QUALITY OF LIFE OF PROSTATE CANCER PATIENTS THAT RECEIVE COMPLEMENTARY AND ALTERNATIVE MEDICINE TREATMENT IN THAILAND

PLENGCHAT TRIYAWATANYU

MASTER OF SCIENCE
ANTI-AGING AND REGENERATIVE MEDICINE

SCHOOL OF ANTI-AGING AND REGENERATIVE MEDICINE
MAE FAH LUANG UNIVERSITY
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INDEPENDENT STUDY COMMITTEE

.....CHAIRPERSON
(Prof. Dr. Vichit Punyahotra)

.....ADVISOR
(Prof. Dr. Thamthiwat Nararatwanchai)

.....EXAMINER
(Asst. Prof. Tawee Saiwichai)

ACKNOWLEDGEMENTS

I deeply appreciate Professor Dr. Piti Palungwachira for his valuable advice throughout the entire process of completing this independent study from helping me choose the topic and monitoring the progress to finishing the paper work.

I would also like to extend my sincere gratitude to Professor Dr. Vichit Punyahotra and Assistant Professor Tawee Saiwichai for their helpful suggestions and corrections on the questionnaire and the independent study. Their ideas are helpful in accomplishing a thorough independent study. This independent study cannot be finished without their assistance.

Special thanks go to prostate cancer patients who help fill out the questionnaires. They are kind enough to provide detailed illustrations regarding the disease and informative answers to all the questions.

Finally, I would like to thank those whose names are not mentioned here but have greatly inspired and encouraged me until this independent study comes to a perfect end.

Plengchat Triyawatanyu

Independent Study Title	Quality of Life of Prostate Cancer Patients That Receive Complementary and Alternative Medicine in Thailand
Author	Plengchat Triyawatanyu
Degree	Master of Science (Anti Aging and Regenerative Medicine)
Advisor	Prof. Dr. Thamthiwat Nararatwanchai

ABSTRACT

This independent study is intended to investigate and collect complementary and alternative medicine treatments that are applicable to prostate cancer patients. The study also compares satisfaction level and quality of life after receiving conventional treatment alone with those after receiving both conventional and alternative and complementary medicine treatments in prostate cancer patients in Thailand.

In this independent study, the participants include 16 prostate cancer patients who have received both conventional and complementary and alternative medicine treatments. The study is conducted by collecting general information, personal information, complementary and alternative medicine treatment choices, satisfaction level and quality of life after receiving complementary and alternative medicine treatments. It has been found that both satisfaction and quality of life levels after receiving complementary and alternative medicine treatments together with conventional medicine are higher than those after receiving conventional treatment only with statistical significance at p-value less than 0.05.

This independent study indicates that complementary and alternative medicine treatments are applicable for treating prostate cancer patients. Recommendations from doctors together with patients' acceptance and willingness to receive the treatments are essential to the success of the treatment and better quality of life of the patients.

Keywords: Prostate Cancer/Conventional Medicine/Complementary and Alternative Medicine/Satisfaction Level/Quality of Life

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CHAPTER 1

INTRODUCTION

1.1 Background and Rationales

This independent study is intended to consider satisfaction level and quality of life of prostate cancer patients in Thailand who receive both conventional treatments and complementary and alternative medicine treatments. The study also investigates various conventional and complementary and alternative medicine treatment choices.

By definition, cancer is abnormal growth of cells which tend to proliferate in an uncontrolled way and in some cases to metastasize or spread (www.medterms.com). Cancer has long been one of the top lethal diseases among people of all nationalities. Given that cancer is a lethal disease that kills millions of people each year, the ministry of public health in each country has ranked cancer as one of the top diseases being carefully watched. They have implemented various measures to cope with the rising rate of cancer occurrence among their population. Thais have also suffered from this disease as evidenced by almost 30,000 new patients who went to the National Cancer Institute of Thailand in 2009 to seek cancer treatment (National Cancer Institute, D. o. M. S., Ministry of Public Health, 2010). Thai Ministry of Public Health has also been aware of the increasing rate of cancer among Thai population.

Even though prostate cancer is not the most prevalent or the most threatening cancer type, it has always been ranked among the top prevalent cancers occurred in men. Prostate cancer is often overlooked. There is agreement that the incidence of both clinical and latent carcinoma increases with age.

Men in their thirties and forties rarely develop prostate cancer, but the incidence increases steadily after the age of fifty. Prostate is found also during autopsies carried out following other causes of death. The incidence of this latent or autopsy cancer is much greater than cases of clinical cancer. Approximately 80 percent of all cases occur in men over the age of sixty-five, and by the age of eighty, 80 percent of all men have prostate cancer to some degree (Marsh & Samuel 2007). This could be illustrated in the diagram below, which presents cancers at various sites in Thai males.

Treatments of prostate cancer by conventional medicine primarily include surgical therapy, chemotherapy, hormone therapy and radiation therapy (Marsh & Samuel 2007). All of these therapies are conducted by conventional medical doctors for prostate cancer. However, conventional medicine may not be effective and satisfactory to some prostate cancer patients. After receiving conventional treatments, certain patients may face recurring symptoms or related diseases. Sometimes, patients receive treatments when the cancer is at an advanced stage, which is hard to

completely cure. The patients need to suffer from the disease for the rest of their lives. For those who receive surgical therapy, radiation therapy or chemotherapy, they may face certain side effects such as nausea, body pain, stress, and other mental illness.

Therefore, conventional medicine may not be the absolute answer to treatment of prostate and other cancers. In addition, medical and health technology has been researched and developed more and more comprehensively. Alternative approaches to treat diseases have been more acceptable among patients. Traditional Chinese Medicine, Ayurvedic Medicine, Meditation Therapy, Chiropractic, Prayer Therapy, treatment by food supplements and others constitute Complementary and alternative medicine (CAM).

Many approaches under Complementary and alternative medicine are accepted among medical doctors while others are in the approval process. CAM is offered as another option for cancer patients. Beneficial, CAM can be used as a replacement for or used concurrently with the conventional medicine. The patients should be open-minded in studying Complementary and alternative medicine in further details before making a decision on what approach to apply for their cancer treatment. Being open-minded may lead to a better quality of physical and mental life as well (Apperly, 1941).

Given the abovementioned reasons, I propose to conduct an independent study on the topic, "Quality of Life of Prostate Cancer Patients That Receive Complementary and Alternative Medicine Treatment in Thailand". I will research each approach of Complementary and alternative medicine in prostate cancer treatment, including methods, advantages and disadvantages as well as limitation for the benefit of prostate cancer treatment and medical and healthcare industry in Thailand going forward (Apperly, 1941).

1.2 Objectives

1.2.1 To study details of prostate cancer including incidence, risk factors, symptoms and diagnosis as well as conventional medicine approaches in prostate cancer treatment in Thailand

1.2.2 To study various approaches under complementary and alternative medicine that can be applied to use concurrently with or replace conventional medicine in prostate cancer treatment by researching pros, cons and limitation and methods applied in the treatment

1.2.3 To compile complementary and alternative medicine approaches in prostate cancer treatment in Thailand that can be used concurrently with or replace the conventional medicine

1.3 Hypotheses

Conventional medicine applied together with complementary and alternative medicine in prostate cancer treatment would yield better results.

Applying both conventional medicine and CAM would improve quality of life of the patients than applying only conventional medicine for the treatment.

1.4 Conceptual Framework

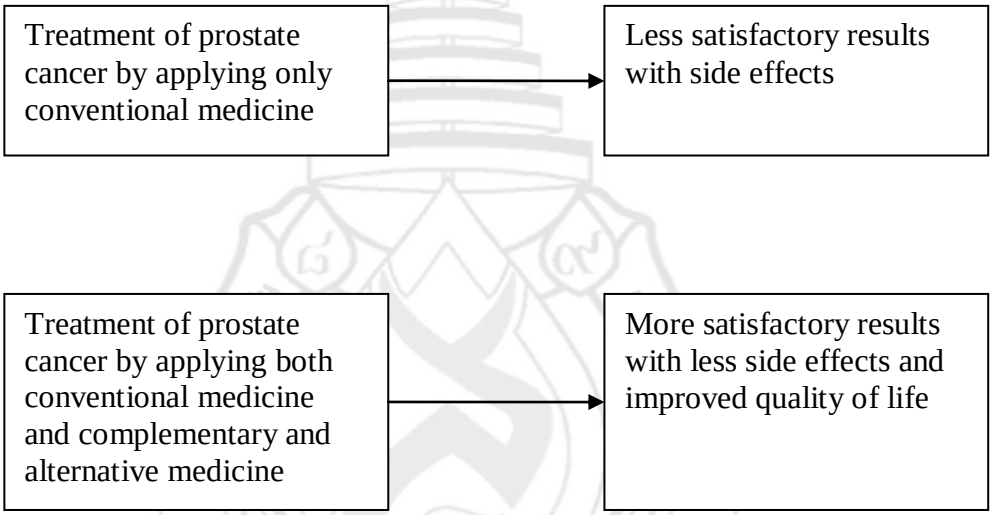


Figure 1.1 Conceptual Framework

If prostate cancer patients receive only conventional medicine, which is aimed to eradicate the disease from the patients, patients may be less satisfied with the results. Moreover, patients may face side effects from the treatments such as nausea, fatigue. The conventional medicine is targeted to get rid of the disease but may not provide the patient with fully recovered health status after the treatment.

However, if the patients receive both conventional medicine and complementary and alternative medicine for their prostate cancer treatments, the results are expected to be more satisfactory to the patients. Besides, the patients are potentially more healthy post treatment than those receiving only conventional medical approaches as the disease will fully gotten rid off and their health immunity will be more completely recovered. This is considered truly holistic treatment.

1.5 Expected Benefits and Applications

This independent study is conducted to compile approaches under complementary and alternative medicine which can be applied together with or replacing the conventional medicine in prostate cancer patients with expected benefits as follows:

1.5.1 To know the advantages as well as limitations of conventional and complementary medicine in prostate cancer treatment.

1.5.2 To be able to apply the completed study to the holistic approach for prostate cancer treatment

1.5.3 To benefit the patient treatment and to boost quality of life of the patients

1.5.4 To benefit medical and healthcare industry in Thailand going forward.

1.6 Scope of Independent Study

1.6.1 The study is based on medical journals, independent reports, medical seminars, research papers and other medical magazines and health-related documents

1.6.2 The study is conducted by surveying various health institutions that provide complementary and alternative medicine for prostate cancer patients

1.6.3 The study covers case studies of prostate cancer patients that have received complementary and alternative medicine in concurrence with or replacing conventional medicine

1.7 Limitation on the Independent Study

1.7.1 Complementary and alternative medicine used in treating prostate cancer patients is still at a relatively early stage in Thailand. It is not widespread among Thais as there are a limited number of specialists that can provide such treatments to the patients.

1.7.2 Source of information and the number of prostate cancer patients who receive both conventional medicine and properly-conducted complementary and alternative medicine may be limited.

1.7.3 There are a good number of conventional medical doctors, who do not accept the efficiency of complementary and alternative medicine in cancer treatment. These doctors do not allow their patients to receive complementary and alternative medicine treatment.

1.8 Operational Definitions

With reference to www.medterms.com, the operational definitions are provided below:

1.8.1 Complementary Medicine

A group of diagnostic and therapeutic disciplines that are used together with conventional medicine. An example of a complementary therapy is using aromatherapy to help lessen a patient's discomfort following surgery.

1.8.2 Alternative Medicine

Healing arts not taught in traditional Western medical schools that promote options to conventional medicine that is taught in these schools.

1.8.3 Conventional Medicine

Medicine as practiced by holders of M.D. (medical doctor) or D.O. (doctor of osteopathy) degrees and by their allied health professionals, such as physical therapists, psychologists, and registered nurses. Other terms for conventional medicine include allopathy and allopathic medicine; Western medicine, mainstream medicine, orthodox medicine, and regular medicine; and biomedicine.

1.8.4 Integrative Medicine

The new medicine, which is a term for the incorporation of alternative therapies into mainstream medical practice.

1.8.5 Holistic medicine

A term used to describe therapies that attempt to treat the patient as a whole person. That is, instead of treating an illness, as in orthodox allopathy, holistic medicine looks at an individual's overall physical, mental, spiritual, and emotional wellbeing before recommending treatment.

1.8.6 Benign Prostate Hyperplasia

A histologic diagnosis characterized by proliferation of the cellular elements of the prostate. Cellular accumulation and gland enlargement may result from epithelial and stromal proliferation, impaired preprogrammed cell death (apoptosis), or both.

1.8.7 Prostatitis

Swelling and inflammation of the prostate gland, a walnut-sized gland located directly below the bladder in men. The prostate gland produces fluid (semen) that nourishes and transports sperm.

1.9 Concept, Theory, Research and Other Related Documents

As this independent study constitutes primarily data gathering and also surveys at health institutions that provide complementary and alternative medicine, this study will cover incidence, risk factors, symptoms, diagnosis and conventional and complementary treatments.

