications of the right to accept or deny participation in the study were also discussed. The sample group of personnel, who are in multidisciplinary teams, were free to decline to participate in the study with any effects to their duties. The sample group of end - stage liver cancer patients and primary caregivers of end-stage liver cancer patients, if not willing to join the project, were able to resign from the study without affecting their medical care. The documentary information of the sample collected from this study was encoded to protect the identities of the participants. The names of the participants will be used for the stated research objectives only, and will not be otherwise disclosed.

Method

The research operation was divided into the preparation stage and the processing stage as follows:

I. Preparation stage

1. Preparation of the researcher by reviewing the concepts, theories and literature related to the palliative treatment of terminal liver cancer patients both within the country and internationally, knowledge on research and development related to Thai traditional medicine in order to improve the research process,

with emphasis on the development of a palliative care model for end-stage liver cancer patients.

2. Proposing the research to the ethical committee on human studies in Thai traditional and alternative Medicine, Department of Thai Traditional And Alternative Medicine, Ministry of Public Health to review the research ethics.

3. After the committee considered the research study of people in Thai traditional medicine and alternative medicine, Department of Thai Traditional and Alternative Medicine, Ministry of Public Health the data was allowed to be collected. The researcher gave details to the hospital directors and head of Thai Traditional Medicine department of 5 Thai traditional medicine hospitals and requested collaboration for data collection.

II. Processing stage. The process was divided into 3 phases as following:

Phase I: The study of situations, problems, and obstacles of palliative treatment of end-stage liver cancer patients with Thai traditional medicine

This phase was the qualitative study conducted with an in-depth interview along with observations to understand the situations faced by the practitioners and basic problems. It was conducted from September 2017 to October 2017 at 5 Thai traditional medicine hospitals.

Sample group

The sample group was purposively selected in the 5 previously mentioned Thai traditional medicine hospitals, and was divided into the following 3 subgroups:

(1) The service provider group consisted of related physicians, pharmacists, professional nurses, and Thai traditional medicine practitioners with not less than 1 year of working experience in palliative care for end - stage liver cancer patients by selecting 15 persons from all types of service providers

(2) The end-stage liver cancer group was made up of 10 liver cancer patients whose disease has progressed to the end - stage 3 and 4, and were admitted to Thai traditional

medicine hospitals between September 2017 and May 2019 according to specific qualifications as follows:

Inclusion Criteria

1. End - stage liver cancer patients aged above 18 years.
2. The patients knew the diagnosis of end - stage liver cancer provided with adherence to allopathic medicine reports.
3. The patients were aware of the diagnosis reports and volunteered to receive palliative care with Thai traditional medicine.
4. The patients are able to communicate.
5. The patients consent to spelling in the research.

Exclusion criteria

1. The patients' physical and mental states are not suitable for participation in the research project.
2. Patients with emergency conditions, or experiencing a state of delirium, mental deterioration, coma or other conditions.

Determination criteria

1. Patients do not wish to participate in the project.

(3) Primary caregivers of terminally ill liver cancer patients were specifically selected according to the qualifications as follows:

1. The applicant must be aged 18 years or older
2. The applicant must be mostly responsible for helping end-stage liver cancer patients. The duration of care is more than 3 days per week.
3. The applicant must be open to cooperate with the researchers by providing information and being interviewed

Tools used in the research

The tools used in phase I were in-depth interviews and questionnaires developed from the six building blocks of health system[4] of the World Health Organization. This framework specifies at least 6 components: 1) leadership, policy and governance 2)

financing 3) health workforce 4) medical products and technologies 5) information and 6) services delivery providing to the following 3 questions:

1) What is the situation in the treatment of end-stage liver cancer patients with Thai traditional medicine?
2) What are the problems and obstacles in the treatment of end-stage liver cancer patients with Thai traditional medicine?
3) What are reasons for providing/receiving the treatment of end-stage liver cancer patients with Thai traditional medicine?

In questions 1 and 2, the informants were interviewed in accordance with the six components of the World Health Organization's conceptual framework of the health system, for example, what the situation of health personnel who take care of end-stage liver cancer patients with Thai traditional medicine in the hospitals. There are any problems or obstacles. The said study will provide an understanding of the situation, problems, and obstacles in palliative care of end-stage liver cancer patients with Thai traditional medicine. The results were returned to the informants for information accuracy, known as a member check, to confirm that the recorded information was correct.

Research procedures

The following are the steps taken during the in-depth interviews of the group of 15 service providers of palliative care and the group of 17 patients and primary caregivers:

1. The researcher asked a permission to interview the service provider group, consisting of physicians, pharmacists, professional nurses, and Thai traditional practitioners, who were responsible for taking care of end-stage liver cancer patients with Thai traditional medicine by telephone.
2. Arrange an appointment for the interview once consent was received.
3. Conduct an individual interview at the appointed date and time at the hospital where they work for 10-30 minutes each, and observe their performance while providing services.

4. Request consent to interview the patients and primary caregivers during the day of service provider interviews at the hospital.
5. Conduct interviews with the patients and caregivers once consent was received.
6. Summarize the results transcribing the interviews, and conducting content analysis before utilizing the results for further work.

Phase II: The development of a palliative model for end stage liver cancer patients with Thai traditional medicine.

This phase was the qualitative study focusing on group discussion. The researcher used the analyzed results of the problems and situations from Phase I to develop a palliative treatment model for liver cancer patients with Thai traditional medicine and determine issues for use in focus group discussions.

The sample groups

The sample group was made up of the experts related to the end-stage liver cancer patients' care, selected specifically for 8 persons consisting of 2 physicians, 2 pharmacists, 1 professional nurse and 3 Thai traditional medicine practitioners from the national cancer institute, the Thai traditional medicine hospital and the institute of Thai traditional medicine.

Research tools

The tool used in Phase II was the draft of a palliative care model for end-stage liver cancer patients with Thai traditional medicine. It consists of:

1. The service system for the palliative treatment of end - stage liver cancer by Thai traditional medicine in the Thai traditional medical hospital.
2. Inclusion criteria for end-stage liver cancer patients receiving palliative care by Thai traditional medicine.

3. Goals of admission of the end-stage liver cancer patients for palliative care with Thai traditional medicine.
4. Clinical practice guidelines for the palliative treatment of terminal - stage liver cancer patients with Thai traditional medicine.
5. The role of the multidisciplinary team in palliative care of end-stage liver cancer patients with Thai traditional medicine.
6. Comprehensive holistic care by Thai traditional medicine
7. Tools or assessment forms and various notes
8. Guidelines for home visits and referrals

The research procedure

The researcher arranged the meetings for the sample groups. There were 3 meetings. The first meeting was arranged on 2nd November 2017, the second meeting was on 28th November and the third meeting was on 26th December 2017.

In the focus group discussion, the researcher acted as a moderator by presenting the situations and problems found in phase I and presented the determined issues of the patient care model. They consisted of:

1) The feasibility and the suitability of the patient care model
2) The problem of adapting the palliative care model of end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals.
3) The benefits to the end - stage liver cancer patients from the developed care model for which the participants in the focus group discussion could review the issues from uncompleted notes during group discussion.

The expert group discussion aimed to develop the care form. There was processing in sub-groups as follows:

1. A brainstorming meeting of the service team of Thai traditional medicine and integrative medicine, in which there were Thai traditional medicine leader team, practitioners and multidisciplinary teams of 25 people in 4

regions, consisting of 11 Thai traditional medicine practitioners, 4 physicians, 5 pharmacists and 5 professional nurses. The meeting was conducted on January 9, 2018 to design and create a care chart for service providers in order to be a palliative care model for end - stage liver cancer patients in the context of Thai traditional medicine hospitals.

2. Group discussion with patients and/or caregivers in which problems related through the interview process were analyzed in terms of thoughts, feelings, and care for patients, as well as the previous problems and obstacles. Following this, there was a draft preparation of care model. The content consisted of 1) the inclusion criteria for the treatment of end-stage liver cancer patients with Thai traditional medicine 2) The goal of admitting end-stage liver cancer patients for Thai traditional medicine care 3) the role of the multidisciplinary team in the palliative care of end - stage liver cancer patients with Thai traditional medicine. 4) Comprehensive care with Thai traditional medicine. 5) The design of tools or assessment forms and various recording forms and 6) Guidelines for home visits and referrals.

After the group discussion between the researcher and the multidisciplinary team regarding a model draft, some issues were found to be unsolvable, which are: 1) a palliative care system for terminal - stage liver cancer patients with Thai traditional medicine in the outpatient and inpatient departments. 2) clinical practice guidelines providing palliative care for liver cancer patients with Thai traditional medicine, consisting of 2.1) guidelines for the use of herbal medicines and other Thai traditional formulaic therapies in the palliative care of terminal stage liver cancer patients. 2.2) operative clinical guidelines in Thai traditional medicine providing palliative care for end - stage liver cancer patients with Thai traditional medicine.

Corrective actions were taken regarding the various problems found. The Thai traditional medicine and multidisciplinary team found that Thai traditional medical personnel and the multidisciplinary team who provide services for end-stage liver

cancer patients still lack knowledge and skills of palliative care with Thai traditional medicine. Therefore, in order to correct and improve the first draft of the palliative care model for liver cancer patients, a meeting was conducted between the researcher and the multidisciplinary team to prepare the missing information for the second draft. The information preparation for second draft consisted of:

1) Situations and problems found during phase I and the first draft.

2) Review of relevant literature and research.

3) Expert conclusions and opinions.

4) The development of skills and experience of Thai traditional medicine practitioners and the multidisciplinary team in palliative care with Thai traditional medicine. The operations were:

4.1) The observe study of palliative care for end-stage liver cancer patients which consists of the core Thai traditional medicine profession, Thai traditional medicine practitioners and the modern multidisciplinary team of 3 groups of 6 persons. The first observe was conducted from 15-19 January 2018, the second was conducted from 22-26 January 2018 and the third took place between 4-9 February 2018 at Kham Pramong temple, Sakon Nakhon province. The aim was to observe the patient care team in order to record their operations, exchange knowledge and study the pattern of caring for end-stage cancer patients in the context of a co-operative area of the community between network partners. The forms of occupational therapy, and nutrition therapy were studied and were adjusted to the way of living in accordance with the principles of nature and the way of Buddhism to improve and develop the palliative care

4.2) To participate in observations and conduct non-participating observations of Thai traditional medicine professionals and multidisciplinary team practitioners in real situations in wards and communities where a palliative care model was developed.

4.3) To conduct an observe study and attend a workshop to exchange knowledge and create strong network, as well as expand integrated palliative care for end - stage liver and bile duct cancer patients at Udon Thani Hospital, Udon Thani Province, first

conducted from 21-25 February 2017 and conducted for the second time between 11-15 March 2018.

4.4) To conduct a meeting on the development of Thai traditional medicine Practitioners and multidisciplinary team competency: with a workshop on palliative care for terminal - stage liver cancer patients with Thai traditional medicine consisting of physicians, core Thai traditional medicine practitioners, Thai traditional medicine practitioners, professional nurses, pharmacists, both from the Thai traditional medicine and integrative medicine hospitals, and the team from the regional Thai Traditional Medical Hospital, totaling 45 persons. The meeting was conducted on 17 May, 2018 by guest speakers who are medical professors and a professor of traditional medicine who is a specialist in the palliative care of end - stage liver cancer patients with Thai traditional medicine from Tha Chang Hospital, Surat Thani Province and Khun Han Hospital, Sisaket Province. In order to provide knowledge and transfer experience, the format of the meeting consisted of academic lectures, the exchange of knowledge and experience in palliative care by Thai traditional medicine regarding communication with patients and family and multidisciplinary team, along with all personnel having the opportunity to share opinions on issues related to terminal - stage liver cancer patient care, reflecting on problems and feelings that occurred, and finding ways to solve problems such as pain management, difficulty breathing, psychosocial care and spirituality.

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Phase III: The implementation and assessment of the feasibility of using a palliative treatment model for liver cancer patients with Thai traditional medicine at Thai traditional medical hospitals.

In this phase, the patient care model was applied to all 5 Thai traditional medicine hospitals from June 2018 and May 2019.

The sample groups

The sample groups in this phase included 30 of the end - stage liver cancer patients and 55 of the service providers in previously mentioned 5 Thai traditional medicine hospitals.

The end stage liver cancer patient care model

The end stage liver cancer patient care model, which was developed from phase II, became the handbook of patient care service providing. It comprises:

1. The service system for the palliative treatment of end - stage liver cancer by Thai traditional medicine in the Thai traditional medical hospitals.
2. Inclusion criteria for end-stage liver cancer patients receiving palliative care by Thai traditional medicine.
3. Goals of admission for the end-stage liver cancer patients for palliative care with Thai traditional medicine.
4. Clinical practice guidelines for the palliative treatment of terminal - stage liver cancer patients with Thai traditional medicine.
5. The role of the multidisciplinary team in palliative care of end-stage liver cancer patients with Thai traditional medicine.
6. Comprehensive holistic care by Thai traditional medicine
7. Tools or assessment forms and various notes
8. Guidelines for home visits and referrals

The procedures are as follow:

1) The researcher explained the operational guidelines to the head of the Thai traditional medicine practitioners or assigned Thai traditional medicine practitioner and the related multidisciplinary team.
2) The researcher requested cooperation from the head of Thai traditional medicine and Thai traditional practitioners who work in the 5 hospitals in the selection of terminal - stage liver cancer patients receiving conservative treatment with Thai traditional medicine, specifically according to the inclusion criteria.
3) The researcher introduced himself to the selected patients and caregivers then explain to patients and caregivers the origin of this research, research objectives, the method of research, benefits to the research participants and to others,

compensation, confidentiality and the name and details of the person to be contacted in case of emergencies or questions.

4) The researcher gave an opportunity to ask questions and provide time for family discussion prior to decision making. When patients volunteered to participate in the research project, the researcher requested a signed form of consent.

5) When patients and caregivers voluntarily participated in the research project, the Thai traditional medicine practitioner head or the Thai traditional medicine practitioner at each assigned hospital collected the data to assess general conditions, problems and needs of care in each patient. The patients were evaluated for problems, before a care plan was created and supervised by a responsible Thai traditional medicine practitioner. The Thai traditional medicine practitioner provided treatment for patients according to the problems of each patient. The assigned practitioner on duty coordinated the team of multidisciplinary service providers such as physicians, pharmacists, and professional nurses according to the problems and needs of patients, and deliver care with Thai traditional medicine in accordance with the developed model.

6) The researcher collected data from the practice and evaluated the care results periodically. If there were some patients with complex problems, an individual plan would be created in coordination with the multidisciplinary team. If the patient's condition was not suitable to the criteria to receive palliative care by Thai traditional medicine, the responsible Thai traditional medicine practitioner will refer the patient to the care of modern medicine.

7) The supervisor or the main responsible Thai traditional medicine practitioner evaluated the outcome of palliative care of end stage liver cancer patients with Thai traditional medicine in the sample group twice. The first occasion was on the first day after receiving treatment and the second occasion was 3-7 days after the first treatment, or after discharging in order to assess the satisfaction of the patient and / or the primary caregiver with the palliative care model. The researcher further

evaluated the satisfaction of patients and/or primary caregivers follow up home visits.

8) The researcher observed patients in the sample group during admittance to hospital and the work of the multidisciplinary team in the wards during care in accordance with the developed practice guidelines In addition, the researcher asked for cooperation in answering the questionnaire on the possibility of implementing the developed model, and inquired about the satisfaction of the multidisciplinary team towards the palliative care model.

9) The researcher immediately checked the completeness of the information. If the information was not complete, the researcher asked the patients/ caregivers/ multidisciplinary team to complete the information, or collected it directly from the patient profile. Once the information was completed, the researchers analyzed the data.

The analysis and conclusion are of the palliative treatment plan for end - stage liver cancer patients with Thai traditional medicine.

1. Evaluation of the implementation according to the actual treatment form from the opinion of the service team, patients and relatives were summarized as a form of palliative care for liver cancer patients with Thai traditional medicine appropriate to the context of the Thai traditional medicine hospital.

2. There were two aspects of the evaluation of the model implementation: 1) the result in the patient dimension using the assessment form of palliative treatment of end - stage liver cancer patients. It consisted of the effects on the management of physical disturbances, namely pain, and other disturbances such as racism, difficulty breathing, nausea, vomiting, loss of appetite and constipation, and societal and spiritual disturbances. It also includes patients' and/or caregivers' satisfaction levels with the palliative care for end - stage liver cancer patients, as well as with their satisfaction towards the services received from the multidisciplinary team. 2) The results of the multidisciplinary care team dimension included the possibility of implementing the palliative treatment model to end - stage liver cancer patients with

Thai traditional medicine, and the satisfaction of the service provider team with the palliative care model for end stage liver cancer patients with Thai traditional medicine.