This independent study is aimed at complementary and alternative medicine which is increasingly popular among Thai people. Many of the complementary and alternative medicine approaches are widely accepted while the rest is still under study. Also, the complementary and alternative medicine can help boost the life quality of patients after they recover from the disease. The patients will potentially be healthy both physically and mentally after recovery. Particularly for cancer patients, it has been found that conventional medicine together with complementary and alternative medicine will yield satisfactory results in the patients. This is attributable to the fact that the complementary and alternative medicine emphasizes immune system enhancement which is fundamental to physical and mental health.

It is expected that the independent study will help readers better understand the complementary and alternative medicine in treatment of prostate cancer patients for future benefit of Thai health and medical industry.

CHAPTER 2

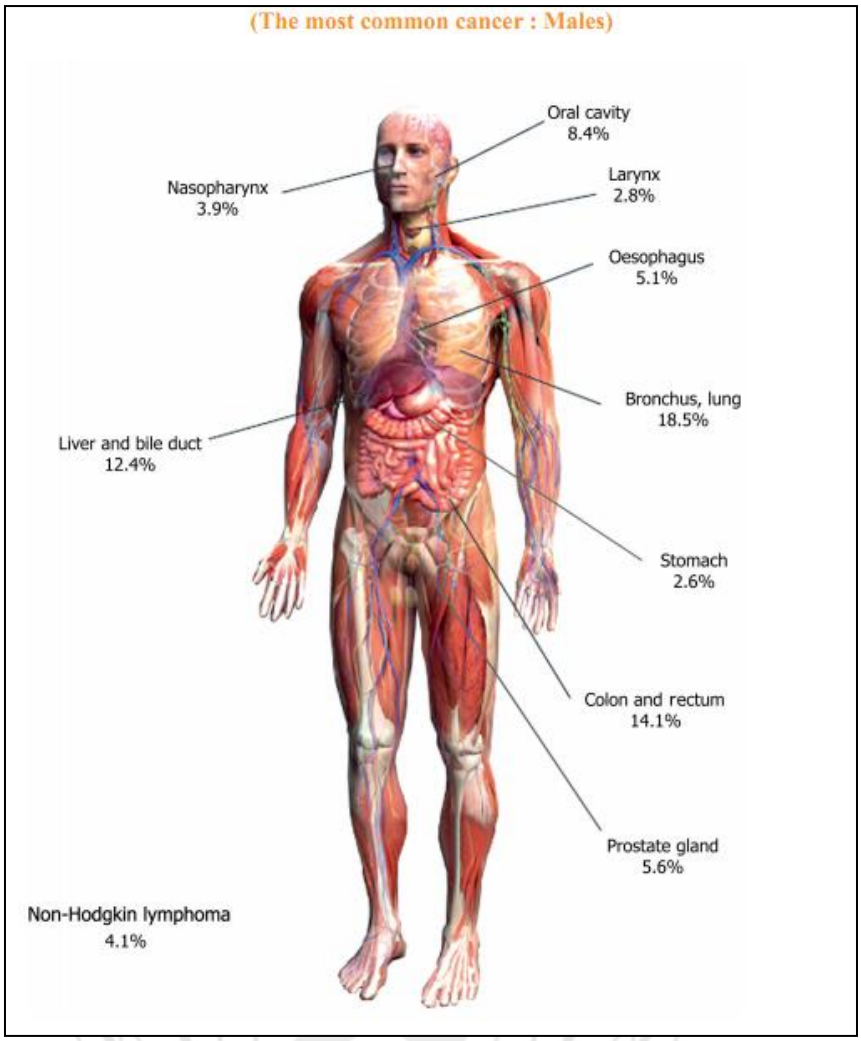
LITERATURE REVIEW

2.1 Prostate Cancer

Cancer has become the disease that causes mortality the most among Thai population, surpassing cardiovascular disease and AIDS. The disease at an advanced stage is knowingly hard to cure and becomes a financial burden to the patient and his or her family and relatives.

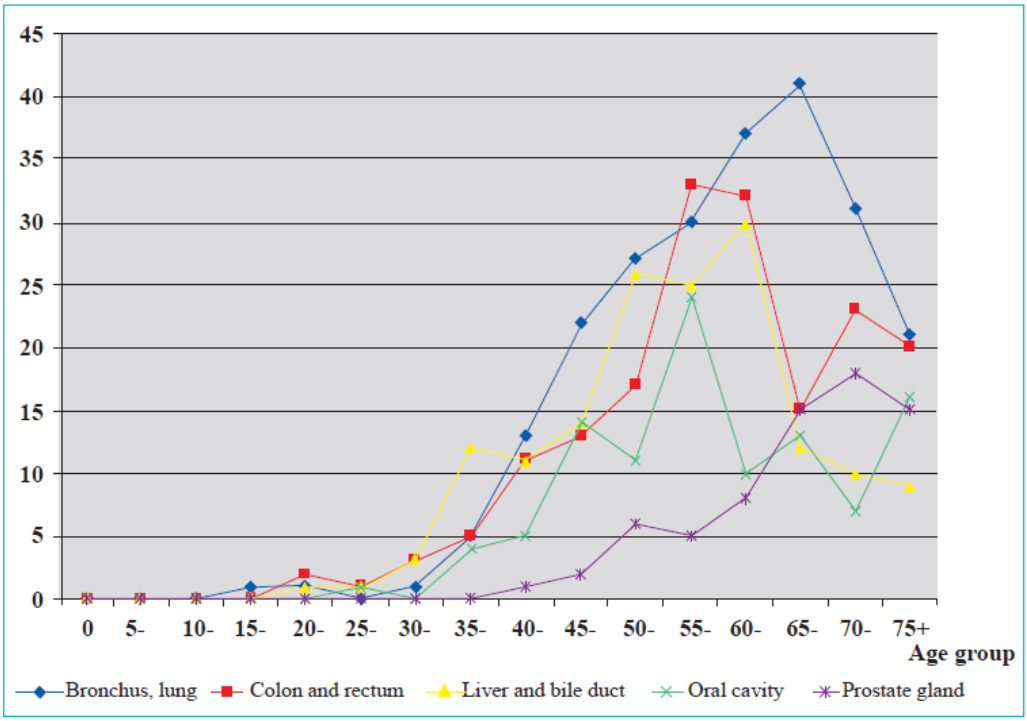
There are various risk factors for the disease, whether it being internal and external. Internal factors mainly include genetics and stress while external factors include high-fat diet, carcinogenic food and beverages, smoking, chemicals, infections, and sex hormones. Moreover, cancer may occur at different organs according to genders.

Based on data from the National Cancer Institute of Thailand, the five most prevalent cancers that threaten males are as follows: Bronchus/lung (18.5%), colon and rectum (14.1%), liver and bile duct (12.4%), oral cavity (8.4%) and prostate gland (5.6%) respectively. (Vatanasapt, 1988-1991).



From National Cancer Institute, D. o. M. S., Ministry of Public Health. (2010). **Hospital-Based Cancer Registry.** N.P.: n.p.

Figure 2.1 The Most Common Cancer: Males



From National Cancer Institute, D. o. M. S., Ministry of Public Health. (2010). **Hospital-Based Cancer Registry.** N.P.: n.p.

Figure 2.2 The Leading Site of Cancer in Thai Males in 2009

The prostate is a gland surrounding the male urethra (the tube that carries urine out of the body from the bladder). It is roughly the size and shape of a walnut. Some of the cells of the prostate produce various components of seminal fluid. The prostate produces prostatic fluid, which makes up the bulk of the male ejaculate and nourishes and transports the sperm. The prostate can often become enlarged in older men, causing difficulty with urination; this is known as benign prostatic hyperplasia. Prostatitis refers to an inflamed prostate (Apperly, 1941).

Most prostate cancer starts in the glandular cells of the prostate and is known as adenocarcinoma. Most prostate cancers arise in the rear portion of the prostate gland; the rest originate near the urethra. Lymphatic vessels leading from the prostate gland to the pelvic lymph nodes provide a route for prostate cancer to spread to other areas of the body. Prostate cancer cells usually grow very slowly, but on occasion they can grow and metastasize quickly. When prostate cancer is diagnosed early (while it is confined to the prostate), long-term disease-free survival is expected. Locally advanced prostate cancer also has a good prognosis for long-term survival. If diagnosed after it has already spread to distant organs, the prognosis is not as good, with an expected survival of one to three years (Lise Alschuler, n.d.).

Possible symptoms of prostate cancer can include one or more of the following: pain or a burning sensation during urination, frequent urination, a decrease in the size and force of urine flow an inability to urinate, blood in the urine, and continuing lower back, pelvic, or suprapubic discomfort. However, the disease often causes no symptoms at all until it reaches an advanced stage and/ or spreads outside the gland. In addition, these symptoms most often are caused not by cancer, but by an enlarged prostate, benign prostatic hyperplasia (BPH) (Apperly, 1941).

Treatments of prostate cancer by conventional medicine primarily include surgical therapy, chemotherapy, hormone therapy and radiation therapy (Marsh & Samuel, 2007).

Patients in good health are usually offered surgery as treatment for prostate cancer. The types of surgery used are i) Pelvic lymphadenectomy: a surgical procedure to remove the lymph nodes in the pelvis; ii) Radical prostatectomy: a surgical procedure to remove the prostate, surrounding tissue, and seminal vesicles; iii) Transurethral resection of the prostate (TURP): a surgical procedure to remove tissue from the prostate using a resectoscope (a thin, lighted tube with a cutting tool) inserted through the urethra.

Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing. When chemotherapy is taken by mouth or injected into a vein or muscle, the drugs enter the bloodstream and can reach cancer cells throughout the body (systemic chemotherapy). When chemotherapy is placed directly into the cerebrospinal fluid, an organ, or a body cavity such as the abdomen, the drugs mainly affect cancer cells in those areas (regional chemotherapy). The way the chemotherapy is given depends on the type and stage of the cancer being treated. (Vatanasapt, 1988-1991).

Hormone therapy removes hormones or blocks their action and stops cancer cells from growing. Hormones are substances produced by glands in the body and circulated in the bloodstream. In prostate cancer, male sex hormones, especially testosterone, can cause prostate cancer to grow. Drugs, surgery, or other hormones are used to reduce the production of male hormones or block them from working (Astin, Shapiro, Eisenberg & Forys, 2003).

Radiation therapy is a cancer treatment that uses high-energy x-rays or other types of radiation to kill cancer cells or keep them from growing. There are two types of radiation therapy. External radiation therapy uses a machine outside the body to send radiation toward the cancer. Internal radiation therapy uses a radioactive substance sealed in needles, seeds, wires, or catheters that are placed directly into or near the cancer. The way the radiation therapy is given depends on the type and stage of the cancer being treated. (Padayatty, Sun, & Wang, 2004)

Prostate cancer is one of the most common cancers among males. Due to continuous advances, the diagnosis and treatment of prostate cancer is constantly evolving into an optimal state. With the development of prostate-specific antigen (PSA) screening, more men, having prostate cancer, are identified earlier. While prostate cancer can be a slow-growing cancer, many men die of the disease each year. (Padayatty et al., 2004).

The prostate is a gland surrounding the male urethra (the tube that carries urine out of the body from the bladder). It is roughly the size and shape of a walnut. Some of the cells of the prostate produce various components of seminal fluid. The prostate can often become enlarged in older men, causing difficulty with urination; this is known as

benign prostatic hyperplasia. Prostatitis refers to an inflamed prostate. (Padayatty et al., 2004).

Most prostate cancer starts in the glandular cells of the prostate and is known as adenocarcinoma. Prostate cancer cells usually grow very slowly, but on occasion they can grow and metastasize quickly. Prostate cancer is the most commonly diagnosed cancer. According to the American Cancer Society, the number of prostate cancers diagnosed each year has gone up from 189,000 in 2002 to more than 232,000 in 2005. However, the number of deaths caused by prostate cancer did not increase during that same three-year period. When prostate cancer is diagnosed early (while it is confined to the prostate), long-term disease-free survival is expected. Locally advanced prostate cancer also has a good prognosis for long-term survival. If diagnosed after it has already spread to distant organs, the prognosis is not as good, with an expected survival of one to three years (Lise Alschuler & Karolyn, n.d.).

Carcinomas of the prostate are responsive to sex hormones and presumably, therefore, have many analogies with breast cancer. They are stimulated by androgens and inhibited by estrogens. Prostatic cancer has a tendency to metastasize to bone. Early detection may now be possible with a blood test, (prostate specific antigen, PSA) and transrectal ultrasound. The TNM classification for carcinomas of the prostate is new (Cancer, 1992).

2.1.1 Anatomy

The prostate lies below the bladder and encompasses the prostatic urethra. It is surrounded by a capsule and separated from the rectum by a layer of fascia called the Denonvilliers fascia. The blood supply to the base of the bladder and the prostate is from the inferior vesical artery, which is derived from the internal iliac artery. The neurovascular bundle lies on either side of the prostate on the rectum. It is derived from the pelvic plexus and is important for the erectile function (Astin et al., 2003).

2.1.1.1 Primary Site

Adenocarcinomas of the prostate usually arise within the peripheral zone and are less commonly seen in the benign hyperplastic enlargement that occurs around the prostatic urethra in older men. Pathologically, cancers of the prostate are often multifocal in origin. They usually start in the peripheral posterior portion of the gland and therefore are amenable to early detection by rectal examination or by transrectal ultrasound (Astin et al., 2003).