Research Tools

The tools used to evaluate the results are the evaluation forms of the multidisciplinary team, service providers and patients and / or caregivers. The results are as follows:

1. The assessment form of the service provider team (Appendix C) consists of 2 parts, which were:

Part 1 The Personal data record form, consisting of age, gender, marital status, education level, position, and duration of work

Part 2 The assessment form of using the palliative care model for end - stage liver cancer patient with Thai traditional medicine, consisting of:

Set 1: a questionnaire on the possibility of a multidisciplinary team to adapt to palliative care for end-stage liver cancer patients. The researcher used this questionnaire to assess the effectiveness of the implementation of clinical practice guidelines which were developed by Pikul Nanthachayaphan. Also evaluated was the quality of the implementation of the clinical practice guidelines, the documents used in the seminar on evidence-based practice, held at the Nursing Service Center, Bangkok, in order to assess the feasibility of the implementation of the nursing practice guidelines by dividing the level of enquiry into 3 levels: high, medium and low. The considered criteria were as follows: the high level indicating that you see that the information given is mostly consistent with what is actually happening; medium the moderate level indicates that you see only half; and the low level indicates that the given messages do not match what actually happened.

Set 2: The satisfaction questionnaire of the multidisciplinary care team that provides care to patients with palliative care contained 5 questions with 5 rating scales, as follows: 1 point mean the lowest level of satisfaction, up to 5 points mean the highest levels of satisfaction, with criteria being considered. The average score of 1.00 - 1.49 means that satisfaction is at the lowest level, 1.50 - 2.49, 2.50 - 3.49, 3.50 - 4.49 and 4.50 - 5.00 means less, moderate, high and highest, respectively.

2. The assessment form of the patients and/or the caregivers (Appendix C) consists of:

Part 1 The Personal data record form, consisting of age, gender, marital status, education level, occupation, average monthly income, the sufficiency of income, medical insurance, living, and role in family.

Part 2 The assessment form of the palliative care for end - stage liver cancer patients with Thai traditional medicine consisting of:

Set 1: Questionnaires for patients which evaluate the physical and mental wellbeing of patients, as well as following up on various other symptoms in terminal - stage liver cancer patients. The Edmonton Symptom Assessment System (ESAS) was the method by which the patients' symptoms were evaluated. There were 9 symptoms, namely pain, tiredness/ fatigue, nausea, depression, anxiety, drowsiness, anorexia, wheezing and other symptoms that the patients described by answering open-ended questions. The measurement of each symptom was divided into 0-10 as visual analog scales (VAS). 0 means no symptoms and number 10 means the most symptoms, and for the text "physical and mental well-being", 0 means the patient feels well both physically and mentally, and 10 means the patient is not feeling well both physically and mentally.

Set 2: The satisfaction questionnaire of the patients regarding the palliative care model was made up of 5 questions with 5 rating scales, as follows: 1 point was the lowest level of satisfaction, up to 5 points being the highest levels of satisfaction, with criteria being considered. The average score of 1.00 - 1.49 means that satisfaction is at the lowest level, 1.50 - 2.49, 2.50 - 3.49, 3.50 - 4.49 and 4.50 - 5.00 means less, moderate, and high and highest, respectively.

Set 3: The satisfaction questionnaire of the primary caregivers regarding the palliative care model contained 5 questions with 5 rating scales, as follows: 1 point indicates the lowest level of satisfaction, up to 5 points indicating the highest levels of satisfaction, with criteria being considered. The average score of 1.00 - 1.49 shows that the satisfaction is at the lowest level, 1.50 - 2.49, 2.50 - 3.49, 3.50 - 4.49 and 4.50 - 5.00 means less, moderate, and high and highest, respectively.

Inspection of tools quality

The tools of data collection, evaluation, and the development of patient palliative care models were tested for content validity by 5 experts who specialize in liver cancer patients and palliative care, consisting of physicains, pharmacists, professional nurses and Thai traditional medicine practitioners, and were edited according to the recommendations of experts to be accurate in terms of content coverage, language accuracy and content ordering. As for a test using reliability, a test using Cronbach's alpha coefficient was conducted, which has the reliability of 0.86, 0.82, 0.85 0.80 and 0.79, respectively.

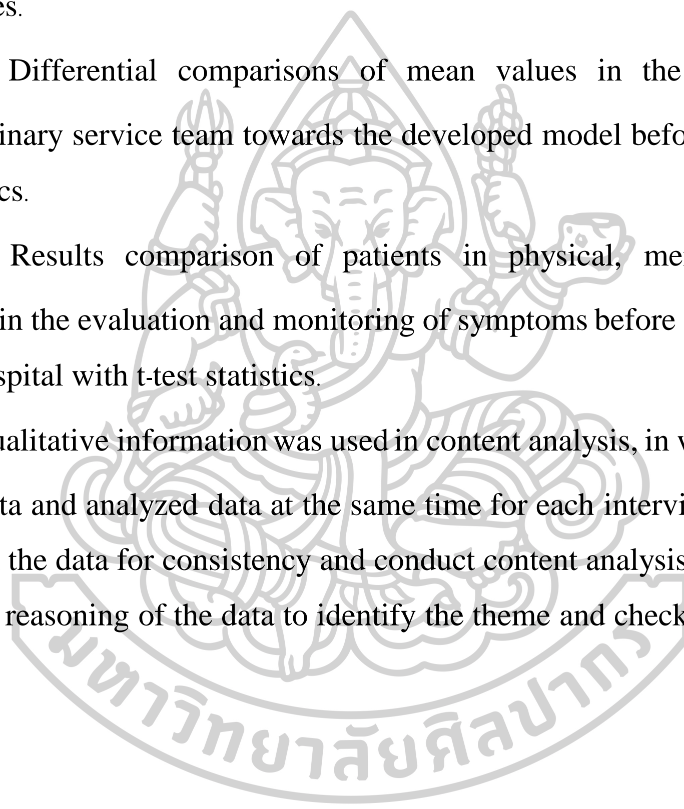
Qualitative data were qualified the as reliable with a methodological triangulation by collecting data in many ways, such as in-depth interviews and questionnaires, and bringing the results of the analysis back to the data providers for review and confirmation of the accuracy of the information (member check from their own perceptions.

Data analysis

This research has both quantitative and qualitative data analysis.

1. The quantitative data was analyzed using a program to calculate statistics.

1.1The frequency distribution and percentage in the general information of the sample group, the possibility of the implementation of the developed model for the service provider, and satisfaction levels of patients and caregivers with professional team services.



1.2 Differential comparisons of mean values in the satisfaction of the multidisciplinary service team towards the developed model before and after use with t-test statistics.

1.3 Results comparison of patients in physical, mental, and wellbeing dimensions in the evaluation and monitoring of symptoms before and after discharging from the hospital with t-test statistics.

2. Qualitative information was used in content analysis, in which the researchers collected data and analyzed data at the same time for each interview in order to verify and confirm the data for consistency and conduct content analysis, identify key words, and link the reasoning of the data to identify the theme and check completeness of the information.

CHAPTER IV
RESULTS

This research aimed to develop a palliative care model for end-stage liver cancer patients with Thai traditional medicine. The study was conducted in 5 The Thai traditional medicine hospitals:

1) Uthong Hospital, Suphanburi Province

2) Thai Traditional medicine and Integrated Medicine Hospital, Department of Thai Traditional and Alternative Medicine

3) Sawang Daen Din Crown Prince Hospital, Sakon Nakhon Province

4) Watthana Nakhon Hospital, Sa Kaeo Province

5) Khun Han Hospital, Sisaket Province

The results of this study reported into 3 phases as stated in the methodology chapter.

Phase I: The study of situation, problems, and obstacles in the care of end-stage liver cancer patients in Thai traditional medical hospital

All 5 Thai traditional medicine hospitals are characteristically different as a result of their respective contexts. They are:

1) U Thong Hospital, Suphan Buri Province

2) Hospital of Thai traditional medicine and combined medicine Department of Thai Traditional and Alternative Medicine

3) Sawang Daen Din Crown Prince Hospital, Sakon Nakhon

4) Watthana Nakhon Hospital, Sa Kaeo Province

5) Khun Han Hospital, Sisaket Province

As of the qualitative data analysis results of problems and situations in the care of end-stage liver cancer patients with Thai traditional medical in the context of studying a group of data providers which were end-stage liver cancer patients and/or primary caregivers, a group of service providers and/or administrative of Thai traditional medicine profession and related multidisciplinary team in palliative care of end stage liver cancer patients with Thai traditional medicine, it can be summarized that

the involved analysis results of problems and situations in the palliative treatment of end-stage liver cancer patients with Thai traditional medicine using WHO framework into 6 components as follows:

Component 1: Leadership, policy and governance

There is a Department of Thai Traditional and Alternative Medicine policy to support the treatment of end-stage liver cancer patients with Thai traditional medicine.

"The policy of cancer patient care from the department of Thai Traditional and Alternative Medicine is very good" [Thai traditional medicine practitioner-hospital B]

"The hospital director fully supported clear policy. The province itself called for a meeting to assign and always followed works of the policy of the provincial public health physician by designing performance indicators to separate us from the provincial team. We had separated Thai traditional medicine jobs, so we had time to talk with younger Thai traditional medicine practitioners." [Thai traditional medicine practitioner-hospital C]

"It also depended on the policy of the inspector of the Ministry of Public Health, and if the provincial public health physician agreed, the work would be furthered. Some issues must be formulated into policies. If there was no policy, the director of the hospital would not act, unless through indicators." [Thai traditional medicine practitioner-hospital E]

A result of the previuos policies of the Department changing every year was the non-continuous promotion and support of the work. For the treatment of liver cancer patients with Thai traditional medicine, there was no clear policy, which depended on the voluntary work of the hospital administrator to implement the policy.

"Sometimes it was tiring. If the policy changes every year, work became difficult. The middleman felt uncomfortable to speak." [Thai traditional medicine practitioner-hospital C]

The informants, patient groups, and caregivers described the Department of Thai Traditional Medicine and Alternative Medicine having a policy to treat cancer patients with Thai traditional medicine.

"We heard the news from TV. We brought our son here. It was hope. This belonged to the government. It was trustable." [Caregiver-hospital A]

"The Department of Thai Traditional Medicine had a policy to treat cancer patients with herbal medicines. It was very good. Before coming here, I went everywhere; modern physicians said that there was no cure. Seeing my mother aches, I could not bear it." [Caregiver-hospital A]

In summarization of the policy on the operators or service providers, a clear policy from the Department of Thai Traditional and Alternative Medicine would make operation and coordination between operators easier and more convenient. However, its success will depend on the department's executives whether provinces and hospitals agree to support the implementation of the said policy. But, even with a clear policy, the treatment of end-stage liver cancer patients with Thai traditional medicine would require a strong supervisor. It would require a lot of time and budget to see the success of the operation.

Component 2: Financing

During in-depth interviews with the informants, the service group described the budget of Thai traditional medicine operations. It was said that the hospital budget, which is derived from service operations in the unit or the hospital's own service

income, was insufficient to support the provision of care services for patients, with the informants saying that:

"The opening of the Thai traditional medicine service cannot support itself. In the past, there was a loss. The hospital recieves financial support for Thai traditional medicine operations yearly. If there is no financial support, it will be closed down" [Hospital director-hospital E].

"The hospital had a level 7 financial budget, the population in the responsible area was less and hospital lacks liquidity, but the hospital was trying to look after cancer patients as much as possible despite the loss." [Hospital director-hospital A]

"The budget from the National Health Security Office for the implementation of Thai traditional medicine was very low and was provided according to the potential of the facility and from the provision of services according to the specified criteria. The hospital had brought Thai traditional medicine to look after cancer patients, but we must find their own budget." [Thai traditional medicine practitioner-hospital E]

"The budget to support Thai traditional medicine management was provided by the National Health Security Office, which has already assigned the per capita amount to the relevant area. The hospital will allocate to the operations of the services of modern medicine only. The administratives said that it is more necessary." [Thai traditional medicine practitioner-hospital D]

Regarding the insufficient budget, informants agreed that the Department of Thai Traditional and Alternative Medicine provided additional budgets because currently, budgets do not fully cover the expenses of the services, especially for cancer treatment. This sentiment was expressed by the participants, such as in the following statement:

"I would like the Department of Thai Traditional Medicine and Alternative Medicine increase the budget for cancer care. When there was an ordered policy, it was hard to talk to the director. The Department established policies, but there was no extra money given. The practitioners worked with difficulty." [Thai traditional medicine practitioner-hospital E]

"As mentioned, we now work for the Department of Thai Traditional medicine and Alternative Medicine. Performance indicators were sent directly to the department. The department should provide more supportive budgeting, so that the hospitals do not have to find their own budget." [Thai traditional medicine practitioner-hospital C]

"I did not understand from which basis the Department provides money. It was not enough. The more patients with cancer, the more money was required." [Thai traditional medicine practitioner-hospital B]

Regarding the financial support of service providers, it was found that although the hospital received continuous financial support, there was still a problem of insufficient budget for cancer patients, causing the hospital to face a shortage of sufficient funds. In addition, for the patients themselves, it was found that the treatment of cancer with modern medicine had a high cost of treatment.

Component 3: Information

The knowledge regarding the palliative care of end-stage liver cancer patients with Thai traditional medicine varies, regardless of the treatment guidelines and data or academic references. From in-depth interviews, service provider group said that there are 4 issues:

Issue 1: Herbal medicine and Thai traditional medicine did not have quality and standards.

"Some herbs were not on the hospital drug list due to less use. Sometimes they were expired. So, we took only the main ones that were used often. If a patient with an unusual

condition comes, the Thai traditional medicine practitioner ordered an unknown herb and there was no research data to support its use. We were not able to find it. The physician must understand our work as well." [Pharmacist-hospital B

"It was difficult to control the quality of herbal medicine. Sometimes the herbs were found to have mold or mildew and might also have pesticide residues." [Pharmacist-hospital A]

Issue 2: The care of liver cancer patients with Thai traditional medicine. The providers of the service group described the issues regarding treatment guidelines, practical manuals, and research on Thai traditional medicine.

"Based on experience in caring for patients, they would tell us if the drug was good to take, or if it had side effects such as diarrhea. We also had to teach the younger Thai traditional medicine practitioners because there was no manual or textbook to be found." [Thai traditional medicine practitioner-hospital E]

"The patient record form was a form that was designed for physicians. There should also be a form for Thai traditional medicine practitioners to be a communication gateway of Thai traditional medicine practitioners. It was also a form that modern medicine can understand." [Thai traditional medicine practitioner-hospital D]

"We still lack clear clinical practice guidelines, assessment criteria, and concrete treatment process. In addition, the knowledge of Thai traditional medicine and my knowledge were different. If there were clear clinical practice guidelines, we would work better." [Thai traditional medicine practitioner-hospital B]

"The Thai traditional medicine practical handbook in the hospital that the department provided was very good. I wanted it to be maintained, so that we can be more confident when speaking with the director or executive committee. It helped a lot." [Thai traditional medicine practitioner-hospital D]

"The Thai traditional medical textbooks and scriptures contained the way to cure cancer, but the process of using medication had not been clearly recorded." [Thai Traditional Medicine practitioner-hospital A]

Issue 3: Although research on Thai traditional medicine supports its use as a treatment, its lack of guidelines and reliable supportive information means it is not accepted. There should be more research.

"I tried to do as much as I can. I tried to search for research. Sometimes there was no idea which also shows compassion for the patients. His hopes rely on us, but we can't help him." [Thai Traditional Medicine practitioner-hospital A]

"It was difficult for me to find references or research literatures. There was none at all and living in the provinces made it more difficult. There were some books and manuals, but the former boss took them to his new job. There were none at all now." [Thai Traditional Medicine practitioner-hospital E]

"The region needed research information from the department to be more confident when presenting the information to the drug committee or the executive committee." [Thai Traditional Medicine practitioner-hospital B]

In summary of the information in Thai traditional medicine and herbs, there are studies confirming the effectiveness of herbs or clinical Thai medicine in the treatment or relief of liver cancer, and increase the quality of life of patients. There is not enough data confirming treatment results which remains unclear. Most of the information contained in textbooks or scriptures still lacks synthesis and transcription for knowledge.

Component 4: Health workforce

The multidisciplinary team that participates in the treatment of end-stage liver cancer patients with Thai traditional medicine is still small, and especially the modern

multidisciplinary team, which found that collaboration came from cooperation of only those people who were interested.

"Being a Thai traditional medicine practitioner and being here alone meant I must do everything from patient care services to administrative work." [Thai traditional medicine practitioner-hospital C]

The work collaboration in liver cancer patient care was of two types:

1) Aggregation of people with same ideals and goals to help terminal cancer patients receiving comprehensive care in all dimensions.