There is agreement that the incidence of both clinical and latent carcinoma increases with age. However, this cancer is rarely diagnosed in men under 40 years of age. The size or extent of a localized prostatic tumor may be estimated by digital examination or by various imaging techniques, such as ultrasound. Diagnosis of clinically suspicious areas of the prostate is histologically confirmed by needle biopsy (Astin et al., 2003). The grade of the prostatic cancer is also important for prognosis. The histopathologic grading of these tumors can be complex because of the morphologic heterogeneity so often encountered in surgical specimens. Either a histologic or a pattern type of grading method can be used.

2.1.1.2 Regional Lymph Nodes

The regional lymph nodes are the nodes of the true pelvis, which essentially are the pelvic nodes below the bifurcation of the common iliac arteries. They include the following groups:

Pelvic, NOS
Hypogastric
Obturator
Iliac (internal, external, NOS)
Periprostatic
Sacral (lateral, presacral, promontory [Getora's], or NOS)

2.1.1.3 Distant Lymph Nodes

Distant lymph nodes lie outside the confines of the true pelvis. They can be imaged using ultrasound, computed tomography, magnetic resonance imaging, or lymphangiography.

Aortic (para-aortic, lumbar)
Common iliac
Inguinal, deep
Superficial inguinal (femoral)
Supraclavicular
Cervical
Scalene
Retroperitoneal, NOS

The significance of regional lymph node metastasis, pN, in staging prostate cancer lies in the number of nodes involved with tumor and the size of the metastatic foci present within the lymph nodes (Kushi & Jack, 2003)

2.1.1.4 Metastatic Sites

Metastasis to bone is common with primary carcinomas of the prostate. In addition, tumor frequently spreads to distant lymph nodes. Lung metastases are uncommon and may be lymphangitic in pattern of spread. Liver metastases are usually seen late in the course of the disease.

2.1.2 Incidence

Prostate cancer is currently the most frequently diagnosed malignancy among men and the second leading cause of cancer death for all people in the world**.** Prostate cancer is rarely diagnosed in people below 40 years, and it is uncommon in people below 50 years. Prostate is found also during autopsies carried out following other causes of death. The incidence of this latent or autopsy cancer is much greater than cases of clinical cancer. In fact, it may be as high as 80 percent by the age of 80 years.

The incidence of clinical cancer varies regionally, and these differences may be due to some of the genetic, hormonal, and dietary factors.

2.1.3 Etiology

2.1.3.1 Genetics

Genetic studies suggest that a strong familial predisposition may be responsible for as many as 10 percent of prostate cancer cases. Alteration of genes on chromosome 1 and the X chromosome have been found in some patients with a family history of prostate cancer. Men who have a first-degree relative (parent or sibling) with prostate cancer are at increased risk. The incidence is higher among married men than it is among unmarried men.

2.1.3.2 Age

Men aged sixty-five and older have higher risk of developing prostate cancer.

2.1.3.3 Race

African Americans have a higher incidence and more aggressive type of prostate cancer than white men, who in turn have a higher incidence than men of Asian origin. Studies have found that young African men have testosterone levels 15 percent higher than those of young white men. Furthermore, evidence that 5-alpha reductase may be more active in African Americans than in whites, implying that hormonal differences may play a role.

2.1.3.4 Diet

A high-fat diet may lead to increased risks while a diet rich in soya may be protective. This may be due to the fact that heavy fat consumption raises testosterone levels, which could then stimulate growth of the prostate, including any cancer cells it may be harboring. These observations have been proposed as reasons for the low incidence of this cancer in Asia. Vitamin E may have some protective effects by virtue of being an antioxidant. Decreased levels of Vitamin A may be a risk factor since normal levels of Vitamin A can promote cell differentiation and stimulate the immune system. Vitamin D deficiency was suggested as a risk factor, and studies show an inverse relation between ultraviolet exposure and mortality rates of prostate cancer. Selenium may have a protective effect based on epidemiological studies, and it also it believed to extend its effect via its antioxidant properties.

2.1.3.5 Hormones

Hormonal causes also have been postulated because androgen ablation causes regression of prostate cancers, and eunuchs do not develop adenocarcinoma of the prostate.

Also at increased risk are men who have had recurring prostate infections, those with a history of sexually transmitted disease, and those who have taken testosterone. Exposure to cancer-causing chemicals increases risk as well (Kushi & Jack, 2003)

2.1.4 Pathophysiology

Prostate cancer develops when the rates of cell division and cell death are no longer equal, leading to uncontrolled tumor growth. Most prostate cancers are adenocarcinomas (95%). About 4 percent cases of prostate cancer have transitional cell morphology. Few cases have neuroendocrine morphology. Out of the cases of prostate cancer, 70 percent arise in the peripheral zone, 15-20 percent arise in the central zone, and 10-15 percent arise in the transitional zone. Most prostate cancers are multifocal with synchronous involvement of multiple zones of the prostate.

2.1.4.1 Local symptoms

The common local symptoms include urinary retention, back or leg pain, hematuria, urinary frequency, decreased stream and urgency. Currently by screening with PSA and digital rectal examination, prostate cancer is being detected in patients with minimal lower urinary tract symptoms or sometimes with no symptoms.

2.1.4.2 Metastatic symptoms

Metastatic symptoms include weight loss and loss of appetite, bone pain, with or without pathologic fracture (because prostate cancer when metastatic, has a strong predilection for bone); and lower extremity pain and edema from nodal metastasis obstructing venous and lymphatic tributaries. Uremic symptoms can occur from ureteral obstruction caused by local prostate growth or retroperitoneal adenopathy secondary to nodal metastasis. (Brown & Slatopolsky, 2008).

2.1.5 Natural History

The natural history of clinically localized disease is variable, with lower grade tumors having a more indolent course, while some high-grade lesions are aggressive and progress to metastatic disease with relative rapidity.

Evidence suggests that most prostate cancers are multifocal and heterogeneous. Cancers can start in the transitional zone or more commonly, the peripheral zone. When these cancers are locally invasive, the transitional zone tumors spread to the bladder neck, while the peripheral zone tumors extend into the ejaculatory ducts and seminal vesicles. Penetration through the prostatic capsule and along the perineural or vascular spaces is a relatively late event.

The mechanism for distant metastasis is poorly understood. There is early spread to bone, occasionally without significant lymphadenopathy. (Brown & Slatopolsky, 2008).

2.1.6 Diagnosis and Staging

2.1.6.1 Digital Rectal Examination (DRE)

Various factors are taken into consideration when performing the DRE. A nodule is important, but findings such as asymmetry, difference in texture, and bogginess are important clues. Cysts or stones cannot be accurately differentiated from a cancer by DRE alone. Hence a high level of suspicion should be held, if the DRE is abnormal. In addition, if cancer is detected, the DRE forms the basis of the clinical stage of the primary tumor.

2.1.6.2 Prostate-specific Antigen

PSA is a single-chain glycoprotein that has chymotrypsin-like properties. PSA slowly hydrolyzes peptide bonds, thereby liquefying semen. The upper limit of the normal PSA level is 4 ng/ml. Some advocate age-related cut-off, such as 2.5 ng/ml for the fifth decade of life, 3.5 ng/ml for the sixth decade of life, and 4.5 ng/ml for the seventh decade of life

In patients who have a PSA in the range of 4-10 ng/ml, the percentage of free PSA can be estimated. The measurement of bound and free PSA can help discriminate between patients with cancer and those with benign prostatic hyperplasia (BPH). The lower the ratio of free-to-total PSA, the higher the likelihood of cancer. A cut-off of 22 percent prompts different techniques in cancer detection and minimizes unnecessary biopsies.

Men with PSA levels less than 10 and low or moderate grade histology (Gleason <7) with no findings or minimal findings on physical examination may proceed to surgery or brachytherapy without further studies.

PSA levels greater than 10, high-grade histology (Gleason score of 7 or higher), or physical findings suggesting stage T3 disease probably should undergo a staging CT scan and bone scan (Kushi & Jack, 2003)

2.1.6.3 Prostatic Acid Phosphatase

It was a widely used tumor marker in the past but is rarely used today. It lacks the specificity and sensitivity required for a reliable screening test (Kholer & Kohler, 1979)

2.1.6.4 Prostate Biopsy or Fine-Needle Aspiration Cytology

Prostate biopsy or FNAC may be done through a transrectal or a transperineal approach. The use of a transrectal ultrasound has improved the localization of the nodule and increases the accuracy of the procedure. Ultrasound-guided transrectal

core needle biopsy of the prostate can be done using, either a tru-cut needle or a biopsy gun. Most urologists carry out 8 to 10 biopsies from different areas of the gland.

When patients have a persistently elevated PSA in the face of negative biopsy results, the literature supports repeating the biopsy 1 or 2 times.

Histologically prostatic cancer is classified as well differentiated, moderately differentiated and poorly differentiated. The most commonly used system of classifying the histological characteristics of prostate cancer is the Gleason score. The glandular architecture and growth factor within the tumor determine the classification.

The system assigns a grade from 1-5 to the predominant pattern and the second is the most common pattern in the tumor. The sum of these 2 grades is referred to as the Gleason score. Scoring based on the second most common pattern, is an attempt to correlate with the considerable heterogeneity that is seen within prostate cancers. Grades 2-4 are considered low grade, Grades 5-7 are considered moderate, and Grades 8-10 are considered high grade. This scheme of grading histological features is highly dependent on the skill and experience of the pathologist and, thus, is subject to some degree of individual variation (Kholer & Kohler, 1979)

2.1.6.5 Transrectal Ultrasound (TRUS)

TRUS is used to examine the prostate for hypoechoic areas, which are commonly found with cancers but are not specific enough for diagnostic purposes. Systematic biopsies of peripheral and, occasionally, transitional zones are taken under ultrasound guidance. This procedure is an accurate one as it assesses the capsular invasion, especially into the seminal vesicles.

2.1.6.6 Bone Scan

Bony metastases occur in 80 percent of patients with advanced disease. The lesions are mostly osteoblastic but may also be osteolytic. Bone scanning is more sensitive but les specific than skeletal radiography. Bone scan may be omitted if the PSA level is below 10 ng/ml in a patient with cancer of the prostate.

2.1.6.7 CT Scan or MRT

CT scan of the abdomen and pelvis or an MRI in patients suggested to have locally advanced disease may give an indication of extracapsular extension, seminal vesicle involvement, pelvic lymph node enlargement, liver metastases, and hydronephrosis as a result of distal ureteral obstruction. The CT scan can help stage the patient or to consider lymph node sampling prior to treatment.

MRI is superior to bone scan in evaluating bone metastasis, but it is impractical for routine total body surveys. Instead, it is used to determine the etiology of questionable lesions found on bone scans.

Neither CT scan nor MRI can be used to determine if lymph nodes are reactive or contain malignant deposits unless the nodes are much enlarged and a percutaneous biopsy can be undertaken (Jacobs, Marquart, Slavin, & Kushi, 1998).

2.1.7 Differential Diagnosis

2.1.7.1 Benign Prostatic Hypertrophy (BPH)
2.1.7.2 Calculi
2.1.7.3 Prostatic cysts
2.1.7.4 Prostatic tuberculosis
2.1.7.5 Prostatitis

2.1.8 Staging of Prostate Cancer (Cancer, 1992)

Rules for Classification

The TNM classification serves both clinical and pathological staging.

2.1.8.1 Clinical Staging

Primary tumor assessment includes digital rectal examination of the prostate and histologic or cytologic confirmation of prostatic carcinoma. Clinical examination, acid phosphatase determination, PSA serum level, and imaging techniques (including transrectal ultrasound) are suggested. All information available prior to first definitive treatment may be used for clinical staging.

2.1.8.2 Pathologic Staging

Histologic examination of the resected specimen is required. Total prostatoseminalvesiculectomy and pelvic lymph node dissection are required for pathologic staging. In some cases, a pT classification may be possible without prostatoseminalvesiculectomy – for example, a positive biopsy from the rectum. Tumor found in one or both lobes by needle biopsy, but not palpable or visible by imaging, is classified as T1c. Laterality does not affect the N classification (Gerson, 2005).

DEFINITION OF TNM

Primary Tumor (T)

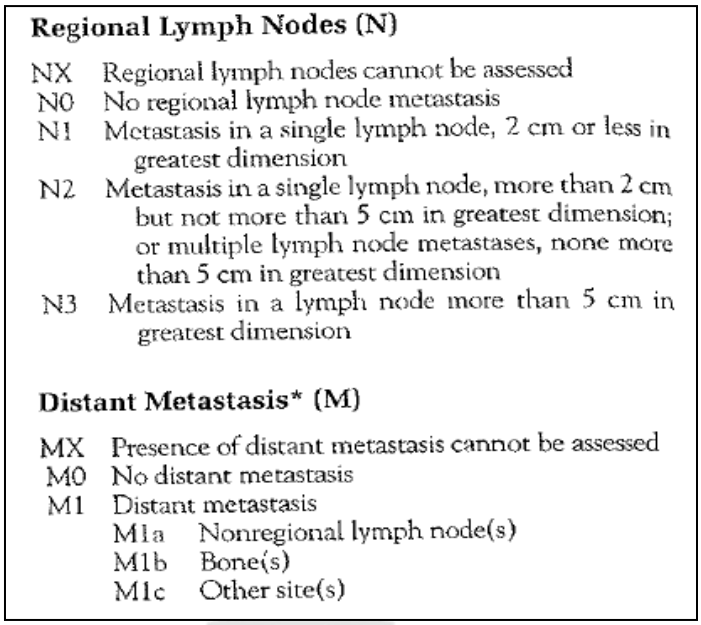
TX Primary tumor cannot be assessed
T0 No evidence of primary tumor
T1 Clinically inapparent tumor not palpable or visible by imaging
- T1a Tumor incidental histologic finding in 5% or less of tissue resected
- T1b Tumor incidental histologic finding in more than 5% of tissue resected
- T1c Tumor identified by needle biopsy (e.g., because of elevated PSA)

T2 Tumor confined within the prostate*
- T2a Tumor involves half of a lobe or less
- T2b Tumor involves more than half of a lobe, but not both lobes
- T2c Tumor involves both lobes

T3 Tumor extends through the prostatic capsule**
- T3a Unilateral extracapsular extension
- T3b Bilateral extracapsular extension
- T3c Tumor invades the seminal vesicle(s)

T4 Tumor is fixed or invades adjacent structures other than the seminal vesicles
- T4a Tumor invades any of: bladder neck, external sphincter, or rectum
- T4b Tumor invades levator muscles and/or is fixed to the pelvic wall

Figure 2.3 Definition of TNM



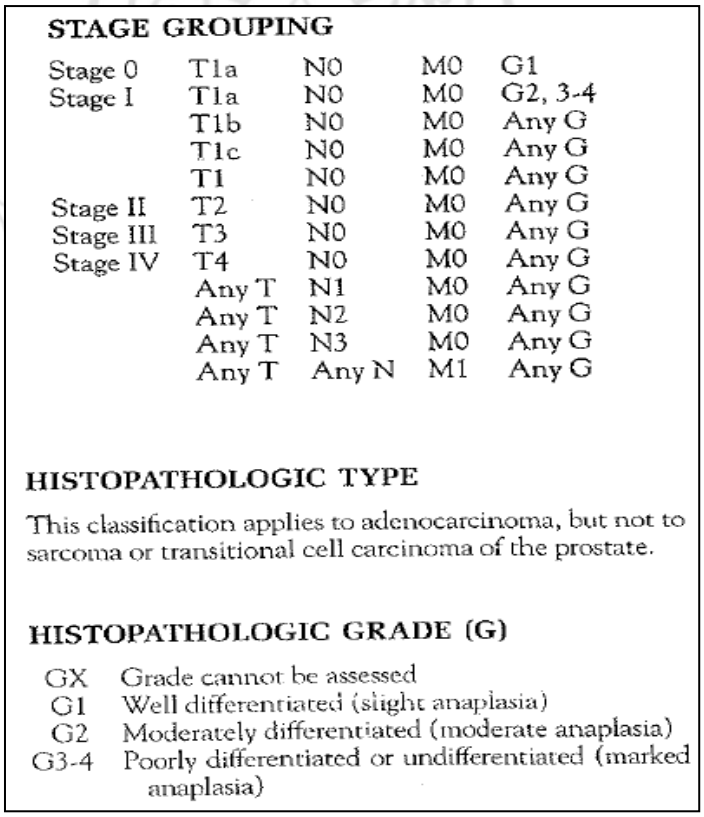
Regional Lymph Nodes (N)

NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	Metastasis in a single lymph node, 2 cm or less in greatest dimension
N2	Metastasis in a single lymph node, more than 2 cm but not more than 5 cm in greatest dimension; or multiple lymph node metastases, none more than 5 cm in greatest dimension
N3	Metastasis in a lymph node more than 5 cm in greatest dimension

Distant Metastasis* (M)

MX	Presence of distant metastasis cannot be assessed
M0	No distant metastasis
M1	Distant metastasis
M1a	Nonregional lymph node(s)
M1b	Bone(s)
M1c	Other site(s)

Figure 2.4 Regional Lymph Nodes (N)



STAGE GROUPING

Stage 0	T1a	N0	M0	G1
Stage I	T1a	N0	M0	G2, 3-4
	T1b	N0	M0	Any G
	T1c	N0	M0	Any G
	T1	N0	M0	Any G
Stage II	T2	N0	M0	Any G
Stage III	T3	N0	M0	Any G
Stage IV	T4	N0	M0	Any G
	Any T	N1	M0	Any G
	Any T	N2	M0	Any G
	Any T	N3	M0	Any G
	Any T	Any N	M1	Any G

HISTOPATHOLOGIC TYPE

This classification applies to adenocarcinoma, but not to sarcoma or transitional cell carcinoma of the prostate.

HISTOPATHOLOGIC GRADE (G)

GX	Grade cannot be assessed
G1	Well differentiated (slight anaplasia)
G2	Moderately differentiated (moderate anaplasia)
G3-4	Poorly differentiated or undifferentiated (marked anaplasia)

Figure 2.5 Stage Grouping

2.2 Conventional Treatment

2.2.1 Non-surgical Therapy

Early localized disease (clinical stage T1-2N0M0)

2.2.1.1 Watchful waiting – This is a program of regular examinations, PSA monitoring, and digital rectal examination (DRE) monitoring. This approach is considered in patients of advanced age who have significant life-limiting morbidity. In addition, it is rarely appropriate in patients who do not harbor well-differentiated tumors.

2.2.1.2 External-beam radiation

1. This is used with curative intent for patients with clinically localized cancer.
2. Conventional external beam (4-field box)
3. Conformal external beam, which delivers higher doses of radiation to the prostate while sparing adjacent tissues, is much better than the conventional approach.

2.2.1.3 Brachytherapy/Interstitial radiation

1. Radioactive palladium or iodine seeds are placed into the prostate.
2. This therapy may be used alone or in combination with external beam radiotherapy

2.2.1.4 Androgen ablation combined with radiation

This procedure offers improved disease-specific survival and increased time for tumor recurrence in patients with locally advanced prostate cancer. The advantage of this approach in patients with early disease remains to be determined, but it could offer significant advantages when used in younger patients with significant longevity (>20 y). Androgen ablation traditionally has been achieved by the use of luteinizing hormone-releasing hormone (LHRH) agents combined with antiandrogens, though variations on this theme have been described. Androgen ablation commonly begins several months before radiation is initiated and continues for several months more (Jacobs et al., 1998).

2.2.1.5 Locally Advanced Disease (T3-4N0M0)

1. Treat patients with radiation
2. Combining radiation with hormones improves local control and allows longer freedom from metastasis and disease-free survival.
3. Watchful waiting is an option only in highly selected patients because of the aggressive nature of these tumors

2.2.1.6 Metastatic Disease (Stage N+ M+)

The androgen dependency of the prostate gland is well known. Any agent or procedure that interferes with the production, release, binding or action of androgens will potentially inhibit the growth of the prostate cancer cell. Hormonal therapy is associated with significant responses. Its curative potential is limited due to the inherent heterogeneity of prostate cancer and due to the inability of hormones to eradicate all prostate cancer clones, the androgen-dependent and androgen-independent components (Fontaine, 2000).

2.2.2 Bilateral Orchidectomy

This appears to be the most consistent procedure in endocrine manipulation. Results are immediate with virtually no operative morbidity. Medical castration

2.2.2.1 LHRH agonists

1. They are synthetic analogs of the gonadotrophin-releasing hormones. They are available as depot forms that enable 3-monthly or 4-monthly injections.
2. Leuprolide acetate – 30 mg q16 wk
3. Goserelin acetate – 10.8 mg q 12 wk

2.2.2.2 Non-steroidal antiandrogens

1. They inhibit androgens on the target cell
2. Flutamide – 250 mg tid
3. Bicalutamide – 50 mg qd

2.2.2.3 Estrogens

1. It suppresses the pituitary gonadotrophin
2. Diethylstilbestrol – 1 to 3 mg qd
3. Estradiol – 1 mg tid

2.2.2.4 Adrenal steroid inhibitors

1. They can be used to lower serum testosterone levels quickly in cases involving spinal cord compression secondary to metastases.
2. Aminoglutathimide – 1 to 2 gm qd
3. Ketoconazole – 400 mg tid

2.2.2.5 Combined androgen blockade

1. Androgen ablation is achieved by bilateral orchidectomy or by the use of LHRH agents. But they have no effect on adrenal androgens, which contribute as much as 40 percent of prostatic dihydrotestosterone.
2. Combined androgen blockade combines surgical or medical castration with peripheral androgen blockade.

2.2.3 Bisphosphonates

Bisphosphonates, which are stable analogs of calcium pyrophosphate, inhibit osteoclastic activity in bone, relieving bone pain. In addition, they also may have a beneficial effect on the progression of prostate cancer. They also are being studied for the treatment of osteoporosis induced by androgens (Fontaine, 2000).

2.2.4 Radiation Therapy

2.2.4.1 External beam radiation therapy is used to palliate painful isolated bone metastasis in patients with hormone-refractory prostate cancer and in patients with impending spinal cord compression.

2.2.4.2 Certain radiopharmaceutical agents, such as strontium chloride 89 and samarium 153, relieve pain by delivering beta ray irradiation at new bone formation sites. (Pelletier, 2004).

2.2.5 Suramin

2.2.5.1 Suramin acts via growth factor inhibition. Suramin is an active drug in patients with hormone-refractory prostate cancer and can be used in combination with other agents.

2.2.5.2 Adverse effects include edema, leucopenia, infection, hyperglycemia, anemia, anorexia, dyspnea, platelet abnormalities, elevated creatinine, malaise, arrhythmias, and prothrombin abnormalities. (Pelletier, 2004).

2.2.6 Chemohormonal Therapy

2.2.6.1 The rationale behind chemohormonal regimens for hormone refractory prostate cancer (HRPC) is based on exposing prostate cancer cells to cytotoxic chemotherapy earlier, before clonal expansion of androgen independent cells or constitutive overexpression of cell survival genes becomes established and before patients develop hormone-refractory prostate cancer.

2.2.6.2 Various agents identified are Doxorubicin, Methotrexate, Cis-platinum, Cyclophosphamide and 5-FU. No significant survival advantage without affecting quality of life has been documented until now.

2.2.7 Surgical Therapy

Early localized disease (T1-2N0 M0)

Radical prostatectomy is removal of the prostate and seminal vesicles. Pelvic lymphadanectomy includes the medial half of the external iliac vessels and obturator fossa, from the bifurcation of internal and external iliac vessels to the node of Cloquet. Currently, the following approaches are used to remove the prostate gland:

2.2.7.1 Radical retropubic prostatectomy

2.2.7.2 Radical perineal prostatectomy

2.2.7.3 Laparoscopic prostatectomy

2.2.7.4 The following criteria are general suggestions for any candidate for radical prostatectomy:

2.2.7.5 Patient below 70-75 years

2.2.7.6 Multiple morbidities, with life expectancy longer than 10 years.

2.2.7.7 Histologically, Gleason score of 7 or less.

2.2.7.8 PSA less than 20 ng/mL

2.2.7.9 Complications may include the following:

2.2.7.10 Impotence rates vary greatly and depend on patient age and whether surgery is nerve sparing (unilateral or bilateral) or non-nerve sparing.

2.2.7.11 Incontinence (4-30%) also depends on the patient's age and whether the surgery is nerve sparing or non-nerve sparing.

2.2.7.12 Strictures (10%) and rarely, fecal incontinence occur; the latter occurs more commonly with perineal prostatectomy.

Metastatic Disease (Stage N+ M+)

Patients diagnosed with impending paralysis due to spinal cord compression or patients with pathologic fractures should be immediately immobilized until appropriate consultations are obtained. Spinal cord decompression for patients with spinal cord compression must be performed immediately. Similarly, pinning/plating of weight-bearing bones involved in pathological fractures is mandatory (Marsh & Samuel 2007).

2.3 Complementary and Alternative Medicine

Complementary and Alternative Medicine (CAM): The term CAM often refers to a broad set of health-care practices that are not part of a country's own tradition and are not integrated into the dominant health-care system. Other terms sometimes used to describe these health-care practices include 'natural medicine', 'non-conventional medicine' and 'holistic medicine' (General guidelines for methodologies on research and evaluation of traditional medicine, WHO/EDM/TRM/2000.1).

Types of complementary and alternative medicine categorized by usage are provided below with reference to www.medterms.com:

Complementary medicine: A group of diagnostic and therapeutic disciplines that are used together with conventional medicine. An example of a complementary therapy is using aromatherapy to help lessen a patient's discomfort following surgery.

Alternative medicine: Healing arts not taught in traditional Western medical schools that promote options to conventional medicine that is taught in these schools. The alternative medicine is used to replace conventional medicine.

Complementary and alternative medicine are categorized by National Center of Complementary and Alternative Medicine (NCCAM) in the United States as follows:

2.3.1 Natural Products

This area of complementary and alternative medicine includes use of a variety of herbal medicines (also known as botanicals), vitamins, minerals, and other "natural products." Many are sold over the counter as dietary supplements. (Some uses of dietary supplements-e.g., taking a multivitamin to meet minimum daily nutritional requirements or taking calcium to promote bone health-are not thought of as complementary and alternative medicine.) "Natural products" also include probiotics-live microorganisms (usually bacteria) that are similar to microorganisms normally found in the human digestive tract and that may have beneficial effects. Probiotics are available in foods (e.g., yogurts) or as dietary supplements. They are not the same thing as prebiotics-nondigestible food ingredients that selectively stimulate the growth and/or activity of microorganisms already present in the body.