2) Collaboration according to the relevant work system. According to the policy of the Ministry of Public Health, which promotes and supports the treatment of liver cancer patients with palliative care through Thai traditional medicine, by which the Thai traditional medicine practitioner is the mainstay, leading in the initial stages of implementation using informal coordination approaches to reduce suffering from pain and other disturbances, such as stomach cramps, insomnia, bloating, and anorexia, using formal and informal coordination as volunteers.

" Thanks to medical technicians being a consultant for interpreting lab reports and recommending that taking herbal medicine for long period requires a blood test because there are 2 main values to be considered, namely the liver and kidneys. If the liver and kidneys are normal, you can take the medicine, but if their functions are abnormal, it is difficult to know without blood tests. This must also be used in Thai traditional medicine, helping to reassure Thai traditional medicine practitioner with the help of a multidisciplinary team." [Thai traditional medicine practitioner-hospital A]

"Pharmacists fully support all herbal and Thai medicines, although some have no academic information or research. The Thai traditional medicine practitioner must find supportive research information." [Thai traditional medicine practitioner-hospital C]

"It is an advantage for the Thai traditional medicine profession as these patients with terminal cancer have no longer treatments from modern medicine and are regarded as a challenge as well." [Thai traditional medicine practitioner-hospital A]

The service team had different perceptions and was not ready in the following areas:

1) **Lack of knowledge and experience in caring for end-stage liver cancer patients and their families**

The modern multidisciplinary team as service providers, especially the physicians, nurses, pharmacists, and staff who have studied in the medical field do not understand Thai traditional medicine. They think modern medicine cannot cure terminal cancer patients; the Thai traditional medicine practitioner is also unable to treat them, nor dealing with various disturbances during the care of patients in the last period particularly pain management, and difficulty in breathing in terminal patients.

2) **Lack of skills and confidence in communication with end-stage cancer patients and their family**

They lack skills in counselling about Thai traditional medicine treatments and less confidence in communication with patients and their family because they worry, they may speak unsuitable words resulting in sadness and sorrows. There are ethical conflicts in the care of end-stage liver cancer patients with Thai traditional medicine. For example, the modern medicine physicians and nurses worry that they have less knowledge about Thai traditional medicine, but they have to take care of patients with Thai traditional medicine. They are unable to protect patients' right or even find out the solutions for patients' problems. From the in-depth interview, the service team as informants mentioned about manpower in Thai traditional medicine and the potential of Thai traditional medicine practitioners and modern multidisciplinary team because, in the past, there was preparation for the palliative care of end-stage liver cancer patients with Thai traditional medicine to Thai traditional medicine professionals and modern multidisciplinary team. However, it was not covered all personnel in the service team because there is a worry that a reliance on Thai traditional medicine will hasten a patient's death, leaving guilt and sins and even think they are one of causes of their

death, which results in a reduction of disturbance management. This results in restless patients suffering, and their families are unable to endure the suffering. In addition, expertise, especially those who experts in the treatment of end-stage liver cancer patients with Thai traditional medicine and the pain management methods, is not yet clear. Therefore, it is an opportunity to develop knowledge, attitudes, skills and experience in caring for end-stage cancer patients with Thai traditional medicine.

"The first time I treated the patients, they were very happy. I could take care of cancer patients, but after treating them for a long time, it was very stressful knowing the patient's problem, sometimes treating them until I had no idea how to treat further. There is very little experience, and I want a good Thai teacher, master, to teach us." [Thai traditional medicine practitioner-hospital D]

"I learned from the patient's treatment and work experience, from practice with patients, talking to patients and relatives. I learned through coaching by seniors who have taken care of patients before, and teaching the juniors one after another." [Thai traditional medicine practitioner-hospital E]

"I have to accept that nurses have not studied this field at all. Then let nurses act following the Thai traditional medicine orders, we cannot do it. We really do not know whether it will be good or bad for the patient. It is stressful." [Professional nurse-hospital E]

"There was a patient who was visited by a nurse while she was coming back from seeing patients with hypoglycemia. Some conditions, such as abnormal electrolytes, were not externally visible. So, periodic blood collection was necessary. Thai traditional medicine uses Thai traditional medical examinations, which may help alleviate symptoms. But, the risk to the life of the patient here must be looked after by another profession." [Thai traditional medicine practitioner-hospital A]

Patients and the families, patients who come for the service still believe in the treatment of Thai traditional medicine. The data of the patient group said:

"I have a feeling of inner heat. It is uncomfortable, but there is no fever. The physician provided enough decoctions to alleviate it. The feeling of inner heat went down. I believe in the treatment here very much." [Patient-hospital B]

"Being alive this far, I were glad. At first, the physician told me that liver cancer had spread to the lungs and intestines; I would be able to live for another year. After rechecking again, he said I had another six months. Coming for medication here, I could live for a year and a half. It did not matter. Thank you very much." [Patient-hospital A]

"Father had come here having suffered from bloating, abdominal distension and rigid abdomen for many days, and had taken herbal medicine since last month. Now he is better, there is no rigidity of abdomen and he likes taking herbal medicines." [Caregiver-hospital C]

In summary, the manpower and the potential of personnel are still lacking in work experience. The lack of knowledge and expertise in caring for patients, especially liver cancer patients mean Thai traditional medicine practitioners are unable to care for emergency and crisis patients. As a result, Thai traditional medicine practitioners lack confidence in patient care. Therefore, Thai traditional medicine must be promoted and supported in both quantity and quality.

Component 5: Medical products and Technologies

The informants reflected that Thai traditional medicine, herbs, and Thai traditional medical treatments are strengths in the care of patients with chronic diseases, especially cancer patients. The list of Thai traditional medicine is short, and should be increased to provide better treatment. Most of medicine are manufactured and are prepared by pharmacists in the hospital and are not in the national medicinal list. At

present, there are drugs used to treat liver cancer, such as Benjamrit, Lingzhi mushroom, Fee-mareng-suang, and medicines for alleviating the symptoms such as cinnamon extract mixture, and Ha-raak. In addition, there are Thai traditional medical procedures for liver cancer patients, such as a liver wrap, massages, and foot baths etc. Some herbal medicines are used to relieve adverse side effects of chemotherapy, such as ginger for nausea and vomiting, or to relieve symptoms of cancer, such as cinnamon extract mixture for flatulence. However, Thai medicine, herbs and Thai traditional medicine procedures used in the care of cancer patients must create understanding and knowledge of the use of traditional Thai medicine and herbs, as the following statements:

"Thai medicine includes cancer drugs and medicines treating adverse symptoms caused by cancer." [Thai traditional medicine practitioner-hospital A]

"In Thai traditional medicine, herbal medicines and Thai medicine are divided into 3 types, 1) for laxative or reducing Pitta (inner heat), 2) herbal medicine for dispersing Wata (wind/air) and 3) herbal medicine used to nourish the body or used in combination therapy." [Thai traditional medicine practitioner-hospital E]

"Sometimes, there were no drugs in the hospital drug list. The patients had to buy the drugs themselves as needed. Some individual remedies were absent. We need to find solutions." [Thai traditional medicine practitioner-hospital C]

"We could not prepare it. The drug was not on the hospital drug list." [Pharmacist-hospital B]

"The hospital uses a liver wrap method. In some cases, I massage the patient by myself so that they feel relaxed." [Thai traditional medicine practitioner-hospital D]

"Some of the Thai traditional medicine teachers said that giving massages was possible but others said that it was not possible. The cancer might spread as I did not know who was correct." [Thai traditional medicine practitioner-hospital D]

Regarding the quality of herbal medicines, it was found that the service providers were not confident in the quality of the herbs, particularly the potential for contamination of Thai traditional medicine, herbal medicine and individual remedies. The Thai traditional medical hospital providing care for cancer patients should pay attention to the quality of drugs. However, from the point of view of patients, they believe in herbs, as the following statements:

" I think Thai medicine lacks quality and is unreliable. I am in the hospital pharmaceutical and therapeutic committee. When Thai traditional medicine professionals presented Thai medicine to be added to the hospital drug list, the committee rarely approved it." [Pharmacist-hospital C]

"I came to the hospital and was confident that the quality of herbal medicines are reliable. I were not confident taking my mother to other places. Here is safe." [Caregiver-hospital E]

In summary of medicines and medical technology in Thai traditional medicine, it has become increasingly popular among patients and the public, but there is not enough to meet the needs of patients. There are only a small number of Thai traditional medicines on the National Drug List, which do not cover the Thai traditional medicine treatments causing difficulty in prescribing drugs to patients. It is important to reduce the levels of contaminaton in Thai traditional medicine and therefore improve its quality.

Component 6: Services delivery

There are many issues related to Thai traditional medicine services delivery. The details of them are presented as follows.

1) Cancer patient care covers inpatient departments, outpatient departments, and follow-up home visits for those whose physicians has allowed returning home, and were conducted by Thai traditional medicine practitioner teams.

"Thai traditional medicine work in the hospital gives the opportunity to check out patients in the outpatient department, prescribe medication for cancer patients and receive medicine at the dispensary." [Thai traditional medicine practitioner-hospital C]

"The limitation in admission, it requires the cooperation of physicians and nurses as Thai traditional medicine practitioners themselves are not able to order admission, or there are no beds for those who have liver cancer and are treated with Thai traditional medicine. What can be done is home caring, but we are unable to fully take care for patients with nutrition therapy or occupational therapy." [Thai traditional medicine practitioner-hospital A]

"It works. I think people who are suffering with the same condition understand each other more than we understand them. It means that people who suffer from the same disease teach each other very well. We visited their houses separately from other multidisciplinary teams." [Thai traditional medicine practitioner-hospital A]

"What Thai traditional medicine can do now is home visit the cancer patient with public health volunteers." [Thai traditional medicine practitioner-hospital B]

"I'm happy that the physician came to visit. Thank you very much. I was worry about being abandoned again." [Patient-hospital A]

"We are glad that the Thai traditional medicine practitioner visited us. I could not do anything. My wife was sick. I was also suffering from heart disease. There was just two of us, we were happy the physician came to take care of us." [Caregiver-hospital B]

2) **There is no clear service model or treatment guidelines for end-stage liver cancer patients** with Thai traditional medicine, causing care services in each hospital were different according to knowledge, understanding and experiences of each Thai traditional medicine practitioner. There are no clear practical guidelines. Some Thai traditional medicine practitioners perceived the information differently, making the assessment of problems and needs of patients incomplete and resulting in lack of mutual consultation or participation in decision-making options for continuing care when patients and their families return home. Such care is not yet comprehensive and does not meet the needs of patients and families, and create a lack of communication between physicians, Thai traditional medicine practitioners, nurses and multidisciplinary teams.

"I am a nurse. I don't know why Thai traditional medicine practitioners wrap the liver region of patients. Sometimes patients have no pain or distension or hepatomegaly." [Professional nurse-hospital E]

"Nurses do not know how to screen patients for referral to Thai traditional medicine. We don't even know what Thai traditional medicine can treat." [Professional nurse-hospital B]

"I did not understand the way some Thai traditional medicine practitioners prescribe medicine because it was often different to what is indicated. For example, cissus quadrangularis and veld grape have been prescribed for joint and bone pain, even though the indication is for hemorrhoids or dispense the same drug with different administration at different times." Pharmacist-hospital A]

3) **The care process is not yet comprehensive** and mainly focuses on managing physical symptoms. This is because this group of patients has complicated problems which can be physical, psychological, social, and spiritual as a result of high severity of the disease. However, it was found that the team of service providers, especially Thai traditional medicine, provided basic care for end-stage patients in a general way, to solve presented complaints or as according to the treatment plan. This causes a lack of mental, social, and spiritual care. Counseling regarding illness is not yet covered, and neither is proper care and assistance in the face of death. Some patients suffer from fear, suspicion, paranoia, loneliness, sadness, and grief of loss till the end of life, resulting in unpeaceful death. This shows that the potential of the Thai traditional medicine practitioner and the multidisciplinary team has not able to find any problems or unresolved issues faced by patients before death. As a result, there is an inability to provide care in accordance with professional goals, appropriate holistic care, and to provide patients with comprehensive care, physically, mentally, socially, and spiritually.

"When the department has a policy to use the Benja-umarit drug formulas to treat liver cancer patients and invited the Thai traditional medicine practitioners to a meeting to discuss the treatment of end-stage liver cancer patients, the Thai traditional medicine department consulted the hospital director. He didn't have any problems and allowed us to do it, but only within the Thai traditional medicine department. The department also sent Benja-umarit medicine to the hospital and asked us to collect using results. We have never brought holistic care into patient care. We have only physical care, such as patients who eat less, or have insomnia, flatulence, abdominal distension and receive treatments such as massage or liver region mask. We do as much as we can." [Thai traditional medicine practitioner-hospital D]

"One reason the hospital did not join this project was we did not have an area to process, but we had done some activities during home visit such as letting patients pay

respect to monks, pray, listen to dharma, discuss problems and provide encouragement. I did not do this continuously as I did not know what I needed to do." [*Thai traditional medicine practitioner-hospital E*]

"At the ward, the nurse who was trained for palliative care, take car patients. For example, took the patient to give food to monks in the morning, group together for recreational activities, and invite Thai traditional medicine practitioners to participate in activities such as making herbal compress balls or teaching how to eat according to their personal element." [*Professional nurse-hospital B*]

4) **Assessing the problems and needs of liver cancer patients and families is not yet covered** because in IPD, there was no use of a specific assessment form of problems and needs of patients, and the forms were different to each other, and lack consultation and communication between Thai traditional medicine practitioners and the multidisciplinary team, within the Thai traditional medicine team itself, as well as a lack of follow-up evaluation and continuous symptoms management in patients who has returned home.

"Symptoms of terminal-stage liver cancer patients are complicated. I am not sure if Thai traditional medicine can care for these patients. I haven't talked to the multidisciplinary team to ask if they are alright. I still do not know how to start. I have never studied Thai traditional medicine. As for the guidelines, I have never seen them. You asked if it is possible to actually do it. It can be done, but it will take time." [*Thai traditional medicine practitioner-hospital A*]

"Assessing the problems and symptoms of terminal stage liver cancer patients is not difficult. Modern medicine does it well. Samples already exist. At other hospitals, they also have samples, but there is no collaborated meeting for discussion. I have not seen them talking to each other for a long time." [*Professional nurse-hospital A*]

"If they want to do so, they must find patterns and guidelines. I am not able to imagine how Thai traditional medicine can look after and treat liver cancer patients at the end-stage. I must say that cancer patients, especially end-stage cancer patients, modern medicine treatments are still not able to handle. So how can Thai traditional medicine manage those symptoms? I mean if they can do it, I think it will be very good for patients." [Physician-hospital B]

" There are home visits in Thai traditional medicine, but it is separated from the team of modern medicine, and does not use the assessment of the modern multi-disciplinary team. I do not know that there is an evaluation. I visited by the appointment that I scheduled." [Thai traditional medicine practitioner-hospital E]

5) **Progress in treatment plan recording is not continues,** causing the Thai traditional medicine team and the multidisciplinary team to lack communication. This results in patients and their families receiving insufficient information on care and a lack of continuity in receiving information in every phase of the symptoms changing and participation in treatment decisions. Sometimes, patients and families lack the opportunity to exchange information about illness or feelings and the needs of each party before the end of life.

"Previously, no one has talked about the treatment plan at all because the physician sent end-stage liver cancer patients to Thai traditional medicine section as they were not able to treat. There was no mutual treatment planning yet, exceptionally, when the medication was required and there was ready-made medicine. They went to get medicine at the pharmacy department. But, if it was a decoction of Thai traditional medicine, we would prepare it ourselves or when we requested a consultation, the modern physician would come to see cases from time to time." [Thai traditional medicine-hospital B]

"When an appointment is made, the patient will be prioritized according to their symptoms or if the medication has ran out, in which case people can come and get it immediately. As for the allopathic team, they appoint for treatment according to the symptoms. When I made an appointment, I asked the patient myself when the doctor's next visit was, then I made my appointment on the same day. Patients did not come many times. As for Thai traditional medicine, we have no clear plan of care as we adjust treatments to suit the patient's condition. It depends on the patient and relatives as well." [Thai traditional medicine-hospital C]

In summary of the Thai traditional medicine service system, there is a policy to promote and support Thai traditional medicine to play roles in the care of patients at the outpatient departments. However, in inpatient departments, Thai traditional medicine still plays fewer roles. It needs allopath help and referral cases in which Thai traditional medicine treatment are applicable, the Thai traditional medicine practitioner is able be the primary doctor on the case. There are also restrictions on admission. As for other works such as palliative care, home visiting and home care, Thai traditional medicine practitioners do not have a clear role and do not have treatment guidelines.