Historical note: Herbal or botanical medicines reflect some of the first attempts to improve the human condition. The personal effects of the mummified prehistoric "ice man" found in the Italian Alps in 1991 included medicinal herbs. By the Middle Ages, thousands of botanical products had been inventoried for their medicinal effects.

Current use: Interest in and use of CAM natural products have grown considerably in the past few decades. The 2007 NHIS found that 17.7 percent of American adults had used a nonvitamin/nonmineral natural product. These products were the most popular form of CAM among both adults and children. The most commonly used product among adults was fish oil/omega 3s (reported by 37.4 percent of all adults who said they used natural products); popular products for children included echinacea (37.2 percent) and fish oil/omega 3s (30.5 percent) (Gerson, 2005).

2.3.2 Mind and Body Medicine

Mind and body practices focus on the interactions among the brain, mind, body, and behavior, with the intent to use the mind to affect physical functioning and promote health. Many CAM practices embody this concept-in different ways.

Meditation techniques include specific postures, focused attention, or an open attitude toward distractions. People use meditation to increase calmness and relaxation, improve psychological balance, cope with illness, or enhance overall health and well-being.

The various styles of yoga used for health purposes typically combine physical postures, breathing techniques, and meditation or relaxation. People use yoga as part of a general health regimen, and also for a variety of health conditions.

Also a component of energy medicine, manipulative and body-based practices, and traditional Chinese medicine, acupuncture is a family of procedures involving the stimulation of specific points on the body using a variety of techniques, such as penetrating the skin with needles that are then manipulated by hand or by electrical stimulation. It is one of the key components of traditional Chinese medicine, and is among the oldest healing practices in the world. Other examples of mind and body practices include deep-breathing exercises, guided imagery, hypnotherapy, progressive relaxation, qi gong, and tai chi.

Historical note: The concept that the mind is important in the treatment of illness is integral to the healing approaches of traditional Chinese medicine and Ayurvedic medicine, dating back more than 2,000 years. Hippocrates also noted the moral and spiritual aspects of healing and believed that treatment could occur only with consideration of attitude, environmental influences, and natural remedies.

Current use: Several mind and body approaches ranked among the top 10 CAM practices reported by adults in the 2007 NHIS. For example, the survey found that 12.7 percent of adults had used deep-breathing exercises, 9.4 percent had practiced meditation, and 6.1 percent had practiced yoga; use of these three CAM practices had increased significantly since the previous (2002) NHIS. Progressive relaxation and guided imagery were also among the top 10 CAM therapies for adults; deep breathing and yoga ranked high among children. Acupuncture had been used by 1.4 percent of adults and 0.2 percent of children (Gerson, 2005).

2.3.3 Manipulative and Body-Based Practices:

Manipulative and body-based practices focus primarily on the structures and systems of the body, including the bones and joints, soft tissues, and circulatory and lymphatic systems. Two commonly used therapies fall within this category.

2.3.3.1 Spinal manipulation is performed by chiropractors and by other health care professionals such as physical therapists, osteopathic physicians, and some conventional medical doctors. Practitioners use their hands or a device to apply a controlled force to a joint of the spine, moving it beyond its passive range of motion; the amount of force applied depends on the form of manipulation used. Spinal manipulation is among the treatment options used by people with low-back pain-a very common condition that can be difficult to treat.

2.3.3.2 The term massage therapy encompasses many different techniques. In general, therapists press, rub, and otherwise manipulate the muscles and other soft tissues of the body. People use massage for a variety of health-related purposes, including

to relieve pain, rehabilitate sports injuries, reduce stress, increase relaxation, address anxiety and depression, and aid general well-being.

Historical note: Spinal manipulation has been used since the time of the ancient Greeks and was incorporated into chiropractic and osteopathic medicine in the late 19th century. Massage therapy dates back thousands of years. References to massage appear in writings from ancient China, Japan, India, Arabic nations, Egypt, Greece (Hippocrates defined medicine as "the art of rubbing"), and Rome.

Current use: According to the 2007 NHIS, chiropractic/osteopathic manipulation and massage ranked in the top 10 CAM therapies among both adults and children. The survey found that 8.6 percent of adults and 2.8 percent of children had used chiropractic or osteopathic manipulation, and 8.3 percent of adults and 1 percent of children had used massage (Gerson, 2005).

2.3.3.3 Other CAM Practices: CAM also encompasses movement therapies-a broad range of Eastern and Western movement-based approaches used to promote physical, mental, emotional, and spiritual well-being. Examples include Feldenkrais method, Alexander technique, Pilates, Rolfing Structural Integration, and Trager psychophysical integration. According to the 2007 NHIS, 1.5 percent of adults and 0.4 percent of children used movement therapies.

Practices of traditional healers can also be considered a form of CAM. Traditional healers use methods based on indigenous theories, beliefs, and experiences handed down from generation to generation. A familiar example in the United States is the Native American healer/medicine man. The 2007 NHIS found that 0.4 percent of adults and 1.1 percent of children had used a traditional healer (usage varied for the seven specific types of healers identified in the survey).

Some CAM practices involve manipulation of various energy fields to affect health. Such fields may be characterized as veritable (measurable) or putative (yet to be measured). Practices based on veritable forms of energy include those involving electromagnetic fields (e.g., magnet therapy and light therapy). Practices based on putative energy fields (also called biofields) generally reflect the concept that human beings are infused with subtle forms of energy; qi gong, Reiki, and healing touch are examples of such practices. The 2007 NHIS found relatively low use of putative energy therapies. Only 0.5 percent of adults and 0.2 percent of children had used energy healing/Reiki (the survey defined energy healing as the channeling of healing energy through the hands of a practitioner into the client's body).

Finally, whole medical systems, which are complete systems of theory and practice that have evolved over time in different cultures and apart from conventional or Western medicine, may be considered CAM. Examples of ancient whole medical systems include Ayurvedic medicine and traditional Chinese medicine. More modern systems that have developed in the past few centuries include homeopathy and naturopathy. The 2007 NHIS asked about the use of Ayurveda, homeopathy, and naturopathy. Although relatively few respondents said they had used Ayurveda or naturopathy, homeopathy ranked 10th in usage among adults (1.8 percent) and 5th among children (1.3 percent) (Gerson, 2005).

By Bureau of Alternative Medicine of Thailand, criteria to consider in using complementary and alternative medicine are as follows:

1. Rational: Patients should consider whether the selected complementary and alternative medicine is approved by the responsible authority of the country where the

patients reside, whether it is widely accepted, how long it has been used, and whether there is any record or not.

2. Safety: Patients should study whether the selected CAM method is hazardous to them in any way, whether it is chronically or immediately toxic, and whether it will affect patients health in a long run

3. Efficacy: The selected method should be proved to be effective in healing patients. This should be based on numerous research studies that it has long been effective on sufficient number of patients

4. Cost-Benefit Effectiveness: Patients should consider whether the expense of the selected method is worth their improved health status or not based on each patient's economic status

Treatment of Cancer by Complementary and Alternative Medicine

1. Complementary and alternative medicine not only aims at eradicating the malignant tumors but also pays attention to the entire body that lets the cancerous cells grow.

2. Complementary and alternative medicine regards all risk factors as wastes that cause cancer such as stress, mental status, circulatory system, accumulated sputum. Healing factors include exercise, health immunity, patients' improved will

3. Cancer diagnosis is emphasized in complementary and alternative medicine as all symptoms shown in the patient are taken into account for the diagnosis.

Table 2.1 Prostate Cancer Can be Alleviated by the Following Nutrients or Supplements

NUTRIENTS		
SUPPLEMENT	**SUGGESTED DOSAGE**	**COMMENTS**
1. Essential Coenzyme Q_{10} plus Coenzyme A from Coenzyme-A Technologies	100 mg daily. As directed on label.	Improves cellular oxygenation. Works effectively with coenzyme Q_{10} to support the immune system's detoxification of many dangerous substances.
Colostrum (New Life Colostrum from Symbiotics [original or high-lg formula] or Colostrum Specific from Jarrow Formulas)	As directed on label.	Has been shown to boost the immune system, burn fat, build lean muscle, and have an anti-aging effect.
Dimethylglycine (DMG) (Aangamik DMG from Food-Science of Vermont)	As directed on label.	Enhances oxygen utilization.
Garlic (Kyolic from Wakunaga)	2 capsules 2 times daily.	Enhances immune function. Helps to break down testosterone. Has been show to slow cancer cell growth.
Proteolytic enzymes	As directed on label. Take with meals.	To keep down inflammation and destroy free radicals.
Selenium	200 mcg daily.	Needed for proper prostate function. The incidence of prostate cancer has been shown to be substantially lower in men with higher selenium levels.

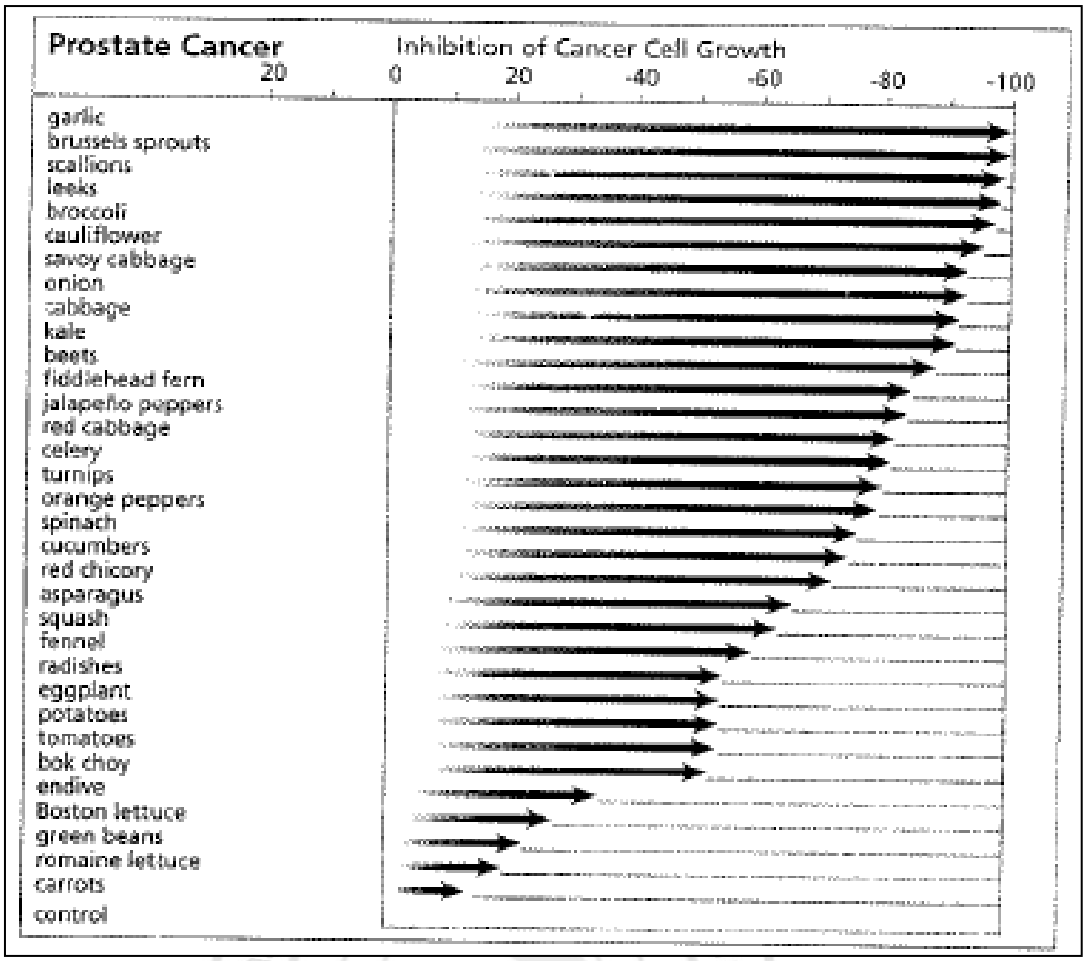
Table 2.1 (Continues)

NUTRIENTS		
SUPPLEMENT	**SUGGESTED DOSAGE**	**COMMENTS**
Shark cartilage	1 gm per 2 lbs of body weight daily, divided into 3 doses. If you cannot tolerate taking it orally, it can be administered rectally in a retention enema.	Inhibits tumor growth and stimulates the immune system.
Superoxide dismutase (SOD)	As directed on label.	Destroys free radicals. Consider injections (under a doctor's supervision).
Vitamin A	50,000-100,000 IU daily for 10 days or as long as you are on the program.	Powerful antioxidants that destroy free radicals, Use emulsion forms for easier assimilation, and greater safety at higher doses.
plus carotenoid complex with extra lycopene	As directed on label.	Lycopene has been shown to lower the risk of developing prostate cancer.
plus vitamin E	200 IU daily or 400 IU every other day.	Protects against prostate cancer. Use d-alpha-tocopherol form.
Vitamin B complex	100 mg of each major B vitamin daily (amounts of individual vitamins in a complex will vary).	B vitamins necessary for normal cell division and to improve circulation, build red blood cells, and aid liver function.
Plus extra Vitamin B_3 (niacin)	100 mg daily. Do not exceed this amount.	Caution: Do not take niacin if you have a liver disorder, gout, or high blood pressure.
and choline	500-1,000 mg daily.	
and folic acid	400 mcg daily.	Enhances the efficacy of zinc.
plus vitamin B_6 (pyridoxine)	100 mg daily.	Prevents anemia. Use a lozenge or sublingual form. Consider injections (under a doctor's supervision).
and vitamin B_{12}	2,000 mcg daily.	
Vitamin C with bioflavonoids	5,000-20,000 mg daily, in divided doses. (See ASCORBIC ACID FLUSH in Part Three.)	Powerful anticancer agents. Have been show in laboratories to inhibit the spread of prostate cancer.
Vitamin D_3	As directed on label.	Low levels may be linked to higher prostate cancer incidence.
2. Important		
Maitake extract	4,000-8,000 mg (4-8 gm) daily.	Inhibits the growth and spread of cancerous tumors. Also boosts immune response.
3. Helpful		
Acidophilus (Kyo-Dophilus from Wakunaga)	As directed on label. Take on an empty stomach.	Has an antibacterial effect on the body. Use a nondairy formula that requires no refrigeration.

Table 2.1 (Continues)

NUTRIENTS		
SUPPLEMENT	**SUGGESTED DOSAGE**	**COMMENTS**
Aerobic 07 from Aerobic Life Industries	As directed on label.	An antimicrobial agent.
Berry seeds complex	1-2 tables after each meal.	Has a regulating effect on cell function and a suppressive effect on cancer cells.
Glutathione plus L-cysteine and L-methionine	As directed on label.	Protects against environmental toxins.
	As directed on label, on an empty stomach. Take with water or juice. Do not take with milk. Take with 50 mg vitamin B_6 and 100 mg vitamin C for better absorption.	Sulfur-containing amino acids that act as detoxifiers and protect the liver and other organs. (See AMINO ACIDS in Part One.)
Kelp or seaweed	1,000-1,500 mg daily. As directed on label.	For mineral balance.
L-Carnitine	As directed on label.	Protects against free radical damage and toxins. Use a form from fish liver (squalene).
Multienzyme complex	As directed on label. Take with meals.	To aid digestion.
Multiglandular complex plus raw thymus glandular	As directed on label. As directed on label.	To stimulate glandular function, especially that of the thymus, site of T lymphocyte production. (See LANDULAR THERAPY in Part Three.)
Multimineral complex with calcium and magnesium and potassium	As directed on label. 1,500 mg daily. 750-1,000 mg daily. 99 mg daily.	Essential for normal cell division and function.
Multivitamin complex	As directed on label.	Many nutrients in this table may be found in a combination multivitamin. Do not use a sustained-release formula. Choose a product that is iron-free.
Taurine	As directed on label.	An amino acid that functions as foundation for tissue and organ repair.
Zinc	50-100 mg daily. Do not exceed this amount.	Plays a role in the prevention pf prostate cancer. Use zinc gluconate lozenges or OptiZinc for best absorption.

From Fontaine, K. L. (2000). Yoga. In K. L. Fontaine (Ed.), **Healing Practices: Alternative Therapies for Nursing** (pp. 245-257). Upper Saddle River, NJ: Prentice.



From David Servan-Schreiber. (2008). **Anti Cancer - A New Way of Life**. New York: The Penguin.

Figure 2.6 Inhibition of Cancer Cell Growth

Many natural substances have been studied both for the prevention and treatment of prostate cancer. Here are some of the highlights:

1. Antioxidants: A study involving more than 5,000 men evaluated intake of vitamins C and E, beta-carotene, selenium, and zinc and found that these antioxidant nutrients were protective against prostate cancer.

2. Bioflavanoids: A smaller study involving men with a history of prostate cancer showed that soy (isoflavones), lycopene, and silymarin delayed cancer progression as evidenced by a slower rise in PSA levels after conventional treatment.

3. CoQ10: In vitro, CoQ10 significantly lowered human prostate cancer cell growth.

4. Curcumin: A recent in vivo study showed that curcumin can help prevent prostate cancer.

5. Essiac tea: A combination of four herbs (Rheum palmatum, Trifolium pretense, Arctium lappa, and Rumex acetosella) was found in vitro to inhibit prostate cancer cell growth.

6. Green tea: Several studies have confirmed green tea as a potent agent against many cancers, including prostate cancer. A recent small human trial demonstrated that green tea was effective at treating premalignant prostate lesions and also showed that green tea reduced urinary tract symptoms associated with benign prostatic hyperplasia.

7. Melatonin: In vitro and in vivo studies have demonstrated that melatonin can inhibit growth of prostate cancer cells and may help prevent the resistance to hormonal therapy that can sometimes occur in prostate cancer.

8. Modified citrus pectin: This derivative of citrus has been shown in pilot trial to increase PSA doubling time, an indicator of disease progression; the longer the PSA doubling time, the more slowly the cancer is progressing.

9. Omega-3 fatty acids: Eicosapentaenoic acid (EPA), abundant in fish oil, promotes apoptosis and decreases proliferation in prostate cancer cells, causing decreased PSA doubling time in a mouse model.

10. Pomegranate juice: A recent human clinical trial featuring men with rising PSA levels demonstrated that drinking just 8 ounces of pomegranate juice daily was effective at stabilizing PSA levels up to four times longer than normal, potentially delaying the growth of prostate cancer cells. Previous in vitro studies have shown that pomegranate juice can inhibit prostate cancer cell proliferation. Pomegranate juice has also been shown to have antioxidant and anti-inflammatory properties.

11. Quercetin: A preliminary cellular study in the journal Carcinogenesis demonstrated that the flavonoid quercetin has potential as both a preventive agent and a complementary treatment for prostate cancer.

12. Silymarin: Typically therapeutic to the liver, this phytochemical found in the herb milk thistle was shown in vitro and in vivo to inhibit prostate cancer cell growth. Silymarin actually refers to several different flavonoidal compounds with similar structures; silibinin, the most prevalent form, has been entered into phase I and phase II clinical trials with prostate cancer patients.

13. Vitamin D: Several studies have demonstrated that vitamin D can inhibit prostate cancer growth. Presently an international placebo-controlled randomized trial is looking into whether vitamin D has benefits for those with prostate cancer. In a pilot study, 15 patients were given 2,000 IU (50 mcg) of cholecalciferol (a form of vitamin D) daily and monitored prospectively every two to three months. In 9 patients, PSA levels decreased or remained unchanged after they started taking cholecalciferol. This was sustained for as long as 21 months. Also, there was a statistically significant decrease in the rate of PSA rise after administration of vitamin D. The doubling time for PSA was increased by approximately 50% in the men taking vitamin D (Farlay, Bray, Pisani & Parkin, 2004)

Herbs

1. Black radish, dandelion, milk thistle, and red clover are good for cleansing the liver and blood.

2. Buchu, Carnivora, Echinacea, goldenseal, pau d'arco, and suma have all shown anticancer properties. Take them in tea form, using two at a time and alternating among them.

Caution: Do not take goldenseal internally on a daily basis for more than one week at a time, and use it with caution if you are allergic to ragweed.

3. Damiana and licorice root have the ability to balance hormones and glandular function.

Caution: Do not use licorice for more than seven days at a time. Avoid it completely if you have high blood pressure.

4. Gravel root, hydrangea, oat straw, parsley root, uva ursi, and yarrow are diuretics that also dissolve sediment.

5. A plant substance in green tea has been found by researchers at the Mayo Clinic to be a potent killer of prostate cancer cells. Many studies have linked green tea consumption to a reduced risk for prostate cancer.

6. Modified citrus pectin has been shown to substantially inhibit the growth of cancer cells and is especially effective in combating prostate cancer.

7. Pygeum and saw palmetto are helpful. European studies suggest pygeum may prevent prostate cancer.

8. Resveratrol is a phytochemical derived from grapes that helps to maintain a healthy prostate.

9. Turmeric is a spice that contains curcumin, an antioxidant that may be effective in controlling prostate cancer cells (David Servan-Schreiber, 2008).

Recommendations

1. Maintain a whole-foods diet. Eat plenty of whole grains, raw nuts and seeds, and unpolished brown rice. Millet cereal is a good source of protein. Eat wheat, oats, and bran. Also eat plenty of cruciferous vegetables, such as broccoli, Brussels sprouts, cabbage, and cauliflower, and yellow and deep-orange vegetables, such as carrots, pumpkin, squash, and yams. This type of diet is important for the prevention of cancer as well as for healing.

2. Include in the diet apples, fresh cantaloupe, all kinds of berries, especially blueberries and strawberries; Brazil nuts; cherries; grapes; legumes, including chickpeas, lentils, and red beans; plums; and walnuts. All of these foods help to fight cancer.

3. Consume freshly made vegetable and fruit juices daily. Carrot and cabbage juices are good choices.

4. Eat plenty of grapefruit, watermelon, and tomatoes and tomato produces such as tomato juice and tomato-based sauces. These contain lycopene, which has been shown to protect against prostate cancer.

5. Include in your diet foods that are high in zinc, such as mushrooms, pumpkin seeds, seafood, spinach, sunflower seed, and whole grains. Zinc nourishes the prostate gland and is vital for proper immune function.

6. Eat salmon, mackerel, sardines, or herring. Regular consumption of these sources of omega-3 fatty acids may lower the risk of prostate cancer. One study found that eating fish more than three times a week was associated with a reduced risk of prostate cancer to infrequent fish consumption.

7. Drink at least ten 8-ounce glasses of water a day. This hydrates the body, keeps the prostate working efficiently and helps to eliminate toxins from the body.

8. Restrict your intake of dairy products. Moderate consumption of soured products such as low-fat yogurt and kefir is acceptable.

9. If you experience difficulty urinating or notice an increasing trend toward waking up to urinate during the night, consult your health care provider. This may indicate prostatic obstruction.

10. Use cold-pressed organic oils such as sesame, safflower, or olive oil to obtain essential fatty acids.

11. Do not eat red meat. There is a definite correlation between high red meat consumption (five servings a week or more) and the development of prostate cancer.

12. Eliminate from the diet alcoholic beverages, coffee, and all teas except for caffeine-free herbal teas. A study conducted at the Fred Hutchinson Cancer Research Center in Seattle suggested that drinking one glass of red wine per day may reduce the risk of prostate cancer by 50 percent. We still believe that alcohol consumption is not necessarily good for the body, and until more conclusive evidence becomes available we believe abstinence to be the best practice. If there is a compound in red wine that might help, it certainly isn't the alcohol.

13. Strictly avoid the following foods: junk foods, processed refined foods, salt, saturated fats, polyunsaturated vegetable oil, sugar, and white flour, Instead of salt, use a kelp or potassium substitute. If necessary, a small amount of blackstrap molasses or pure maple syrup can be used as a natural sweetener in place of sugar. Use whole wheat or rye instead of white flour.

14. Unless otherwise recommended in the table above, take vitamins and other supplements daily with meals, with the exception of vitamin E, which should be taken before meals.

15. Try to avoid all known carcinogens. Eat only organic foods, if possible. Avoid tobacco smoke, polluted air, polluted water, noxious chemicals, and food additives. Use only distilled water or reverse-osmosis filtered water. Municipal and well water can contain chlorine, fluoride, and agricultural chemical residue.

16. Try following a macrobiotic diet.

17. Get regular sexual activity. Active men maintain better health and have lower risk of developing prostate cancer.

18. Enjoy regular sexual activity. Regular ejaculation activates the prostate gland, keeping it from getting stagnant and inflamed.

19. Do not take any drugs except those that are prescribed by your physician. Always seek counsel and alternative opinions before deciding which treatments, if any, you will pursue (Castleman, 1996).

Considerations

1. Diet and nutrition are important not only for treatment, but for prevention. An anticancer diet is composed primarily of brown rice, fresh raw fruits and vegetables, fresh juices, legumes, raw nuts and seeds, and whole grains, and excludes alcohol, coffee, refined carbohydrates, and strong tea. Regular intake of zinc (50milligrams daily) and essential fatty acids (in supplement form or from cold-pressed sesame, safflower, or olive oil) in later life also may help to prevent the development of problems.

2. A high-fat, low-fiber diet is linked not just to heart disease, but also to prostate cancer. Chemical reactions occur when fat is cooked, leading to the production of free radicals, which play a major role in certain cancers. Researchers theorize that a diet high in fat raises the levels of testosterone and other hormones in the body, which stimulates the prostate and any cancerous cells in it to grow. A high intake of milk and coffee may also increase the risk of developing prostate cancer.

3. Research has shown that soybeans and soy products, such as tofu, tempeh, soy flour, and soymilk, have cancer-fighting powers due to the presence of a protein called genistein. Genistein apparently retards tumor growth by preventing the growth of new blood vessels to feed the tumor. It appears to be particularly effective against prostate cancer, but also works against breast cancer in women and colon cancer in both sexes.