Phase II: The development of a palliative treatment model for end stage liver cancer patients with Thai traditional medicine.

The researcher studied model development from related literatures, and used the results of situation analysis, problems, and obstacles from Phase I to improve the model. The results consist of the followings:

1. Preparation phase before the model development of palliative care for liver cancer patients with Thai traditional medicine.

1) The researcher and service teams developed the model for the palliative treatment of end-stage liver cancer patients with Thai traditional medicine for use in the Thai Traditional Medicine Hospital. There was cooperation between the Thai traditional medicine practitioners and the multidisciplinary team providing continuous care. There

was readiness to take care of patients with Thai traditional medicine and complete holistic care, including physical, mental, psychosocial, and spiritual aspects according to the Dharma principles and focusing on patients and families as the center. The Thai traditional medicine team and the modern multidisciplinary team had joint care plans. There was a model of care that was consistent with the environment of each patient. There are departments directly responsible in the hospital in both inpatient and outpatient departments. There is a working group appointed in each department which has a Thai traditional medicine practitioner leader. There was a joint consultation between the Thai traditional medicine team and the modern multidisciplinary team among patients with complex problems, including establishing a structure linked to the following-up system, a referrals system and operating a work coordination system of service units both inside and outside the hospital. There was a connection and coordination with the original system, which already exists in the hospital and is the home health care system with a phone following-up system.

2) There were two activities or services expected to occur: 1) clear policies for the palliative treatment of end-stage liver cancer patients with Thai traditional medicine created by brainstorming from all relevant parties to whom Thai traditional medicine is a mainstay treatment, a small sub-group meeting to create a record form, various assessments form, and designing practical guidelines and protocols for patient care, department activities and improving care activities. Patients were assessed initially using correct and appropriate assessment tools. There are practical guidelines for the treatment of liver cancer patients at the end-stage, pain management guidelines, and disturbance management, as well as developing a handbook for the treatment of terminal liver cancer patients for the Thai traditional medicine practitioner and the multidisciplinary team of modern medicine. There is also a clear assessment; the practitioner can maintain treatments according to the guidelines. Regarding the Thai traditional medicine practitioner and the modern multidisciplinary team, there are clear development guidelines, especially the Thai traditional medicine profession which has continuously developed knowledge and potential development, such as observative

development, short-term training or training in the treatment of liver cancer patients with Thai traditional medicine, and academic conferences of various educational institutions related to palliative care, including activities supporting the changing of attitudes towards patient care of the Thai traditional medicine practitioner and the modern multidisciplinary team. There are guidelines for connecting to the patient tracking system and 2) the service model, which is expected to produce good results for all parties, and to give patients and families the opportunity to choose a treatment facility and the place of death. Family strengthening can continue after the patient has died. The community will participate in patient care when sending patients home and making follow-up appointments from the initial stage of the patient's care until the end of the care process, as well as strengthening the morale and encouragement of the service team. 3) Quality service model of the patient and/ or family and the service provider disclosing their level of satisfaction with the healthcare. There are specific patient assessments from the beginning. There is management of pain and disturbances, and the care evaluation leads to a good quality of life for the remaining period of the patient, the selection of treatment locations, methods of treatment, and death with dignity, including increasing the level of expertise of the Thai traditional medicine practitioner and the related modern multidisciplinary team.

2. The process of developing a model of palliative care for end-stage liver cancer patients with Thai traditional medicine

After analyzing the problems and situations in caring for end-stage patients and preparing the readiness of personnel, the research team presented the care model to the development board for the treatment of end stage of liver cancer patients at the Thai Traditional Medical Hospital. Later, there was a meeting on planning the development of treatment for end-stage liver cancer patients at the Thai Traditional Medical Hospital, Thai traditional medicine leader, the Thai traditional medicine practitioners and the multidisciplinary team of modern medicine by brainstorming ways to improve the treatment of end stage liver cancer patients at the Thai traditional medicine hospital.

The meeting went smoothly. The attendees were interested to cooperate and share opinions. Therefore, the research team, the Thai traditional medicine leader, Thai traditional medicine practitioners, and the modern multidisciplinary team of service providers agreed to respect the decisions of patients and their families when provided with sufficient information. From this concept, the research team has proceeded with development with the following guidelines:

1. There is an improved teamwork due to the needs of the palliative care of end-stage liver cancer patients with Thai traditional medicine. Thai traditional medicine practitioners themselves cannot meet all the needs of patients and their families. Therefore, palliative care for liver cancer patients with Thai traditional medicine and the care during last phase of life with Thai traditional medicine need the coordination of the Thai traditional medicine practitioners and health personnel, including physicians, pharmacists, nurses and other personnel such as social workers, nutritionists, psychologists, patients and families, monks, pastors, Imams or religious leaders, local administrative organization leaders, folk healers and patient care volunteers, who work as a team to meet the diverse needs of patients and the families. The teamwork consists of leaders of the Thai traditional medicine profession, Thai traditional medicine practitioners, and modern multidisciplinary team.

2. Improvement of the potential of the leadership team, especially the Thai traditional medicine practitioner leader to ensure each ward has a person who has knowledge of Thai traditional medicinal treatment. In turn, the learned knowledge can be used as a guideline for the development of a Thai traditional medicine care model. However, there were obstacles to the operation which made it necessary for operation in small groups, especially the Thai traditional medicine practitioner. Development should begin without waiting for the other Thai traditional medicine practitioners or other personnel to begin. Supervisors have the idea that the potential development of the Thai traditional medicine practitioners should create the framework or treatment guidelines of patient care for the Thai traditional medicine practitioner leader in each

hospital. Activities should be done entirely and in particular order, with records of tools was used in the assessment, what problems occurred, and lastly, who was consulted.

3. A meeting is arranged for the lead team to achieve the process of palliative treatment for end-stage liver cancer patients with Thai traditional medicine at the hospital through sharing opinions and jointly suggesting different approaches to practical guidelines and the development of new tools.

4. The creation of draft practical guidelines and caring guidelines for liver cancer patients using the PPSV2 and ESAS assessments forms would allow Thai traditional medicine practitioners and the modern multidisciplinary team, consisting of physicians and nurses to initially assess patients, and provide care in accordance with the practice guidelines. In cases where the patient and family recover, or the symptoms subside and home care is requested in the last phase of life, the patients and their families are prepared to plan treatment in advance before the patient is sent home. The situation is then continuously monitored through home visits, which cover the following:

4.1 Relatives/caregivers- There is a plan made in advance with patients' family members. The primary caregiver is responsible for patient care. The researcher interviewed the primary caregiver in order to provide care information when patients return home.

4.2 Patient care process- The process consists of screening criteria for the palliative care of end-stage liver cancer patients with Thai traditional medicine and work pattern improvement, so that patients and families receive ongoing and holistic care. Assessment and recording forms are used for palliative care and the treatment of end-stage liver cancer patients with Thai traditional medicine. Results taken from the forms are then used to create a comprehensive treatment plan, including the procurement of equipment for continuing home care. The discussion results concluded that the palliative treatment model of liver cancer patients with Thai traditional medicine in the Thai traditional medicine hospital consists of 5 phases of care:

Phase	Care activities
Step 1: Admission phase Information and treatment plan	- Physician and Thai traditional practitioner inform treatment plan to patient and relatives. - Patient and relatives understand and consent to palliative treatment with Thai traditional medicine.
Step 2: Continuous care phase Assessment problems and needs of patients/caregivers, practice following practical guidelines of palliative care with Thai traditional medicine and assessment of treatment results	- Thai traditional medicine practitioner has been assigned assessment of care requirement in end-stage liver cancer using Palliative Performance Scale form Version 2 (PPS V2) - Assessment of basic problems of end-stage liver cancer with palliative care with Thai traditional medicine using ESAS form (Edmonton Symptom Assessment System) - Advanced Care Planning is a joint periodical care plan with patients and primary caregivers according to disease prognosis of modern multidisciplinary team plan - Thai traditional medicine professional provides holistic treatment according to the plan and adjusts it according to the patient's condition using the following guidelines: pain management guideline, additional symptoms guideline such as breathlessness, tachypnea, constipation, anorexia, abdominal pain, bloating, flatulence, abdominal discomfort, and information and advice providing guideline, religion-based care plan, emotional and mental care plan of patients and caregivers, end-stage

Phase	Care activities
	liver cancer care plan, basic health maintenance plan by participating of relatives in treatment
Step 3: Continues care phase Assessment of problems and needs of patients/caregivers (cont.)	- Cooperation between Thai traditional medicine professionals and multidisciplinary team appropriate to problems and needs of patients and caregivers - Assessment of palliative care outcomes with Palliative Outcome Scale: POS form completed 3 times by each patient: on first day, after admission using POS form before recording it in Thai traditional medicine practitioner notes and progress note referring information to next Thai traditional medicine practitioner on duty, lastly on the home visiting day including assessment of satisfaction of patient or caregiver
Step 4: Patient discharge phase Discharge and home following-up	Physician and Thai traditional medicine practitioner discharge patient when one of the following 3 conditions are met: 1) Patient and relatives are ready for home care 2) request of home death 3) hospital death - Discharge for continuous home care. Thai traditional medicine professionals and nurses provide information about home care, additional symptoms management, abnormal symptoms observation, provisional signs before death and emotional and mental support, including valuate spiritual beliefs, preparation of required tools and instruments, and home care advice. Cooperation

Phase	Care activities
	with HHC team for assessment and follow-up at home. - In case request of home death: signs and symptoms observation before death - In case request of hospital death: emotional and mental support after death.
Step 5: Follow up Family visiting after patient's death	- Thai traditional medicine professional and professional nurse visit their families at home after losing

4.3 Designing a handbook as a practical guideline to the Thai traditional medicine practitioner, the multidisciplinary team, service providers, and caregivers so that they work collaboratively, to reduce duplication, and conflicts in work performance between the Thai traditional medicine practitioners and the modern multidisciplinary team. It contains service manual consisting of:

4.3.1 Establishing a health team for the health care of end-stage liver cancer patients in Thai traditional medicine hospitals.

4.3.2 Roles and responsibilities of the Thai traditional medicine practitioner and the modern multidisciplinary team.

4.3.3 Procedures for providing care and treatment for end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals.

4.3.4 Practice guidelines for the palliative treatment of end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals.

4.3.5 Guidelines for the referral of end-stage liver cancer patients to Thai traditional medicine hospitals.

3. Results of the development of a palliative treatment model for end-stage liver cancer patients with Thai traditional medicine

After the meeting of the expert panel to adapt the developed model in 5 Thai traditional medicine hospitals, it is found that the adaptation of the results derived from the situation study based on the 6 building block and the results from the model development after experts' suggestions during first trial of the model in each hospital, had been implemented differently. It resulted in 3 formats, which are:

1) Thai traditional medicine hospital with a standalone service, in which:

1.1 patients can be admitted directly from the Thai traditional medicine department without a referral from the modern medicine department.

1.2 Thai traditional medicine practitioner will be the owner and mainstay of the patients' care.

1.3 modern medicine physicians act as a consultant in hospitals such as the Thai Traditional Medicine and Integrative Medicine Hospital, Department of Thai Traditional and Alternative Medicine.

2) Thai traditional medicine hospital that provides parallel services with modern medicine

2.1 the patient must visit a physician first.

2.2 the patient must be referred by physician in the same hospital.

2.3 Thai traditional medicine practitioner is the owner and mainstay of the patient care such as in Khun Han Hospital, Sisaket Province And Watthana Nakhon Hospital.

3) The Thai Traditional Medical Hospital that provides an integrated service, in which patients receive both modern and Thai traditional medicine at the same time, such as in U Thong Hospital, Suphan buri Province and Sawang Daen Din Hospital, Sakon Nakhon province.

Phase III: The implementation and assessment of the feasibility of using a palliative treatment model for liver cancer patients with Thai traditional medicine at Thai traditional medical hospitals.

From the development, a palliative care model for liver cancer patients with Thai traditional medicine suitable for the context of Thai traditional medicine hospitals and the revised version has been developed and put into practice in wards from February to April 2018, with a multidisciplinary team responsible for liver cancer patients with palliative care, consisting of an owner physician/Thai traditional medicine practitioner, Thai traditional medicine leader, professional nurses in IPD and a pharmacist. The feasibility and evaluation of care outcomes are as follows:

1. Characteristics of participants

1.1 Patients

As a result of adaptation of the palliative care model of end-stage liver cancer patients with Thai traditional medicine to the end stage liver cancer patients to totally 30 people, they were found having PPS V2 score of 0-30% is 2.9 percent, PPS V2 scores between 40-60 percent is 77.1 percent, and PPSV2 scores between 70-100 percent is 20.0 percent. (Table 1)

Table 1 General information of patients (n = 30)

Personal information	Number	Percentage
Gender		
Female	12	40.0
Male	18	60.0
Age (years): Mean ± SD (63.4±16.3), Range (35-87)		
< 40	2	6.7
40-50	4	13.3
51-60	9	30.0
> 60	15	50.0
Marital status		
Single	3	10.0

Personal information	Number	Percentage
Married	12	40.0
Widow	9	30.0
Divirced/Separated	6	20.0
Religion		
Buddhism	26	86.7
Islam	2	6.7
Christian	1	3.3
No religion	1	3.3
Educational level		
Under bachelor degree	23	76.7
Bachelor degree	9	30.0
Higher degree	1	3.3
Occupation		
Agriculture	12	40.0
Govt. service/ State enterprises	9	30.0
Seller	4	13.3
Employee	2	6.7
Unemployed	3	10.0
Sufficiency of income		
Sufficient	9	30.0
Insufficient	21	70.0
Medical Insurance		
Govt. service/State enterprises	14	46.7
Health insurance	10	33.3
Social security	4	13.3
Others	2	6.7
Character of living		

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Personal information	Number	Percentage
With family	26	86.7
Alone	4	13.3
Relationship with primary caregiver		
Mother/ Father	2	6.7
Spouse	14	46.7
Child	13	44.3
Sibling	1	3.3

As shown in Table 1, 60% of the patients are male, and 50% of them are over 60 years of age. The average age is 63.4 years old. 40% of the participants are married, and 86.7% are Buddhists. For educational levels, 76.7% are under bachelor degree while 40% are agriculture workers. 56.7% of participants receive a constant income, whereas 70% receive an insufficient income. 46.7% of them used medical insurance from Government services or State enterprises. 86.7 percent are living with family. Regarding the relationship with their primary caregiver, 46.7% were the patient's spouse.

1.2 Service team

The information data of service team are presented in Table 2.

Table 2 General information of the service team (n=55)

Personal information	Number	Percentage
Gender		
Female	46	83.6
Male	9	16.4
Age (years) Mean ± SD (29.3±15.4), Range (21-56)		
21 - 30	27	49.1
31 - 40	21	38.2
41 – 50	5	9.1
51 - 60	2	3.6

Personal information	Number	Percentage
Marital status		
Single	35	63.6
Married	17	31.0
Widow	2	3.6
Divorce/ Separated	1	1.8
Educational level		
Under bachelor degree	4	7.3
Bachelor degree	42	76.4
Higher degree	9	16.3
Job position		
Physician	8	14.6
Pharmacist	7	12.7
Professional nurse	13	23.6
Thai traditional medicine practitioner	27	49.1
Duration of practical experiences (years)		
1 - 5	31	56.4
6 - 10	17	30.9
11 - 15	6	10.9
16 and above	1	1.8

In Table 2, the personal data of a sample group of 55 service providers is categorized by gender, age, education level, professional field, and work experience using frequency distribution and percentage. It can be seen that most of the participants were female; 46 persons representing 83.6%. The age groups of 21 - 30 years, 42 persons, representing 76.4% have a bachelor's degree. The most represented practitioner is in the field of Thai traditional medicine with a total of 27 persons, representing 49.1 percent.

56.4 % of the sample group, or 31 persons, have 1-5 years' work experience.

2. The evaluation from participants

The results from the participants' evaluation are presented based on groups of participants; service team, patients and caregivers.

2.1 Service team

Table 3 Opinions of multidisciplinary teams toward the possibility of Patient Care Models

No.	Possibility in form adaptation	$\bar{X}$	SD	Level of Possibility
1	Care model can solve problems with good outcome to patients	2.96	0.77	High
2	Practical possibility for work adaptation	2.89	0.55	High
3	Clear practical advices	2.81	0.63	High
4	Economical, decrease capital in man, time, and budget	2.75	0.73	High
5	Suitable to work adaptation	2.71	0.54	High
6	Comfortable and easy to use	2.22	0.65	Medium
	Total	2.80	0.76	High

After the development of the system, it was found that the opinions of the multidisciplinary team towards palliative care for end-stage liver cancer patients with Thai traditional medicine is possible with the average score 2.80 out of score 3.0, as shown in Table 3.