4. Berries help protect DNA from damage and mutation that may result in cancer.

5. Excess dietary calcium may increase the risk of prostate cancer. This may be because calcium can reduce the levels of vitamin D, which has been shown to be prostate-protective.

6. Prolactin is another hormone that may alter the cells of the prostate gland. Studies have shown that it may promote the growth of prostate cancer. If you have prostate cancer, you may want to consider having your prolactin levels checked. If they are elevated, the drugs bromocriptine (Parlodel), cabergoline (Dostinex), and pergolide (Permax) are effective in suppressing the release of prolactin from the pituitary gland.

7. Researchers are looking into the role of angiogenesis (the formation of new blood vessels from existing microvessels) in prostate cancer.

8. PC-Spes, an herbal supplement that had once been shown to help reduce PSA in men with advanced prostate cancer, has been withdrawn from the market due to inconsistencies with its formulation, the adulteration of the product with prescription drugs, and other issues. Its maker (BotanicLab) has closed its doors. The Mayo Clinic recommends that any existing supplies of this product be discarded rather than used.

9. "Watchful waiting," an option that involves no specific treatment, but close monitoring plus nutritional support and lifestyle changes, is becoming the preferred approach if the cancer is in the early stages. If symptoms develop or if tests indicate that symptoms are likely to develop, treatment is usually started. The primary benefit of watchful waiting is that the adverse effects of the existing treatment options are avoided. This may be advantageous for older men who have nonaggressive, early stage cancer. The doctor will continue to observe you, and you will probably need a PSA blood test and a digital rectal examination every six months and, possibly a yearly biopsy of the prostate.

10. If the cancer has not spread outside the gland, surgical options include a radical prostatectomy (removal of the entire gland and some tissue around it) or a transurethral resection of the prostate (TURP). In the latter procedure, a device is inserted through the end of the penis and a wire loop is used to cut away the cancerous tissue. This is far less radical than prostatectomy; however, there is some risk of leaving some cancer cells in place. Radiation treatment is sometimes used if the cancer has not spread outside the gland, or has spread only to nearby tissue.

11. Hormone treatment is aimed at trying to block production of testosterone, which fuels the cancer. This can be done by means of orchiectomy (surgical removal of the testes) or through the use of hormone therapy to suppress the

production and action of hormone. For the latter, either goserelin (Zoladex) or leuprolide (Lupron) is given by monthly injections (they are fundamentally the same drug). In addition, bicalutamide (Casodex), flutamide (Eulexin), or nilutamide (Nilandron) can be taken orally. Together, these agents effectively shut down testosterone production and use by the body. A newer drug, abarelix (Plenaxis), lowers testosterone more quickly but some people are allergic to the drug, which is given by injection. Both orchiectomy and hormone suppression result in impotence in nearly 100 percent of the cases. Side effects of hormone therapy can include loss of sex drive, hot flashes, and sexual dysfunction.

12. Cryosurgery (also called cryotherapy or cryoablation) is a treatment method for localized prostate cancer. In this technique, the cancerous cells are frozen by means of a metal probe. This type of treatment is less invasive than radical surgery and there is less blood loss. Brachytherapy (a form of radiation treatment in which tiny pellets containing radioactive material are implanted directly into the prostate) and neoadjuvant therapy (a combination of radiation and hormonal treatment) are other approaches that may be recommended for fighting prostate cancer.

13. Carnivora, a substance derived from a South American plant, was used to treat prostate cancer. The Institute for Tumor Biology in Freiburg found out how it works: Carnivora block the enzyme known as protein kinases in tumor cells, depriving it of necessary proteins; it prevents the angioneogenesis of metastases (the growth of blood vessels supplying tumors); and it decreases the mitosis (cell-division) rate of malignant tumor cell. Additionally, it works by stimulating the immune system.

14. Fresh cabbage and carrot juice have also been used in alternative clinics worldwide in prostate cancer therapy.

15. S-allyl-mercaptocysteine (SAMC), a compound derived from aged garlic, appears to diminish the growth of human prostate cancer cells. Researchers from Memorial Sloan-Kettering Cancer Center in New York City found that the SAMC causes cancer cells to break down testosterone two to four times more quickly than normal and through a route that does not produce dihydrotestosterone (DHT), a form of the hormone strongly associated with the multiplication of prostate cells. SAMC can be found only in garlic extract that is aged (Castleman, 1996).

From the abovementioned herbs and nutrients that can help cure prostate cancer, there are still various other methods under complementary and alternative medicine. In conclusion, complementary and alternative medicine plays an increasing role in treatment of prostate cancer. More prostate cancer patients have received complementary and alternative medicine together with or replacing conventional medicine. Some patients are satisfied with their improved health status after the complementary and alternative medicine treatment. Their quality of life has been improved both physically and mentally. After finding prostate cancer patients who receive the effective complementary and alternative treatment, the patients, who never knew of this approach, start to get interested in this method of treatment. They want to learn more about the complementary and alternative medicine. Moreover, conventional medical doctors have increasingly paid attention to CAM with the hope to most effectively cure their cancer patients.

Complementary and alternative medicine for treatment of prostate cancer constitutes various methods. Some methods are not expensive or demanding while other methods command more advanced technology and equipments, requiring higher costs. In addition, some methods are involved with human genetics, which are still at a relatively

early stage among medical doctors in Thailand. However, an increasing number of doctors are interested in the field used to cure their cancer patients.

This independent study will be associated with data gathering of complementary and alternative medicine used in treatment of prostate cancer patients in Thailand. The study will compose of the details of each method with advantages and disadvantages, which will be provided in the next part of the independent study.

CHAPTER 3

RESEARCH METHODOLOGY

This Independent Study, Quality of Life of Prostate Cancer Patients That Receive Complementary and Alternative Medicine in Thailand, employs survey as its research methodology with the following steps,

3.1 Population and Sample for the Independent Study

3.1.1 Population

Population, who is studied herein, is prostate cancer patients without age limit that receive complementary and alternative medicine together with or replacing conventional medicine for their cancer treatment.

3.1.2 Sample

Sample in this study includes prostate cancer patients of any age, receiving complementary and alternative medicine together with or replacing conventional medicine for their cancer treatment. In this Independent Study, the total sample size is 16 prostate cancer patients.

3.1.3 Inclusion Criteria

3.1.3.1 Prostate cancer patients that receive complementary and alternative medicine together with or replacing conventional medicine

3.1.3.2 Males of any age

3.1.3.3 No limitation on other diseases (Patients may possibly have other diseases)

3.1.3.4 Patients or their relatives are willing to disclose their personal information

3.1.4 Exclusion Criteria

Prostate cancer patients that do not receive complementary and alternative medicine with or replacing conventional medicine for the treatment of cancer

3.1.5 Discontinuation Criteria

Patients or their relatives are no longer willing to disclose their information

3.2 Research Tools

3.2.1 Research Tools

Research tool is a copy of questionnaire designed by the researcher

3.2.2 Questionnaire

The questionnaire consists of 5 parts including,

Part 1: General information of the sample population comprises seven multiple choice questions and three short answers

Part 2: Personal information of the sample population and his or her family regarding prostate cancer comprises five check lists and one short answer

Part 3: Health and behavior information of the sample population before being diagnosed of prostate cancer comprises of seven multiple choices and one short answer

Part 4: Conventional medicine and attitude of the sample population towards conventional medicine part comprises check lists, rating scales, open questions and short answers

Part 5: Complementary and alternative medicine and attitude of the sample population part comprises check lists, rating scales, open questions and short answers

The five-level rating scales are designed according to Likert scale. The researcher indicates the score of each attitude as follows,

5	means	best	or	most atisfied
4	means	good	or	satisfied
3	means	average		
2	means	bad	or	dissatisfied
1	means	worst	or	most dissatisfied

3.2.3 Procedure of Research Tool Creation

The researcher has created the research tool according to the following procedure,

3.2.3.1 Study relevant ideas, theories and research results from various text books and both Thai and international research articles to indicate research framework

3.2.3.2 Specify research issues under the research framework and pose relevant questions to cover all of the issues

3.2.3.3 Gather all the questions to create a research questionnaire

3.2.3.4 Propose the questionnaire draft to experts for comments on both its content and language

3.2.3.5 Revise the questionnaire according to comments from the experts

3.2.3.6 Try out the revised questionnaire on three prostate cancer patients to check the understandability of the language written on the questionnaire.

3.2.3.7 Consult with the experts on the feedback from the try-out to help revise the questionnaire

3.2.3.8 Revise the questionnaire accordingly and use the final version to conduct the survey

3.3 Data Collection

3.3.1 In this Independent Study, the researcher has gathered data by using questionnaires. The researcher hands out questionnaire to the sample population

3.3.2 The sample population is reached directly by the researcher to several healthcare institutions

3.3.3 If it is inconvenient to hand out questionnaires to the sample population directly, various options including letter, facsimile, e-mail may be employed as appropriate.

3.3.4 All questionnaires sent have been responded

3.3.5 The researcher reviews completeness of the questionnaires and analyzes the data gathered

3.3.6 Research period starts from September 2011 to February 2012, totaling six months

3.4 Data Analysis

Data gathered from questionnaires will be checked for completeness and analyzed by a computer program, SPSS for Windows

3.4.1 Descriptive Statistics

Descriptive statistics to find fundamental statistical data consists of frequency, percentage, arithmetic mean and standard deviation presented in table with description

3.4.2 Inferential Statistics

Inferential statistics used herein is t-test to prove hypotheses. Statistical significance for this Independent Study is at 0.05.

3.4.3 Criteria in Interpretation of Arithmetic Means

4.21-5.00 means best or most satisfied
3.41-4.20 means good or satisfied
2.61-3.40 means average
1.81-2.60 means bad or dissatisfied
1.00-1.80 means worst or most dissatisfied

CHAPTER 4

ANALYSIS RESULTS

In this Independent Study, Quality of Life of Prostate Cancer Patients That Receive Complementary and Alternative Medicine in Thailand, the researcher presents analysis results as follows,

Part 1: Analysis results of general information of the sample population

Part 2: Analysis results of personal information of the sample population and his or her family regarding prostate cancer

Part 3: Analysis results of health and behavior information of the sample population before being diagnosed of prostate cancer

Part 4: Analysis results of conventional medicine and attitude of the sample population towards conventional medicine

Part 5: Analysis results of complementary and alternative medicine and attitude of the sample population

4.1 Analysis Results of General Information of the Sample Population

The researcher gathers data from the sample population, who are prostate cancer patients of any age that receive complementary and alternative medicine together with or replacing conventional medicine. The analysis results of general information of the 16 patients are as follows,

Table 4.1 Data by Age

Age	Number of Patients	%
Lower than 20	0	0.00%
20 - 29	0	0.00%
30 - 39	0	0.00%
40 - 49	1	6.25%
50 - 59	1	6.25%
60 - 69	6	37.50%
Higher than 70	8	50.00%
Total	**16**	**100.00%**

From table 4.1 most sample population is of age higher than 70, accounting for 50.0% of total sample size, followed by 60 - 69, which accounts for 37.5%. 40 -49 and 50 – 59 ranges each account for 6.25% of total sample size. No participants are of 39 years old or younger.

Table 4.2 Data by Highest Education

Highest Education	Number of Patients	%
No education	1	6.25%
Primary school	1	6.25%
Secondary school/vocational cerfiticate	1	6.25%
High school/vocational diploma	2	12.50%
Bachelor's degree	10	62.50%
Higher than bachelor's degree	1	6.25%
Total	**16**	**100.00%**

From table 4.2 most survey participants received bachelor’s degree, which accounted for 62.5% of total sample size. Those who have high school or vocational diploma account for 12.5% while each of the rest highest educational levels accounts for 6.25% of total sample size.

Table 4.3 Data by Occupation

Occupation	Number of Patients	%
No occupation	2	12.50%
Farmers	0	0.00%
Enterpreneurs	4	25.00%
Contractors	1	6.25%
Private sector employees	3	18.75%
Civil servants	3	18.75%
Retired civil servants	1	6.25%
Others	2	12.50%
Total	**16**	**100.00%**

From table 4.3 enterpreneurs account for 25.0% of total sample size while private sector employees and civil servants each account for 18.75% of total sample size. 12.5% of the participants have no occupation and none of them are farmers.

Table 4.4 Data by Average Monthly Family Income

Average Monthly Family Income (Baht)	Number of Patients	%
Lower than 10,000	0	0.00%
10,001 - 30,000	0	0.00%
30,001 - 50,000	2	12.50%
50,001 - 70,000	2	12.50%
70,001 - 90,000	4	25.00%
90,001 - 110,000	5	31.25%
110,001 - 130,000	1	6.25%
130,001 - 150,000	1	6.25%
Higher than 150,000	1	6.25%
Total	**16**	**100.00%**

From table 4.4 31.25% of survey participants have total monthly family income between Baht 90,001 and Baht 110,000. 25.0% of the participants receive monthly family income between Baht 70,001 and Baht 90,000. The participants who receive the income between Baht 30,001 and 50,000 and those who receive between Baht 50,001 and 70,000 each account for 12.5% of total sample size. The respondents, who receive between Baht 110,001 and 130,000, between 130,001 and 150,000 and higher than 150,000, each account for 6.25% of total sample size. None of the responses are below Baht 30,000.