Table 4 Comparative satisfaction of multidisciplinary team on the Palliative Care Model for liver cancer patients with Thai traditional medicine

Assessment	Average	S.D.	t-test	df	*p*-value
Pre-model development	3.02	0.22	10.23	35	<0.001*

Post-model development	4.12	0.18

The satisfaction of the multidisciplinary team with the care model for end-stage liver cancer patients with Thai traditional medicine, after the development of the system, was found to be higher than before the system was developed, with statistical significance at the level of .05, as shown in Table 4.

2.2 Patients

The results of the patients' physical wellbeing, mental wellbeing, and overall wellbeing in evaluating and monitoring various symptoms in end-stage liver cancer patients before and after discharge from the hospital show that symptoms after discharge from hospital are better than before receiving care, with statistical significance (P <.001), as shown in Table 5.

Table 5 Clinical outcomes of patients with end stage liver cancer (n = 10)

Symptoms	Average score prior to treatment	Average score after hospital discharge	Average of difference	*p*-value
Physical Aspect				
Pain	5.42 ± 1.65	3.41 ± 2.87	-1.98±2.31	<0.001*
Tiredness	5.32 ± 1.61	4.51 ± 1.95	-0.95±2.27	<0.001*
Nausea	2.23 ± 0.22	1.62 ± 2.16	-0.72±1.68	<0.001*
Drowsiness	4.86 ± 2.35	3.67 ± 2.43	-2.18±1.54	<0.001*
Anorexia	3.75 ± 2.36	3.23 ± 1.32	-0.43±1.81	<0.001*
Breathlessness	5.34 ± 2.42	4.23 ± 2.39	-1.11±2.32	<0.001*
Mental Aspect				
Depression	4.05 ± 2.12	3.26 ± 1.60	-0.78±1.54	<0.001*
Anxiety	4.69 ± 2.05	3.43 ± 1.26	-1.34±1.87	<0.001*
Well	6.12 ± 1.91	5.02 ± 2.11	-1.11±2.18	<0.001*

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The clinical outcomes both physical and mental aspects of end-stage liver cancer patients with the services of the multidisciplinary team found that the activities conducted to patients significantly reduced the symptom score for all aspect (p-value =0.001). The satisfaction of the patients towards the services of the multidisciplinary team is at the highest level with an average value of 4.38 (SD = 0.46), as shown in Table 6.

Table 6 Satisfaction level of end stage liver cancer patients towards Palliative Care Model with Thai traditional medicine (n = 10)

No.	Services	$\overline{X}$	SD	Level of Satisfaction
1.	Teaching about symptoms, treatments and/or disease prognosis from the service provider team	4.23	0.61	Highest
2.	Information about the treatment plan and participate in treatment plan decisions.	3.52	0.70	High
3.	The close with relatives	4.56	0.81	Highest
4	The provided area during care	4.23	0.65	Highest
5.	Facilities with a relaxing area	4.22	0.45	Highest
7.	The suitable of care area	3.92	0.69	High
8.	Support and suggestions from the service provider team	3.12	0.53	High
9.	Satisfaction with cares of service provider team	4.14	0.66	Highest
10.	Opportunity to perform spiritual and religious activities such as Sangkhathan, merit making, listening to dharma, etc.	4.42	0.54	Highest
	Total	4.38	0.46	Highest

2.3 Caregivers

The satisfaction of the primary caregivers towards the services of the multidisciplinary team is at the highest level with an average value of 4.22 (SD = .38), as shown in Table 7.

Table 7 Opinion score of caregivers towards Palliative Care Model of cancer patients with Thai traditional medicine

No.	Services	$\overline{X}$	SD	Level of Satisfaction
1.	You were comfortable and close with patient.	4.45	0.83	Highest
2.	You were satisfied with the treatment provided by the service provider team.	4.31	0.45	Highest
3.	You were satisfied with the activities following traditions, beliefs, and religions during the end-stage or after death of patients.	4.28	0.89	Highest
4.	You received help/suggestions/comfort in the steps of leaving IPD.	4.26	0.66	Highest
5.	You were participating in care planning and decision making.	4.25	0.73	Highest
6.	You were satisfied with the daily routine care.	4.15	0.62	Highest
7.	You were satisfied with the relief of additional symptoms such as pain breathlessness, nausea, vomiting, anorexia, etc.	4.02	0.71	Highest
8.	The service provider team comforted you and you trusted them.	3.92	0.81	High
9.	Patient received proper care from service provider team after death.	3.78	0.72	High

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No.	Services	$\overline{X}$	SD	Level of Satisfaction
10	You received information about changing symptoms continuously.	3.47	0.60	High
	Total	4.22	0.38	Highest

4. Other comments from the personnel in the multidisciplinary team

From interviews of Thai traditional medical practitioners and the modern multidisciplinary team, it was found that the satisfaction of them after the treatment model development was significantly different ($P< 0.05$) from before the development. The Thai traditional medicine practitioners were very proud that Thai traditional medicine plays a role in the development of a treatment form for end-stage liver cancer patients due to participation in learning exchanges between the Thai traditional medicine practitioner and the modern multidisciplinary team, expressing opinions and making decisions together. There was clear communication between the Thai traditional medicine practitioner and the modern multidisciplinary team, resulting in better understanding of work roles and reflecting the practice of patient care activities to be more prominent, causing the service to be upgraded to a higher standard, quality and efficiency. This was reflected in some of the interviews with the Thai traditional medical practitioners and the multidisciplinary, as shown below:

A Thai traditional medicine practitioner said that:

" It was good to be an important part in designing a treatment plan in accordance with the practice guidelines of palliative treatment for end-stage liver cancer patients with Thai medicine which results in good coordination. Each profession knew their duty, and most importantly, there was a greater understanding between the Thai traditional medicine practitioner and the modern professional team. It was easier to talk and know various professions. The Thai traditional medicine practitioners who only work in the outpatient department did not work together with any other professions. Importantly, the modern medicine professionals had a better

understanding of the Thai traditional medicine practitioner, resulting in increased quality of care for patients because, apart from anything else, every profession has the same goal. They want the patient to recover from the disease. There was no separating that modern medicine was better than Thai traditional medicine. For the atmosphere, mostly, it was a very good feeling, and we were very proud and happy to have had the opportunity for Thai traditional medicine practitioner to fully play the role."

A physician said that:

"The atmosphere of working as a team was much smoother than before. We had to accept that previously, the physicians did not know what Thai traditional medicine could do or how to take care of patients in cooperation with the Thai traditional medicine practitioner. Nowadays, everyone is more aware of their roles and responsibilities than before. In fact, physicians like me do not get involved in treatment with the Thai traditional medicine team. Mostly, they consult on problems that they are not sure of and sometimes are too busy to solve. Here, it is not considered as a loss of opportunity for the patients because they already have Thai traditional medicine. More importantly, the nurses in the inpatient department are on hand to help the Thai traditional medicine practitioners according to the care plan. But, if there is a problem or they are unsure, they can call to consult a physician at any time. In fact, the Thai traditional medicine practitioner, according to the law, can treat a patient without waiting for treatment orders from modern medicine physicians, as in the case in the general hospitals. This is good for patients and the Thai traditional medicine practitioner to work comfortably."

A professional nurse said:

"I must say that I am changing my attitudes and views on the Thai traditional medicine practitioner. Before, the treatment methods were not acceptable, but once the patients' symptoms improved, they could eat and sleep. And patients' relatives were satisfied with their care. The atmosphere for checking the patients is understandable and harmonious; willing for the patient to heal. Everyone discussed the patients'

problems together for solutions that day, and the problem was handled immediately. In the past, patients had to wait for a modern medicine physician to order treatments, but now everyone knows what to do with advice from the Thai traditional medicine practitioner."

A pharmacist said that:

"Since this type of care has been made, it is easier to work in Thai traditional medicine. The pharmacy is already taking care of the medication, but after preparing the medicine for a specific patient, I could not do it. I did not understand. After a while, it was perfect. From the beginning, it was difficult to prepare because the drug preparation room was not designed for the preparation of medicines for patients according to modern pharmaceutical principles. We just sent the medicine to the inpatient department. After that, the Thai traditional medicine practitioner would boil or prepare it for the patient. As with other systems, it was just like modern medicine and all professions know their duties and can always consult each other. The Thai traditional medicine practitioner tries to speak the same language as the modern multidisciplinary team. There are no problems at work."

CHAPTER V
CONCLUSION AND DISCUSSION

This research aimed to develop a palliative model for end-stage cancer patients with Thai traditional medicine in Thai traditional medicine hospitals. The study was conducted into 3 phases from September 2017 to May 2019.

Phase I The study of situations, problems, and obstacles in the care of end-stage liver cancer patients in Thai traditional medical hospitals.

Phase II The development of the model of palliative care for end - stage liver cancer patients with Thai traditional medicine.

Phase III The implementation and assessment of the feasibility of using a palliative treatment model for liver cancer patients with Thai traditional medicine at Thai traditional medical hospitals.

Conclusion

I. The situation of service provision for cancer patients in Thai traditional medicine hospitals

At present, the Department of Traditional Thai Medicine and Alternative Medicine has a policy to provide treatment for liver cancer patients with Thai traditional medicine. However, the implementation of the policy is reliant on the discretion of the hospital administrator. Although there is a budget to support Thai traditional medicine operations, it is not enough to provide care for liver cancer patients. Furthermore, there are Thai traditional medicines and procedures from scriptures and valuable old books which have not been synthesized and implemented in cancer patient care. In addition, the service has no practical guidelines in liver patient care, as well as no empirical research to support treatments.

II. Developing a palliative care model for end-stage liver cancer patients with Thai traditional medicine

The palliative care model for end stage liver cancer patients with Thai traditional medicine is different depending on the context and management of each Thai traditional hospital. Palliative care by Thai traditional medicine can be performed in 3 ways as follows

1) Standalone service
2) Parallel service
3) Integrated service

III. Tools developed to aid the palliative care of end-stage liver cancer patients with Thai traditional medicine

When providing palliative care for end-stage liver cancer patients with Thai traditional medicine in various forms, it is necessary to have tools that enable service providers to operate. The developed tools are handbooks and various guidelines which cover 4 topics:

1) Clinical practice guidelines for the palliative care of end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals
2) The role of Thai traditional medicine and the multidisciplinary team in the palliative care of end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals
3) Guidelines for the holistic care of end-stage liver cancer patients in Thai traditional medical hospitals
4) Guidelines for referral and home visits for end-stage liver cancer patients in Thai traditional medicine hospitals

IV. The possibility of implementing a palliative care model for end-stage liver cancer patient with Thai traditional medicine in Thai traditional medicine hospitals

Once various models and tools had been developed and implemented in the sample groups in 3 Thai traditional medicine hospitals, the assessment results among service providers and clients found:

1. Service Providers

1) The evaluation of the results of the developed model implementation found that there was a high probably that the treatment model can solve problems and be beneficial for clients, with a mean level of the highest possibility.

2) It was found that satisfaction of multidisciplinary team was more satisfied with improved palliative care model for end stage liver cancer patients with Thai traditional medicine with a statistic significance level of 0.05.

2. Patients and caregivers

1) When assessing and monitoring various symptoms of physical and mental wellbeing of end-stage liver cancer patients before and after discharging from the hospital, it was seen that patients' conditions improved after discharged from the hospital receiving palliative care with statistical significance. ($P < .001$)

2) It was found that the satisfaction levels of end-stage liver cancer patients to the service of the multidisciplinary team were at the highest level, with the mean scores of 4.38 ($SD = .46$)

3) The satisfaction of the primary caregivers towards the services of the multidisciplinary team was also at the highest level, with an average of 4.22 ($SD = .38$)

Discussion

The development of a palliative care model for end-stage liver cancer patients with Thai traditional medicine with the participation of the Thai traditional medicine practitioners and the modern multidisciplinary teams in Thai traditional medical hospitals can be discussed as follows:

The success of developing a palliative treatment model for end-stage liver cancer patients with Thai traditional medicine

The integration of Thai traditional medicine into the modern health service system was carried out between years 1991-1993. Most administrative, practitioners, and Thai traditional medicine service providers agreed on bringing Thai traditional medicine into the national health services system. The reasons for the integration were (1) increasing alternative medical options for public health and (2) equal rights for modern medicine and Thai traditional medicine. It was agreed to bring therapeutic services, health rehabilitation, health promotion and disease prevention into the health insurance system. However, there were still issues that need to be studied clearly, namely limited budgets in the health care system. In addition, there are significant obstacles to Thai traditional medicine, such as a lack of quality and quantity of Thai traditional medicine personnel, and modern medicine does not accept Thai traditional medicine, as seen in the study of (Prapoj., Jiraporn., & Ratchanee., 2007) integrating Thai traditional medicine in the situation of Thai traditional medicine services.

The operation of the developed model relies on the participation of Thai traditional medicine leaders, Thai traditional medicine practitioners, and multidisciplinary teams to achieve a certain level where the satisfaction of service providers and patients are met. Patients have better care outcomes than before receiving treatment. Part of this success came from the coordination and communication of the parties involved in the project operation and conducting research studies which required coordination with personnel both inside and outside the department. Therefore, the person who implements the care model must have coordination skills, which are important and necessary in the management of patient care teams. The role of the coordinator must be clearly defined. Communication must be open, clear, honest, and easy to understand (Atiya Sarakshetrin, Atcharawadee Sriyasak, Varunee Ketin, & Daravan Rongmuang, 2020), stated good coordination is important and necessary in the management of the team.

In addition, this operation is a collaboration of departments. There is an exchange of learning, expressing opinions and making decisions together, including a comprehensive study of the needs of clients. Therefore, the development of a successful model of treatment for end-stage liver cancer patients with Thai traditional medicine has been successfully developed and improved. The work is cooperative, not competitive, with the involved parties acting as colleagues, rather than there being a superior-subordinate relationship (Wiwantanee Wongsachayo, 2015).

Effect on patients and caregivers

It was found that the caregivers responded well to the need of patients and were satisfied with the service. From the questionnaire for caregivers, it was seen that the caregivers were mostly satisfied ($\bar{X}$ = 34.23 ± 2.061) because of the clear guidelines of treatment plan, the knowledge they gained from teaching and demonstration in various areas and by participating in setting goals and planning for maintenance, resulting in the ensurance of care being delivered to patients in their own homes. This is consistent with (Kalaya Khemao, 2009; Khempao, 2009). Somjit Prapakorn and group studied the Development of Palliative Nursing Service System for Cancer Patients Receiving Treatment admitted at National Cancer Institute by allowing patients and families to participate in treatment plans. The study found that the average score of satisfaction of patients and caregivers with discharge planning was at a high level (Prapakorn et al., 2015). The study of Wassana sawasdeenarunat and group had studied the development of a palliative model for caring for terminally ill cancer patients at The Maharat Nakhon Si Thammarat Hospital. It was found that development of a palliative care model for last-stage patients using the holistic care concept and emphasizing patients and families as a center, as well as participation from professional teams, patients and caregivers or families, has an ordered developing process and team coordination respectively, found that the caregivers had a very high level of satisfaction. From the studies of who studied the outcomes of using a palliative care plan for end-stage liver cancer patients, it was found that relatives and the caregivers in the experimental group were highly satisfied

after using the plan of care. (Wassana sawasdeenarunat et al., 2015) said that in the patient-centered qualitative system, everyone in the organization was aware in the importance of providing qualitative service. Care is centered on the patient in coordination with a multidisciplinary team to provide holistic care physically, mentally, emotionally, socially, and spiritually. In addition, the provided treatment covered 4 dimensions which are health promotion, diseases prevention, treatments, and rehabilitation, resulting in a high level of satisfaction of patients and caregivers.

The satisfaction of the personnel of the multidisciplinary team

The satisfaction of the personnel of the multidisciplinary team found that there were significant differences in the satisfaction of the multidisciplinary team before and after the model was development. After the development of the model, the personnel of the multidisciplinary team expressed high level of satisfaction with proud of being involved in the model of palliative care. A care plan was jointly set up for the treatment of end-stage liver cancer patients and put it into practice Due to providing services with higher quality standards and efficiency, the communication between the Thai traditional medicine practitioner and the multidisciplinary team was smooth and clear, creating more prominent patient care activities using information to support research and create new innovations regarding the treatment process.

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Effect on Thai traditional medicine services

The main objective of Thai traditional medicine hospitals is to operate at a certain standard, and providing care services for patients by using knowledge of Thai traditional medicine in the health service system, especially focusing on the palliative treatment of terminal-stage liver cancer patients with Thai traditional medicine. There is a service system development committee responsible for designing clinical practice guidelines and a handbook for palliative care for end-stage liver cancer patients with Thai traditional medicine. Therefore, the development of palliative care for end-stage liver cancer patients with Thai traditional medicine is carried out with participation of multidisciplinary teams. The Thai traditional medicine practitioner acts as the main

leader in the operation and responses to the policy of the Department of Thai Traditional Medicine and Alternative Medicine. The experimental results of palliative treatment for end-stage liver cancer patients with Thai traditional medicine show the quality of service, and can be used as benchmarks to inspect the quality of hospitals, and strengthen the image and confidence of the multidisciplinary team and people who receive services regarding Thai traditional medicine.

The development of this treatment model aims to define the system used for treatment, in which the Thai traditional medicine practitioner and the multidisciplinary team of modern medicine participate. The Thai traditional medicine profession acts as the mainstay. There is specification of personnel duties and organization of activities through the cooperation of the Thai traditional medicine practitioner and the related multidisciplinary team. The care covers a number of care dimensions with each profession playing a role with patients and families and corresponding to the reality that can be practiced by all parties. Therefore, it is acceptable and can be used in care according to the patient's condition until the desired targets are achieved. However, in the development of care that allows all professions to participate, there are 4 groups of coordination teams required for treatment and caring. This is an important role for Thai traditional medicine practitioner as leader, responsible for treatment coordination using designed treatment plans.

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Recommendations

1. Recommendations for research utilization

1.1 The developed care model for end-stage of liver cancer patients can be used with Thai traditional medicine services by, which the Department of Thai Traditional Medicine and Alternative Medicine may distribute to public health facilities.

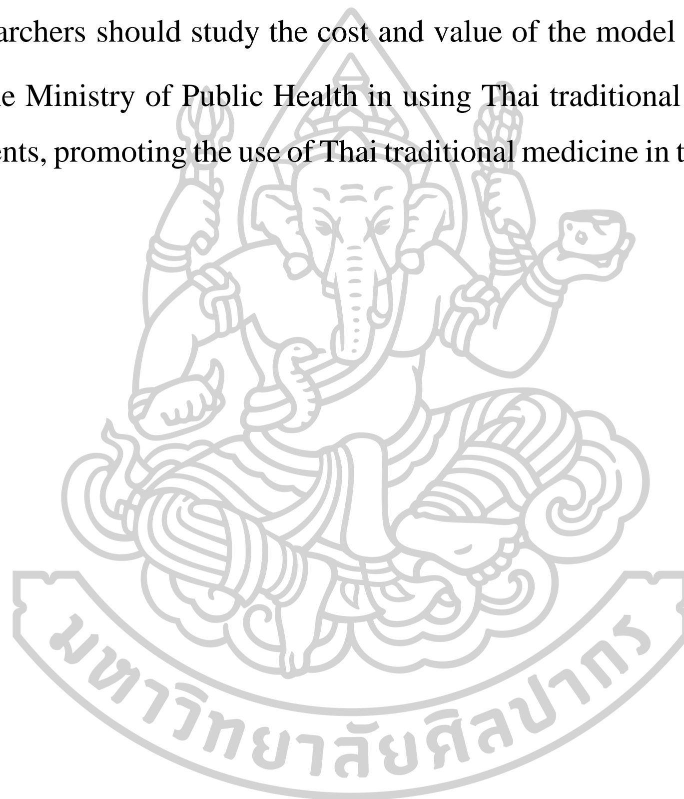
1.2 The Department of Thai Traditional Medicine and Alternative Medicine uses the results of the research to develop a capacity plan of manpower in Thai traditional medicine, both in training services and research.

1.3 The Department of Thai Traditional Medicine and Alternative Medicine, universities and research institutes should conduct more research studies in order to develop academic information.

2. Recommendations for further research studies

2.1 Research should be conducted in patients with other end-stage cancer or other chronic diseases. Access to palliative and holistic care can help to reduce adverse symptoms from medication and improve the quality of life of patients.

2.2 Researchers should study the cost and value of the model to support the policy of the Ministry of Public Health in using Thai traditional medicine to care for patients, promoting the use of Thai traditional medicine in the healthcare system.



REFERENCES

Atiya Sarakshetrin, Atcharawadee Sriyasak, Varunee Ketin, & Daravan Rongmuang. (2020). A Development of Interprofessional Education Learning Model for Health Promotion among the Elderly in the Community. *Journal of Health and Nursing Research,* 35(2), 140-152.

Bosch, F., Ribes, J., Cleries, R., & Diaz, M. (2005). Epidemiology of hepatocellular carcinoma. *Clin Liver Dis,* 9, 191-211.

Bunmard Jansirimongkol. (2012). *Stress, coping, social support, and quality of life of family caregivers of persons with cancer receiving radiotherapy.* (Master's thesis), Mahidol university, Bangkok.

Bureau of policy and stretegy, & secretary, O. o. p. (2008). *Public Health Statistics A.D. 2008.* Bangkok: The War Veterans Organization of Thailand.

Cabibbo, G., Enea, M., Attanasio, M., Bruix, J., Craxì, A., & Cammà, C. (2010). A meta-analysis of survival rate of untreated patients in randomized clinical trials of hepatocellular carcinoma. *Hepatology,* 51, 1274-1283.

Chochinov, H. M., Krisjanson, L. J., Hack, T. F., Hassard, T., McClement, S., & Harlos, M. (2006). Dignity in the Terminally Ill: Revisited. *Journal of palliative medicine,* 9(3), 666-672.

Chularat Srilikhittanon. (1994). *A study of knowledge, attitude and nursing management of ward nurse managers for continuing care of chronic illness patients at home, hospitals under the jurisdiction of the Ministry of Defense.* (Master's thesis), Chulalongkorn university, Bangkok.

Devi Chaiyasen. (2009). *The development of a nursing model to respone the spiritual needs of terminally ill cancer patients.* (Master of Nursing Science), Kon Kaen University.

Ei-Serag, H. B. (2012). Epidemiology of Viral Hepatitis and Hepatocellular Carcinoma. *Gastroenterology*, 1264-1273.

Elimination of liver fluke and cancer of the bile duct in the public. (2017). Retrieved from https://www.samatcha.org/nha/cms/files/menu_content_files/7/43/77/198/198_20150127061035.pdf. Retrieved 5 November 2017 https://www.samatcha.org/nha/cms/files/menu_content_files/7/43/77/198/198_20150127061035.pdf

Grunfeld, E., Whelan, T. J., Zitzelsberger, L., Willan, A. R., Montesanto, B., & Evans, W. K. (2000). Cancer Care Workers in Ontario: Prevalence of Burnout, Job Stress and Job Satisfaction. *Canadian Medical Association Journal,* 163(2), 166-169.

Henkel, V., Bussfeld, P., Möller, H. J., & Hegerl, U. (2002). Cognitive-behavioural Theories of Helplessness/Hopelessness: Valid Models of Depression? . *European Archives of Psychiatry and Clinical Neuroscience,* 252(2), 240-249.

Hickman, S. E., Tilden, V. P., & Tolle, S. W. (2004). Family Perceptions of Worry, Symptoms, and Suffering in the Dying. Journal of palliative care. *Journal of palliative care,* 20(1), 20-27.

International Association for Hospice and Palliative care. (2008). Joint Declaration and Statement of Commitment on Palliative Care and Pain Treatment as Human Rights Retrieved from https://hospicecare.com/resources/pain_pallcare_hr/docs/jdsc.pdf. Retrieved 16

Febuary 2018 from IAHPC NEWS https://hospicecare.com/resources/pain_pallcare_hr/docs/jdsc.pdf

Jones, J., Huggins, M., Rydall, A., & Rodin, G. (2003). Symptomatic Distress, Hopelessness, and the Desire for Hastened Death in Hospitalized Cancer Patients. *Journal of psychosomatic research,* 55(5), 411-418.

Jonpajong pengjad. (2004). Nursing in palliative care. *Thai Red Cross Nursing Journal*, 89-90.

Kalaya Khemao. (2009). the development of a discharge planning model for non-insulin dependent diabetic patients with diabetic feet, Phahonphon Phayuhasena Hospital. *Nursing journal of the Ministry of public health,* 36(3).

Khempao, K. (2009). The Development of a Discharge Planning Model for non-insulin Dependent Diabetic Patients with Diabetic feet, Phahonphon Phayuhasena Hospital. *Journal of Nursing Division,* 36(3), 113-132.

Khun Sophitbannalak (Amphan Kittikhachon). (1970). *The textbook of thai traditional medicine*. Bangkok: Prime Minister's House Publishing.

Kissan, D. W., Clarke, D. M., & Street, A. F. (2001). Demoralization Syndrome--A Relevant Psychiatric Diagnosis for Palliative Care. *Journal of palliative care,* 17(1), 12-21.

Kittikorn Nilmanut. (2012). *The end of life care*. Songkhla: Charn Mueng Prinint.

Kittikorn Nilmanut, & Kongsuwan, W. (2013). *Common phenomena in the end-of-life stage and caring*. Songkhla: Joy Print Ltd.

Koon Potong. (2012). *The result of development for the end of life patients in the buddhist way: a case study of palliative care program in Thayang hospital of Petchaburi province*. (Master's thesis), Mahachulalongkornrajavidyalaya University, Bangkok.

มหาวิทยาลัยศิลปากร

Kristjanson, L., & Ashcroft, T. (1994). The Family's Cancer Journey: A Literature Review. *Cancer Nursing,* 17(1), 1-17.

Kritsana Sawaeng, Teeraporn Sathiraankur, & Rewadee Sirinakorn. (1996). *Guidelind of patient discharge*. Bangkok: Nursing Division, Office of Permanent Secretary.

Leleszi, J. P., & Lewandowski, J. G. (2005). Pain Management in End-of-Life Care. *Journal of the American Osteopathic Association,* 105(3), 6S-11S.

Leonard, M., Agar, M., Mason, C., & Lawlor, P. (2008). Delirium Issues in Palliative Care Settings. *Journal of psychosomatic research,* 65(3), 289-298.

Loke, A. Y., Liu, C.-F. F., & Szeto, Y. (2003). The Difficulties Faced by Informal Caregivers of Patients With Terminal Cancer in Hong Kong and the Available Social Support. *Cancer Nursing,* 26(4), 276-283.

Macleod, C. L., Scrimshaw, M. D., Emmerson, R. H. C., Chang, Y. H., & Lester, J. N. (1999). Geochemical Changes in Metal and Nutrient Loading at Orplands Farm Managed Retreat Site, Essex, UK (April 1995–1997). *Marine Pollution Bulletin,* 38(12), 1115-1125.

Merican, I., Guan, R., Amarapuka, D., Alexander, M. J., Chutaputti, A., Chien, R. N., ... Xu, D. Z. (2000). Chronic hepatitis B virus infection in Asian countries. *Gastroenterol Hepatol,* 15(12), 1356-1361.

Ministry of Public Health, & Bureau of Policy and Strategy. (2016). The mortality rate by leading cause of death per 100,000 population Thailand 2010 and 2014 Retrieved from https://www.moph.go.th/ops/bhpp/Pla2.html. Retrieved 19 Febuary 2016 from Public Health Statistics https://www.moph.go.th/ops/bhpp/Pla2.html

Nathshanakant Jirapornpong, Arunporn Itharat, Phechnoy Singchongchai, & Napatsaran Roekrungrit. (2015). Factors related to the quality of life of cancer patients who decide to treat with Thai traditional medicine. *Thammasat Medical Journal,* 15(4), 622-632.

Nittaya Sombatkaew. (1997). Loss: Nurse's Roles. *The Journal of the Thai of the red Cross College of Nursing,* 22(2), 117-123.

Oxberry, S. F., & Lawrie, I. (2005). Symptom Control and Palliative Care: Management of Breathlessness. *British Journal of Hospital Medicine,* 70(4), 212-216.

Patcharee Charoenphon. (2003). *Effects of using palliative care model on nurses' job satisfaction and cancer patients' satisfaction on nursing service.* (Master's thesis), Chulalongkorn university, Bangkok.

Peeranuch Jantarakupt, & Porock, D. (2005). Dyspnea Management in Lung Cancer: Applying the Evidence From Chronic Obstructive Pulmonary Disease. *Oncology Nursing Forum,* 32(4), 785-797.

Petrakard, P., Limpananont, J., Chantraket, R., & al., e. (2007). *The Report of situations and trends in The Indigenous medicine, Thai traditional and alternative medicine (*2005-2007). Bangkok: Manasfilm.

Pornthip Keyuranon. (1984). *Factors Influencing Stress of Personnel in Government Hospitals.* (Doctoral), Mahidol University.

Prapakorn, S., Naewvong, S., Ssuayping, S., Punaram, W., Sookkhung, A., & Foongfaung, S. (2015). Development of Palliative Nursing Service System for Cancer Patients Receiving

Treatment at National Cancer Institute. 42(3).

Prapatsri Shawong. (1992). *A development of discharge planning model for head injury patients admitted at Khon kaen regional hospital and medical center.* (Master's thesis), Chulalongkorn university, Bangkok.

Prapoj., P., Jiraporn., L., & Ratchanee., C. (2007). *The Report of situations and trends in The Indigenous medicine, Thai traditional and alternative medicine (2005-2007).* Bangkok: Manasfilm.

Puchalski, C. M., Lunsford, B., Harris, M. H., & Miller, R. T. (2006). Interdisciplinary Spiritual Care for Seriously Ill and Dying Patients: A Collaborative Model. *Cancer Journal,* 12(5), 398-416.

Rungnirun Praditsuwan. (2005). Palliative treatment: From cure to care. *Journal of Gerontology and Geriatric Medicine,* 6(4), 34-36.

Sasikarn Nimmanrat, & Chatchai Preechawai. (2007). *Pain and pain management in special population.* Songkhla: Charn Mueng Prinint.

Sawittri Maneepong. (2008). *Developing model for end of life care in critical Care Medicine Unit, Medical Nursing Division, Srinagarind Hospital.* (Master's thesis), Khon kaen university, Khon kaen.

Seefah wehachat, & Panadda Limthongcharoen. (2007). Developing a model for professional nurses caring for terminally III patients in Banglamung Hospital. *Journal of Faculty of Nursing Burapha University,* 15(2), 47-60.

Sherman, M. (2005). Hepatocellular carcinoma: epidemiology, risk factors, and screening. *Semin Liver Dis,* 25, 143-154.

Sirimart Piyawatthanapong. (2009). *Development of palliative care for persons with terminal cancer in a tertiary care hospital.* (Doctoral thesis), Khon Kaen university, Khon Kaen.

Somporn Thepsuriyanon, & Weeranuch Mayuret. (2013). Development of a Palliative Care System for Patient with End-Stage Cancer in Sunpasitthiprasong Hospital. *Journal of Nurses Association Of Thailand, North-Eastern division,* 31(1), 24-33.

Sriamporn, S., Jintakanon, D., Kamsa-Ard, S., & et al. (2003). Liver cancer in Cancer in Thailand vol III. *Bangkok Medical Publisher* 34-40.

Steinman, R. H. (2009). The Cancer Patient with Anxiety and Chronic Pain. *International Association for the study of Pain,* 17(4).

Suwanna Kittinaowarat, Chatchanat Na Nakorn, & Jonpajong Pengjad. (2008). *Nursing in physical problems common found in terminal patients*. Bangkok: Aksorn Sampan Press (1987).

Swaeng Bunchalermwipart. (2017). *Living will and palliative care*. Bangkok: Octoberprint.

Tapp, D. (2000). The ethics of relation stance in family nursing: resisting the view of "Nurse as Expert". *Journal of Family nursing*, 69-91.

Taylor, E. J. (2005). What Have We Learned from Spiritual Care Research? . *Journal of Christian Nursing,* 22(1), 22-28.

Temsak Pungsassamee. (2007). *Palliative care*. Bangkok: Aksorn Sampan Press.

Thai association for the study of the liver. (2015). *Thailand practice guideline for management of hepatocellular carcinoma* 2015. Nonthaburi: Parbpim Part.,Ltd.

The institute of Thai traditional medicine, D. o. T. T. a. A. M. (2013). *Standard hospital promotions and supports Thai traditional and Integrative medicine*.

Thitima Phosri. (2007). *Palliative care in the end of life patients : from hospital to home setting. independent*

study report (master of Nursing Science), Faculty of Nursing, Kon Kaen University.

Tsai, J.-S., Wu, C.-H., Chiu, T.-Y., Hu, W.-Y., & Chen, C.-Y. (2005). Fear of Death and Good Death Among the Young and Elderly With Terminal Cancers in Taiwan. *Journal of pain and symptom management,* 29(4), 344-351.

Tussanee Tasprasit, Phimolrat Phimdee, Sasipin Mongkolchai, Paungpayom Jullapan, & Yupayong Puttatum. (2011). The Development of the Palliative Care System for End of Life Patients at Udonthani Hospital. *Nursing journal of the Ministry of public health,* 23(1), 80-89.

Tussanee Tongpratheep. (2004). Feedback from Nurse in Palilative Care. *Kuakarun Journal of Nursing,* 11(2), 36-46.

Vachon, M., Kristjanson, L., & Higginson, I. (1995). Psychosocial issues in palliative care: The patient, the family, and the process and outcome of care. *Journal of Pain and Symptom Management,* 10(2), 142-150.

Wannaporn Patniboon, Jirapan Pratumaon, & Kaewmafai, J. (2012). Development of palliative care model for elderly patient with chronic illnesses at the end - of - life in two medical unit of Roi-Et hospital. *Journal of Nursing and Health Care,* 30(3), 68-77.

Wannee leelakul, & Nanthaya Euamongkol. (1999). *Nursing in gynaecologic cancer patients*. Bangkok: Olistic publishing Ltd.

Wassana sawasdeenarunat, Amornpan Tareerat, & Tantip wisetthan. (2015). The development of palliative care model for terminal cancer patients at Maharaj Nakorn Si Thammarat hospital. *Nursing journal of the Ministry of public health*, 145-156.

มหาวิทยาลัยศิลปากร

Wilson, K. G., Chochinov, H. M., Skirko, M. G., Allard, P., Chary, S., Gagnon, P. R., . . . Clinch, J. J. (2007). Depression and Anxiety Disorders in Palliative Cancer Care. *J Pain Symptom Manage,* 32(2), 118-129.

Wiwantanee Wongsachayo. (2015). *Effect of Perceived Supervisors Support and Perceived Organizational Support Result Turnover Intentions Through Affective Organization Commitment Nakhonpathom Municipality's Employees.* (Master Degree), Silpakorn University, Nakhonpathom.

Wongjan Petchpichetchean. (2011). *Best nursing practice in cancer care.* Songkhla: Charn Mueng Prinint.

World Health Organization. (2018). World Health Organization Retrieved from https://www.who.int/cancer/palliative/definition/en/. from WHO Definition of Palliative Care https://www.who.int/cancer/palliative/definition/en/

APPENDIX

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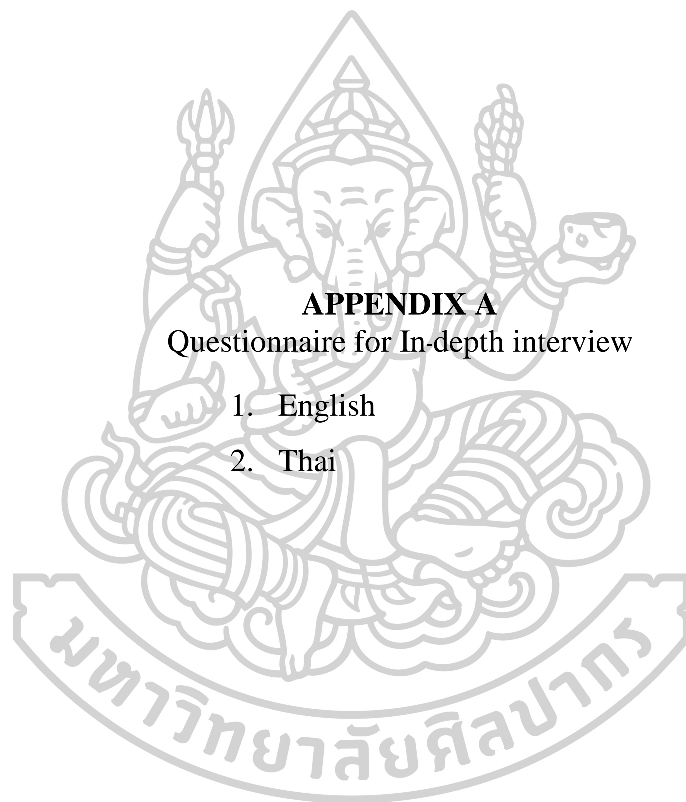
APPENDIX A

Questionnaire for In-depth interview

1. English
2. Thai



Questionnaire for In-depth interview: service providers and service receivers (patients/primary caregivers)

1. How is the situation of care providing for end-stage liver cancer patients in Thai traditional medicine hospitals?
2. What are problems and obstacles to provide care for end-stage liver cancer patients in Thai traditional medicine hospitals?
3. What are reasons of providing care for end-stage liver cancer patients in Thai traditional medicine hospitals?

แนวทางการสัมภาษณ์เชิงลึก : ผู้ให้บริการและผู้รับบริการ(ผู้ป่วย/ผู้ดูแลหลัก)

1. สถานการณ์การให้บริการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายในโรงพยาบาลการแพทย์แผนไทยเป็นอย่างไร
2. ปัญหาและอุปสรรคการให้บริการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายในโรงพยาบาลการแพทย์แผนไทย มีอะไรบ้าง
3. มีเหตุผลอะไรที่ให้การให้บริการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายในโรงพยาบาลการแพทย์แผนไทย

APPENDIX B

Questions for focus group:

1. The possibility and suitability of implementation of palliative care model for end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals
2. Problems and obstacles to implementation of palliative care model for end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals
3. Benefits to liver cancer patients of implementation of palliative care model for end-stage liver cancer patients with Thai traditional medicine in Thai traditional medicine hospitals

แนวทางการสนทนากลุ่ม:

1. ความเป็นไปได้และความเหมาะสมในการนำรูปแบบการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยแพทย์แผนไทยไปใช้ในโรงพยาบาลการแพทย์แผนไทย

2. ปัญหา และอุปสรรคต่อการนำรูปแบบการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยแพทย์แผนไทยไปใช้ในโรงพยาบาลการแพทย์แผนไทย

3. ประโยชน์ที่ผู้ป่วยมะเร็งตับจะได้รับจากนำรูปแบบการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยแพทย์แผนไทยไปใช้ในโรงพยาบาลการแพทย์แผนไทย

APPENDIX C

Document 1. The assessment form of service provider team to palliative care model for end-stage liver cancer patients with Thai traditional medicine

Part 1: General information (7 points)

Note: Please mark □ in the bracket ( ) which is true for your personal information or fill on the blank.

1. Gender

   ( ) 1. Male ( ) 2. Female

2. Age..........................years old

3. Marriage status

   ( ) 1. Single ( ) 2.Married

   ( ) 3. Widow ( ) 4. Divorce/Separate

4. Educational level

   ( ) 1. Under bachelor degree ( ) 2. Bachelor degree

   ( ) 3. Higher degree ( ) 4. Others ....

5. Job position

   ( ) 1. Physician ( ) 2. Thai traditional medicine practitioner

   ( ) 3. Pharmacist ( ) 4. Professional nurse

6. Work location

   ( ) 1. Thai Traditional and Integrated Medical hospital

   ( ) 2. U Thong hospital

   ( ) 3. Sawang Daen Din Crown Prince Hospital

   ( ) 4. Wattana Nakhon hospital

   ( ) 5. Khun Han hospital

7. Work experience.................years

มหาวิทยาลัยศิลปากร

Part 2: Questionnaire for the feasibility in implementation of developed palliative model care for end-stage liver cancer patients with Thai traditional medicine

Note: Please fill your comments towards following statements by mark in the box which match with your opinion and fill your additional comments in the remarks column. Your opinions will be categorized into following levels:

High level means you agree with the mentioned statement and this situation usually happens.

Moderate level means you agree with the mentioned statement and this situation sometimes happens.

Low level means you agree with the mentioned statement and this situation rarely happens.

Questions	The possibility level			
	Low	Moderate	High	Remarks
1. Comfortable and easy to practice.				
2. Clear practical advices				
3. Suitable to work adaptation				
4. Economical, decrease capital in man, time, and budget.				
5. Care model can solve problems with good outcome to patients				
6. Practical possibility for work adaptation				

มหาวิทยาลัยศิลปากร

Part3: The satisfaction of service provider team towards the palliative care model for end-stage liver cancer patients with Thai traditional medicine

Note: Please mark X in the blank which match to your opinion and fil additional comments in the remark's column. Your opinions will be categorized into following levels:

1 means you satisfy with the lowest level.

2 means you satisfy with the low level.

3 means you satisfy with the moderate level.

4 means you satisfy with the high level.

5 means you satisfy with the highest level.

Grade of satisfaction

1 2 3 4 5

(Lowest level) (Highest level)

Comments

....

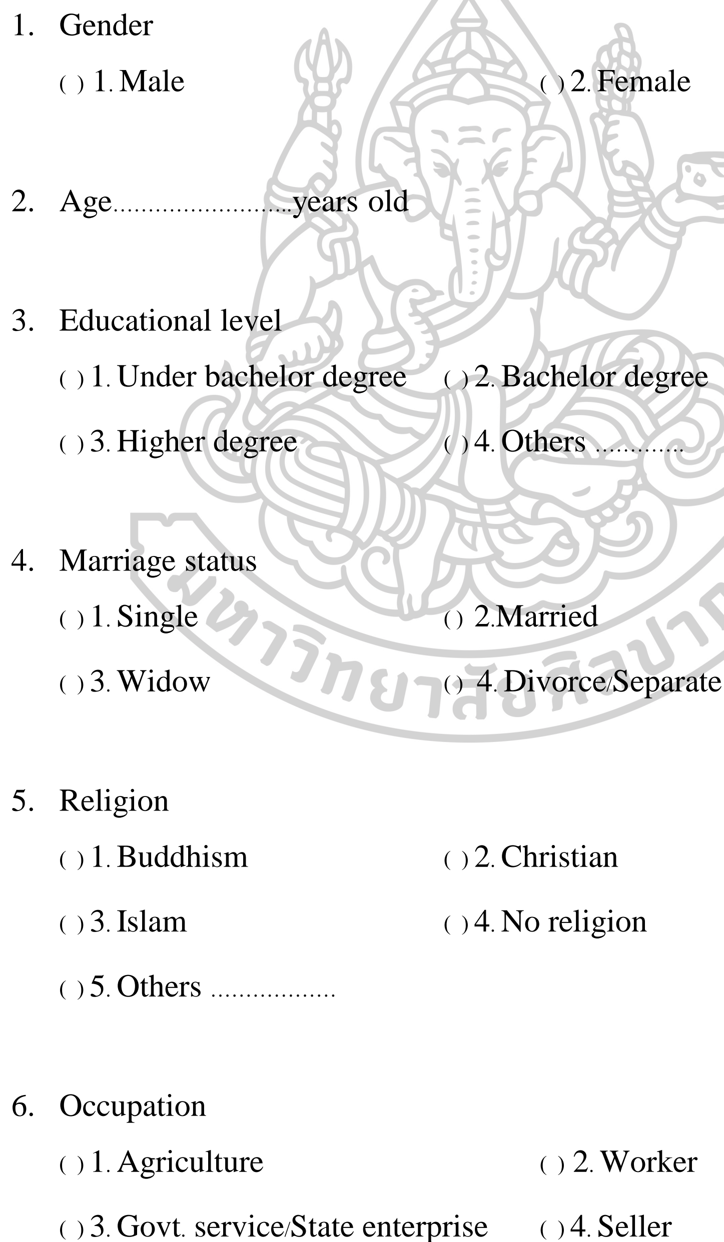
....

....

Document 2. The assessment form of patients/primary caregivers to palliative care model for end-stage liver cancer patients with Thai traditional medicine

Part 4: General information of patients

Note: Please mark □ in the bracket ( ) which is true for your personal information or fill on the blank.



1. Gender
   ( ) 1. Male ( ) 2. Female

2. Age..........................years old

3. Educational level
   ( ) 1. Under bachelor degree ( ) 2. Bachelor degree
   ( ) 3. Higher degree ( ) 4. Others ....

4. Marriage status
   ( ) 1. Single ( ) 2.Married
   ( ) 3. Widow ( ) 4. Divorce/Separate

5. Religion
   ( ) 1. Buddhism ( ) 2. Christian
   ( ) 3. Islam ( ) 4. No religion
   ( ) 5. Others ....

6. Occupation
   ( ) 1. Agriculture ( ) 2. Worker
   ( ) 3. Govt. service/State enterprise ( ) 4. Seller

( ) 5. Housewife ( ) 5. Unemployed

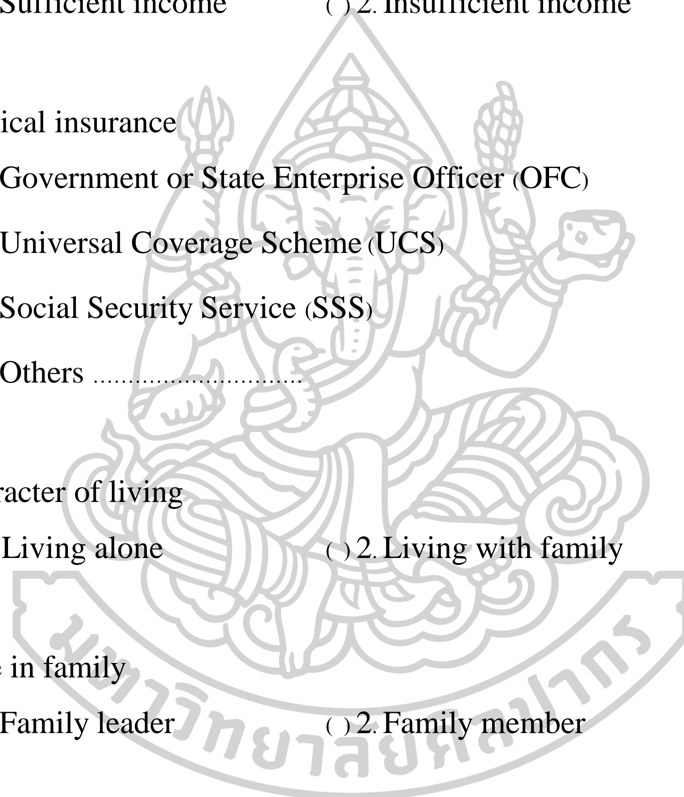
( ) 6. Others ....

7. Income

( ) 1. Earn income ( ) 2. No income

8. Sufficiency of income

( ) 1. Sufficient income ( ) 2. Insufficient income



9. Medical insurance

( ) 1. Government or State Enterprise Officer (OFC)

( ) 2. Universal Coverage Scheme (UCS)

( ) 3. Social Security Service (SSS)

( ) 4. Others ....

10. Character of living

( ) 1. Living alone ( ) 2. Living with family

11. Role in family

( ) 1. Family leader ( ) 2. Family member

12. Relationship with primary caregiver

( ) 1. Parents ( ) 2. Spouse

( ) 3. Child ( ) 4. Sibling

( ) 5. Others......................

Part 5: Questionnaire for the model care outcomes of end-stage lever cancer patients in physical aspect, mental aspect and physical and mental well beings for assessment and follow-up symptoms.

Note: Please mark X in the blank which match your opinion. From left hand sided to right hand sided, (0) is no symptoms intensity and (10) is maximum intensity.

No pain — Pain with maximum intensity

0 1 2 3 4 5 6 7 8 9 10

No tiredness — Tiredness

0 1 2 3 4 5 6 7 8 9 10

No nausea — Nausea

0 1 2 3 4 5 6 7 8 9 10

No depression — Depression

0 1 2 3 4 5 6 7 8 9 10

No anxiety — Anxiety

0 1 2 3 4 5 6 7 8 9 10

No drowsiness — Drowsiniess

0 1 2 3 4 5 6 7 8 9 10

Good appetite — No appetite

0 1 2 3 4 5 6 7 8 9 10

Good physical and mental well beings — sickness

0 1 2 3 4 5 6 7 8 9 10

No breathlessness — Breathlessness

0 1 2 3 4 5 6 7 8 9 10

Part6: The satisfaction of patients towards the palliative care model for end-stage liver cancer patients with Thai traditional medicine

Note: Please mark in the box which match to your opinion and fil additional comments in the remark's column. Your opinions will be categorized into following levels:

1 means you satisfy with the lowest level.

2 means you satisfy with the low level.

3 means you satisfy with the moderate level.

4 means you satisfy with the high level.

5 means you satisfy with the highest level.

Questions	Satisfaction level				
	1	2	3	4	5
Physical Aspect					
1. Information about the treatment plan and participate in treatment plan decisions.					
2. Teaching about symptoms, treatments and/or disease prognosis from the service provider team					
Mental Aspect					
3. Support and suggestions from the service provider team					
4.Comfort and trustable from the service team					
Social Aspect					
5. The provided area during care					
6. The close with relatives					
7. Facilities with a relaxing area					
8. The suitable of care area					
Spiritual Aspect					
9. Opportunity to perform spiritual and religious activities such as Sangkhathan, merit making, listening to dharma, etc.					
10. Satisfaction with cares of service provider team					

Part 7: The satisfaction of primary caregivers towards the palliative care model for end-stage liver cancer patients with Thai traditional medicine

Note: Please mark in the box which match to your opinion and fil additional comments in the remark's column. Your opinions will be categorized into following levels:

1 means you satisfy with the lowest level.

2 means you satisfy with the low level.

3 means you satisfy with the moderate level.

4 means you satisfy with the high level.

5 means you satisfy with the highest level.

Questions	**Satisfaction level**				
	1	**2**	**3**	**4**	**5**
1. You received information about changing symptoms continuously.					
2. You were participating in care planning and decision making					
3. Patient received proper care from service provider team.					
4. The service provider team comforted you and you trusted them.					
5. You were comfortable and close with patient.					
6. You were satisfied with the activities following traditions, beliefs, and religions during the end-stage or after death of patients.					
7. You received help/ suggestions/ comfort in the steps of leaving IPD					
8. You received help/ suggestions/ comfort when you face problems					
9. You were satisfied with the treatment provided by the service provider team.					

เอกสาร 1. แบบสอบถามประเมินผลลัพธ์ด้านทีมสหวิชาชีพผู้ให้บริการต่อรูปแบบการให้บริการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยกาแพทย์แผนไทย

ส่วนที่ 1 แบบสอบถามข้อมูลทั่วไป มีจำนวน 7 ข้อ

คำชี้แจง: โปรดใส่เครื่องหมาย √ ( ) ที่ตรงกับความเป็นจริงของข้อมูลส่วนบุคคลของท่านหรือกรอกข้อความในช่องว่าง

1. เพศ

( ) 1. ชาย ( ) 2. หญิง

2. อายุ.................................ปี (เต็ม)

3. สถานภาพการสมรส

( ) 1. โสด ( ) 2.คู่

( ) 3. หม้าย ( ) 4. หย่าร้าง/แยกกันอยู่

4. ระดับการศึกษาสูงสุด

( ) 1. ต่ำกว่าปริญญาตรี ( ) 2. ปริญญาตรี

( ) 3. ปริญญาโทขึ้นไป ( ) 4. อื่น ๆ โปรดระบุ...............

6. ตำแหน่งที่ปฏิบัติงาน

( ) 1. แพทย์ ( ) 2. แพทย์แผนไทย

( ) 3. เภสัชกร ( ) 4. พยาบาลวิชาชีพ

7. สถานที่ปฏิบัติงาน

( ) 1. โรงพยาบาลการแพทย์แผนไทยการแพทย์ผสมผสาน

( ) 2. โรงพยาบาลอู่ทอง

( ) 3. โรงพยาบาลสมเด็จพระยุพราชสว่างแดนดิน

( ) 4. โรงพยาบาลวัฒนานคร

( ) 5. โรงพยาบาลขุนหาญ

8. ระยะเวลาในการปฏิบัติราชการประมาณ..................ปี

ส่วนที่ 2 แบบสอบถามความเป็นไปได้ในการนำรูปแบบการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยการแพทย์แผนไทยที่ได้รับการพัฒนาขึ้นไปใช้

คำชี้แจง: โปรดแสดงความคิดเห็นของท่านที่มีต่อข้อความเหล่านี้ โดยทำเครื่องหมาย √ □ ลงในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุดและสามารถแสดงความคิดเห็นเพิ่มเติมในช่องหมายเหตุ ซึ่งระดับความคิดเห็นของท่าน มีเกณฑ์การพิจารณาดังนี้

มาก หมายถึง ท่านเห็นว่าข้อความที่ให้มาตรงกับสิ่งที่เกิดขึ้นจริง เป็นส่วนใหญ่

ปานกลาง หมายถึง ท่านเห็นว่าข้อความที่ให้มาตรงกับสิ่งที่เกิดขึ้นจริง เป็นเพียงครึ่งหนึ่ง

น้อย หมายถึง ท่านเห็นว่าข้อความที่ให้มาตรงกับสิ่งที่เกิดขึ้นจริง เป็นส่วนน้อย

ข้อคำถาม	ระดับคะแนนความเป็นไปได้			
	น้อย	ปานกลาง	มาก	หมายเหตุ
1.รูปแบบการดูแลรักษามีความสะดวกและง่ายต่อการนำไปปฏิบัติ				
2.รูปแบบการดูแลรักษามีความชัดเจน				
3.รูปแบบการดูแลรักษามีเหมาะสมต่อการนำไปใช้ในหน่วยงานของท่าน				
4.รูปแบบการดูแลรักษาประหยัด ลดต้นทุนด้านกำลังคน เวลาและงบประมาณ				
5.รูปแบบการดูแลรักษาสามารถแก้ปัญหาและเกิดผลดีต่อผู้รับบริการ				
6.รูปแบบการดูแลรักษามีความเป็นไปได้ในทางปฏิบัติที่จะนำไปใช้ในหน่วยงาน				

มหาวิทยาลัยศิลปากร

ส่วนที่ 3 แบบสอบถามความพึงพอใจของทีมสหวิชาชีพผู้ให้บริการต่อรูปแบบการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยการแพทย์แผนไทย

คำชี้แจง: โปรดแสดงความคิดเห็นของท่าน โดยทำเครื่องหมาย x ที่ตรงกับความคิดเห็นของท่านมากที่สุดและสามารถแสดงความคิดเห็นเพิ่มเติมในช่องหมายเหตุ มีเกณฑ์การพิจารณาดังนี้

1 หมายถึง ท่านมีความพึงพอใจระดับน้อยมาก

2 หมายถึง ท่านมีความพึงพอใจระดับน้อย

3 หมายถึง ท่านมีความพึงพอใจระดับปานกลาง

4 หมายถึง ท่านมีความพึงพอใจระดับมาก

5 หมายถึง ท่านมีความพึงพอใจระดับมากที่สุด

เกณฑ์การวัดระดับความพึงพอใจ

1 2 3 4 5

(ระดับน้อยมาก) (ระดับมากที่สุด)

ข้อเสนอแนะปรับปรุง

....

....

....

....

มหาวิทยาลัยศิลปากร

เอกสาร 2. แบบสอบถามประเมินผลลัพธ์ด้านผู้ป่วย/ผู้ดูแลหลักที่มารับบริการต่อรูปแบบการให้บริการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยกาแพทย์แผนไทย

ส่วนที่ 4 : ข้อมูลทั่วไปของผู้รับบริการ

คำชี้แจง : โปรดกาเครื่องหมาย / ลงใน ( ) และ/หรือเติมข้อความลงในช่องว่างตามความคิดเห็นที่เป็นจริงของท่าน

1. เพศ

( ) 1. ชาย ( ) 2. หญิง

2. อายุ............................ปี

3. ระดับการศึกษา

( ) 1. ประถมศึกษา ( ) 2. มัธยมศึกษา

( ) 3. อนุปริญญา ( ) 4. ปริญญาตรี

( ) 5. สูงกว่าปริญญาตรี ( ) 6. ไม่ได้เรียน

( ) 7. อื่น ๆ ระบุ..

4. สถานภาพสมรส

( ) 1. โสด ( ) 2. คู่

( ) 3. ม่าย ( ) 4. แยกกันอยู่

( ) 5. หย่าร้าง

5. การนับถือศาสนา/หรือความเชื่อ

( ) 1. พุทธ ( ) 2. คริสต์

( ) 3. อิสลาม ( ) 4. ไม่นับถือศาสนา

( ) 5. อื่น ๆ

6. อาชีพ

( ) 1. เกษตรกรรม ( ) 2. รับจ้าง

( ) 3. รับราชการ/รัฐวิสาหกิจ ( ) 4. ค้าขาย

มหาวิทยาลัยศิลปากร

( ) 5. แม่บ้าน/พ่อบ้าน ( ) 6. ไม่ได้ประกอบอาชีพ

( ) 7. อื่น ๆ ระบุ..

7. รายได้

( ) 1. มีรายได้ ( ) 2. ไม่มีรายได้

8. ความพอเพียงของรายได้

( ) 1. พอใช้ ( ) 2. ไม่พอใช้

9.สิทธิในการรักษา

( ) 1. ข้าราชการ/รัฐวิสาหกิจ ( ) 2. บัตรประกันสุขภาพ

( ) 3. ประกันสังคม ( ) 4. อื่น ๆ

10. ลักษณะการอยู่อาศัย

( ) 1. อยู่คนเดียว ( ) 2. อยู่กับครอบครัว

11. บทบาทในครอบครัว

( ) 1. หัวหน้าครอบครัว ( ) 2. สมาชิกในครอบครัว

12. ความสัมพันธ์กับผู้ดูแลหลัก

( ) 1. บิดา/มารดา ( ) 2. สามี/ภรรยา

( ) 3. บุตร ( ) 4. ญาติ/พี่น้อง

( ) 5. บุตร ( ) 6. อื่น ๆ

มหาวิทยาลัยศิลปากร

ส่วนที่ 5 แบบสอบถามผลลัพธ์ของผู้ป่วยทางด้านร่างกาย จิตใจ และความสบายดีทั้งกายและใจในการประเมินและติดตามอาการต่าง ๆในผู้ป่วยมะเร็งตับระยะสุดท้าย

คำชี้แจง: โปรดแสดงความคิดเห็นของท่าน โดยทำเครื่องหมาย x ที่ตรงกับความคิดเห็นของท่านมากที่สุด ตำแหน่งปลายสุดด้านซ้ายมือ (0) จะตรงกับความรู้สึกไม่มีอาการใด ๆ และจะเพิ่มความรู้สึกมากขึ้นๆไป ทางขวามือ และตำแหน่งปลายสุดทางขวามือ (10) จะตรงกับความรู้สึกนั้น ๆ มีมากที่สุด

ไม่มีอาการปวด ไม่อาการปวดรุนแรงที่สุด

0 1 2 3 4 5 6 7 8 9 10

ไม่มีอาการเหนื่อย/อ่อนเพลีย มีอาการเหนื่อย/อ่อนเพลียมากที่สุด

0 1 2 3 4 5 6 7 8 9 10

ไม่มีอาการคลื่นไส้ มีอาการคลื่นไส้มากที่สุด

0 1 2 3 4 5 6 7 8 9 10

ไม่มีอาการซึมเศร้า มีอาการซึมเศร้ามากที่สุด

0 1 2 3 4 5 6 7 8 9 10

ไม่มีอาการวิตกกังวล มีอาการวิตกกังวลมากที่สุด

0 1 2 3 4 5 6 7 8 9 10

ไม่มีอาการง่วงซึม/สะลึมสะลือ มีอาการง่วงซึม/สะลึมสะลือมากที่สุด

0 1 2 3 4 5 6 7 8 9 10

ไม่เบื่ออาหาร เบื่ออาหารมากที่สุด

0 1 2 3 4 5 6 7 8 9 10

สบายดีทั้งกายและใจ ไม่สบายทั้งกายและใจ

0 1 2 3 4 5 6 7 8 9 10

ไม่มีอาการเหนื่อยหอบ มีอาการเหนื่อยหอบมากที่สุด

0 1 2 3 4 5 6 7 8 9 10

ส่วนที่ 6 แบบสอบถามความพึงพอใจของผู้ป่วยต่อการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยการแพทย์แผนไทย

คำชี้แจง: โปรดแสดงความคิดเห็นของท่านที่มีต่อข้อความเหล่านี้ โดยทำเครื่องหมาย √ □ ลงในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุดและสามารถแสดงความคิดเห็นเพิ่มเติมในช่องหมายเหตุ ซึ่งระดับความคิดเห็นของท่าน มีเกณฑ์การพิจารณาดังนี้

1 หมายถึง ท่านมีความพึงพอใจระดับน้อยมาก
2 หมายถึง ท่านมีความพึงพอใจระดับน้อย
3 หมายถึง ท่านมีความพึงพอใจระดับปานกลาง
4 หมายถึง ท่านมีความพึงพอใจระดับมาก
5 หมายถึง ท่านมีความพึงพอใจระดับมากที่สุด

ข้อคำถาม	ระดับความพึงพอใจ				
	1	2	3	4	5
ด้านร่างกาย					
1.ท่านได้รับทราบข้อมูลการเกี่ยวกับแผนการดูแลรักษาและมีส่วนร่วมในการตัดสินใจเกี่ยวกับแผนการรักษา					
2.ท่านได้รับการสอน อธิบายอาการ การดูแลรักษา และ/หรือการดำเนินของโรคจากทีมผู้ดูแลรักษาด้านจิตใจ					
3.ท่านได้รับกำลังใจและการปรึกษาจากผู้ดูแลรักษา					
4.ทีมผู้ดูแลรักษาทำให้ท่านรู้สึกอบอุ่นใจและไว้วางใจ					
ด้านสังคม เศรษฐกิจ สิ่งแวดล้อม					
5.ท่านพอใจต่อบริเวณที่จัดให้ในการดูแลผู้ป่วย					
6.ท่านได้อยู่กับญาติอย่างใกล้ชิด					
7.ท่านได้รับการอำนวยความสะดวกเรื่อง สถานที่ในการสงบจิตใจ					
8.สถานที่ให้การดูแลท่านมีความเหมาะสม					
ด้านจิตวิญญาณ					
9/ท่านได้รับโอกาสในการทำกิจกรรมตาม ความเชื่อและศาสนาที่ท่านถือ หรือเชื่อถืออาทิการทำสังฆทาน ทำบุญ ฟังธรรมและอื่น ๆ					
10.ท่านพึงพอใจต่อการดูแลรักษาของทีมผู้ดูแลรักษาโดยรวม					

ส่วนที่ 7 แบบสอบถามความพึงพอใจของผู้ดูแลหลักต่อรูปแบบการดูแลรักษาผู้ป่วยมะเร็งตับระยะสุดท้ายแบบประคับประคองด้วยการแพทย์แผนไทย

คำชี้แจง: โปรดแสดงความคิดเห็นของท่านที่มีต่อข้อความเหล่านี้ โดยทำเครื่องหมาย √ □ ลงในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุดและสามารถแสดงความคิดเห็นเพิ่มเติมในช่องหมายเหตุ ซึ่งระดับความคิดเห็นของท่าน มีเกณฑ์การพิจารณาดังนี้

1 หมายถึง ท่านมีความพึงพอใจระดับน้อยที่สุด

2 หมายถึง ท่านมีความพึงพอใจระดับน้อย

3 หมายถึง ท่านมีความพึงพอใจระดับปานกลาง

4 หมายถึง ท่านมีความพึงพอใจระดับมาก

5 หมายถึง ท่านมีความพึงพอใจระดับมากที่สุด

ข้อคำถาม	ระดับความพึงพอใจ				
	1	2	3	4	5
1.ท่านได้รับทราบข้อมูลและอาการเปลี่ยนแปลงของผู้ป่วยอย่างต่อเนื่อง					
2.ท่านได้มีส่วนร่วมในการวางแผนและตัดสินใจในการดูแลผู้ป่วย					
3.ผู้ป่วยได้รับการดูแลด้านร่างกายอย่างเหมาะสม					
4.ทีมรักษาพยาบาลทำให้ท่านรู้สึกอบอุ่นใจและไว้วางใจ					
5.ท่านได้รับความสะดวกและอยู่ใกล้ชิดกับผู้ป่วย					
6.ท่านได้รับการตอบสนองตามประเพณี ความเชื่อและศาสนาอย่างเหมาะสมในระหว่างอยู่โรงพยาบาล					
7.ท่านได้รับความรู้และเตรียมความพร้อมในการดูแลผู้ป่วยเมื่อต้องกลับไปอยู่ที่บ้าน					
8.ท่านได้รับการช่วยเหลือ/แนะนำ/อำนวยความสะดวกเมื่อท่านมีปัญหา					
9.ท่านพึงพอใจต่อการดูแลผู้ป่วยของทีมผู้รักษาพยาบาลโดยรวม					

มหาวิทยาลัยศิลปากร

APPENDIX D

Photograph of Focus group

Figure 1 Focus group on October ,21-25, 2018, 09..00-4.30 p.m. :

at conference room Thai traditional and integrated Hospital, Bangkok

Figure 2 -3 Focus group on December 26, 2018, 09.00-4.30 p.m. :

at conference room Thai traditional and integrated Hospital, Bangkok

APPENDIX E

มหาวิทยาลัยศิลปากร

Figure 4-8 study of situation, problems, and obstacles in the care of end - stage liver cancer patients in Thai traditional medical hospital (khan-par- mong)

APPENDIX F

Figure 9-12 Outcomes in In-depth Interviews of Experts after Focus group

APPENDIX G

Figure 13 – 18 The implementation and assessment of the feasibility of using a palliative treatment model for liver cancer patients with Thai traditional medicine at Thai traditional medical hospital

VITA

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