Table 4.5 Data by Marital Status

Marital Status	Number of Patients	%
Single	3	18.75%
Married	7	43.75%
Widowed	2	12.50%
Divorced	4	25.00%
Total	**16**	**100.00%**

From table 4.5 most survey participants are married, contributing to 43.75% of the total responses. While divorced participants account for 25.0%, single and widowed participants account for 18.75% and 12.5% of total sample group, respectively.

Table 4.6 Data by Living Status

Living Status	Number of Patients	%
Alone	0	0.00%
With parents	1	5.56%
With spouses	7	38.89%
With children	10	55.56%

From table 4.6, most respondents, 55.56% of all sample group, live with children. 38.89% live with spouses and 5.56% live with parents. None of them live alone.

Table 4.7 Data by Diseases other than Prostate Cancer

Diseases Other Than Prostate Cancer	Number of Patients	%
No	11	68.75%
Yes	5	31.25%
Total	**16**	**100.00%**

From table 4.7 68.75% of survey respondents have no diseases other than prostate cancer while the rest have. Two of them have hypertension. One of them has heart disease while the other two have diabetes.

Table 4.8 Data by Ability to Conduct Daily Activities

Ability to Conduct Daily Activities	Number of Patients	%
Normal	10	62.50%
Sometimes need assistance	6	37.50%
Mostly need assistance	0	0.00%
Total	**16**	**100.00%**

From table 4.8, 625% of respondents can conduct daily activities normally. The rest of the respondents sometimes need assistance in conducting daily activities.

4.2 Analysis Results of Personal Information of the Aample Population and his or her Family Regarding Prostate Cancer

The researcher gathers data from the sample population, who are prostate cancer patients of any age that receive complementary and alternative medicine together with or replacing conventional medicine. The analysis results of personal information of the 16 patients are as follows,

Table 4.9 Data by Relatives that Have or Used to Have Prostate Cancer

Relatives	Number of Patients	%
Prostate cancer	12	75.00%
No	4	25.00%
Total	**16**	**100.00%**

From table 4.9, 75.0% of respondents have relatives who have or used to have prostate cancer while the rest has no relatives who have or used to have prostate cancer.

Among those who have such relatives, 9 of them have fathers who have the disease while 3 of them have grandfathers who have the disease.

Table 4.10 Data by Cancers Other than Prostate Cancer

Cancers Other Than Prostate Cancer	Number of Patients	%
No	16	100.00%
Yes	0	0.00%
Total	**16**	**100.00%**

From table 4.10 none of the respondents have cancers other than prostate cancer.

Table 4.11 Data by Benign Prostate Hyperplasia

Benign Prostate Hyperplasia	Number of Patients	%
No	5	31.25%
Yes	11	68.75%
Total	**16**	**100.00%**

From table 4.11 68.75% of the survey participants have had benign prostate hyperplasia while the rest never have.

Table 4.12 Data by Prostatitis

Prostatitis	Number of Patients	%
No	4	25.00%
Yes	12	75.00%
Total	**16**	**100.00%**

From table 4.12 75.0% of respondents have had prostatitis while the rest never have.

Table 4.13 Data by Sexual Transmitted Disease

Sexual Transmitted Disease	Number of Patients	%
No	12	75.00%
Yes	4	25.00%
Total	**16**	**100.00%**

From table 4.13 75.0% of the respondents do not have sexual transmitted disease while the rest have.

4.3 Analysis Results of Health and Behavior Information of the Sample Population before Being Diagnosed of Prostate Cancer

The researcher gathers data from the sample population, who are prostate cancer patients of any age that receive complementary and alternative medicine together with or replacing conventional medicine. The analysis results of health and behavior information of the 16 patients are as follows,

Table 4.14 Data by Testosterone Intake

Testosterone Intake	Number of Patients	%
Never	9	56.25%
Rarely	3	18.75%
Regularly	4	25.00%
Total	**16**	**100.00%**

From table 4.14 56.25% of the survey participants never take testosterone. 25.0% of the respondents take the hormone regularly while the rest rarely take it.

Table 4.15 Data by Fruit and Vegetable Eating Behavior

Fruit and Vegetable Intake	Number of Patients	%
Never	3	18.75%
Rarely	5	31.25%
Regularly	8	50.00%
Total	**16**	**100.00%**

From table 4.15 50.0% of the respondents regularly take fruits and vegetables. 31.25% rarely have fruits and vegetables while the rest never have them.

Table 4.16 Data by High Fat Eating Behavior

High Fat Intake	Number of Patients	%
Never	1	6.25%
Rarely	9	56.25%
Regularly	6	37.50%
Total	**16**	**100.00%**

From table 4.16, 56.25% of the patients rarely take high-fat diet. 37.5% regularly have such diet while the rest never have it.

Table 4.17 Data by Exercise Behavior

Exercise	Number of Patients	%
Never	4	25.00%
Less than 3 times a week	8	50.00%
At least 3 times a week	4	25.00%
Total	**16**	**100.00%**

From table 4.17 50.0% of the respondents exercise less than 3 times a week. 25.0% of them exercise at least 3 times a week while the rest never exercise.

Table 4.18 Data by Sexual Intercourse

Sexual Intercourse	Number of Patients	%
Never	0	0.00%
Less than 3 times a week	8	50.00%
At least 3 times a week	8	50.00%
Total	**16**	**100.00%**

From table 4.18 half of the respondents have sexual intercourse less than 3 times a week while the other half have it at least 3 times a week.

Table 4.19 Data by Smoking Behavior

Smoking	Number of Patients	%
Never	9	56.25%
Rarely	2	12.50%
Regularly	5	31.25%
Total	**16**	**100.00%**

From table 4.19 56.25% of the participants never smoke. 31.25% of them smoke regularly while the rest rarely smoke.

Table 4.20 Data by Sleeping Behavior

Sleeping	Number of Patients	%
Less than 5 hours a day	5	31.25%
5 - 6 hours a day	3	18.75%
6 - 7 hours a day	5	31.25%
7 - 8 hours a day	2	12.50%
More than 8 hours a day	1	6.25%
Total	**16**	**100.00%**

From table 4.20 31.25% of the respondents sleep less than 5 hours a day. The same proportion sleeps 6-7 hours a day. 18.75% of them sleep 5-6 hours a day. 12.5% of them sleep 7-8 hours a day and 6.25% sleeps more than 8 hours a day.

Table 4.21 Data by Annual Health Checkups

Health Check-up	Number of Patients	%
Never	3	18.75%
Sometimes	8	50.00%
Annually	5	31.25%
Total	**16**	**100.00%**

From table 4.21 50.0% of the respondents sometimes have health checkups. 31.25% have annual health checkups while the rest never have any health checkup.

4.4 Analysis Results of Conventional Medicine and Attitude of the Sample Population Towards Conventional Medicine

The researcher gathers data from the sample population, who are prostate cancer patients of any age that receive complementary and alternative medicine together with or replacing conventional medicine. The analysis results of conventional medicine and attitude towards conventional medicine information of the 16 patients are as follows,

Table 4.22 Data by Stage of Prostate Cancer

Stage of Prostate Cancer	Number of Patients	%
Stage I	1	6.25%
Stage II	2	12.50%
Stage III	9	56.25%
Stage IV	4	25.00%
Total	**16**	**100.00%**

From table 4.22 patients at stage III account for 56.25% of total sample group while stage IV accounts for 25.0%.

Table 4.23 Data by Significant Symptoms that Trigger a Hospital Visit

Sample Group	Significant Symptoms Leading to Medical Check-ups
49 years; Stage I	A sense of incompletely emptying the bladder
53 years; Stage III	Incontinence; unable to reach the bathroom in time to urinate
65 years: Stage III	Difficulty starting urination; Pass blood in urine
66 years; Stage II	Less semen during ejaculation
66 years; Stage II	Painful ejaculation; intense need to urinate
67 years; Stage III	Difficulty stopping the urine flow
68 years; Stage III	Frequent urination especially at night
68 years; Stage IV	Burning and pain during urination; painful ejaculation
71 years; Stage III	Inability to urinate
71 years; Stage III	Inability to have a satisfactory erection
73 years; Stage IV	Pain in the lower back and spinal regions; impotence
74 years; Stage III	Sudden inability to pass urine

Table 4.23 (Continues)

Sample Group	Significant Symptoms Leading to Medical Check-ups
75 years; Stage IV	Numbness and pain in legs and thighs; bone fractures
80 years; Stage III	Urinary incontinence; discomfort during urination
80 years; Stage III	Decreased urine stream; need to urine often
83 years; Stage IV	Pain in the lower back; sudden inability to pass urine

From table 4.23 most patients encountered problems with urination. Some faced incontinence, frequent urination, inability to pass urine, difficulty stopping the urine flow and a sense of incompletely emptying the bladder. Others have problems with ejaculation. Some of those have less semen during ejaculation or have painful ejaculation. All of these symptoms are significant leading to medical checkups.

Table 4.24 Data by Treatments Received

Conventional Treatment	Number of Patients	%
Surgery	10	38.46%
Radiation	6	23.08%
Chemotherapy	10	38.46%
Never	0	0.00%

From table 4.24 38.46% of the patients received surgery for conventional treatment. The same percentage of them received chemotherapy. 23.08% of them received radiation. All of the patients received one kind or another conventional treatment.

Table 4.25 Data by Side Effects of Conventional Medicine

Sample Group	Side Effects from Conventional Treatments
49 years; Stage I	n/a
53 years; Stage III	Nausea
65 years: Stage III	Loss of energy
66 years; Stage II	n/a
66 years; Stage II	n/a
67 years; Stage III	Feel exhausted; frequent urination; vomit
68 years; Stage III	Feel tired after surgery; urinary incontinence; have fever

Table 4.25 (Continues)

Sample Group	Side Effects from Conventional Treatments
68 years; Stage IV	Pain after surgery; impotence; numbness in fingers
71 years; Stage III	Painful urinary; red skin in the radiated area; feel fatigued
71 years; Stage III	Diarrhea; uncomfortable urination; hair loss
73 years; Stage IV	Feel weak for a few days after surgery; hair loss
74 years; Stage III	Pain after surgery; frequent urination; diarrhea
75 years; Stage IV	Feel tired for a week after surgery; dry orgasms
80 years; Stage III	Impotence
80 years; Stage III	Urinary incontinence; shortness of breath
83 years; Stage IV	Urinary incontinence

From table 4.25 the respondents have faced various side effects from conventional treatment. The side effects include nausea, loss of energy, exhaustion, pain, diarrhea, impotence and urinary incontinence. All of these are side effects from surgery, radiation and chemotherapy.

Table 4.26 PSA Level After Conventional Medicine for Each Sample Population

	PSA Level after Conventional Treatment
49 years; Stage I	5.5
53 years; Stage III	4
65 years: Stage III	3.9
66 years; Stage II	4.1
66 years; Stage II	4
67 years; Stage III	3.7
68 years; Stage III	3.5
68 years; Stage IV	3.5
71 years; Stage III	3.4
71 years; Stage III	3.3
73 years; Stage IV	3.2
74 years; Stage III	3.3
75 years; Stage IV	3.5
80 years; Stage III	3.7
80 years; Stage III	3.6
83 years; Stage IV	3.2

Table 4.27 Arithmetic Mean and Standard Deviation of PSA Level After Conventional Medicine

Variable	$\bar{X}$	S.D.
PSA level after conventional treatment	3.71	0.56

From table 4.27 the arithmetic mean and standard deviation of PSA level after conventional treatment for patients under the study are 3.71 and 0.56 respectively.

Table 4.28 Arithmetic Mean and Standard Deviation of Satisfaction on Conventional Medicine

Variable	$\bar{X}$	S.D.	Satisfactaction
Satisfaction after conventional treatment	3.63	0.62	Satisfied

From table 4.28 the level of satisfaction after conventional treatment for patients under the study is 'satisfied' ($\bar{x}$ = 3.63, S.D. = 0.62).

Table 4.29 Data by Recurring Prostate Cancer After Receiving Conventional Treatment

Recurring of Cancer after Conventional Treatment	Number of Patients	%
No	16	100.00%
Yes	0	0.00%
Never receive conventional treatment	0	0.00%
Total	**16**	**100.00%**

From table 4.29 all of the survey participants have not faced recurring of prostate cancer after conventional treatment.

Table 4.30 Arithmetic Mean and Standard Deviation of Quality of Life After Receiving Conventional Treatment

Variable	$\bar{X}$	S.D.	Quality of Life
Quality of life after conventional treatment	3.50	0.82	Good

From table 4.30 the quality of life of patients under the study is good ($\bar{X}$= 3.50, S.D. = 0.82).

4.5 Analysis Results of Complementary and Alternative Medicine and Attitude of the Sample Population

The researcher gathers data from the sample population, who are prostate cancer patients of any age that receive complementary and alternative medicine together with or replacing conventional medicine. The analysis results of complementary and alternative medicine and attitude towards complementary and alternative medicine information of the 16 patients are as follows,

Table 4.31 Data by Reasons Behind Decision to Use Complementary and Alternative Medicine

Reasons for Choosing Complementary and Alternative Medicine Treatment	Number of Patients	%
Have studied or heard of effective results	3	7.50%
Recommended by acquaintances	12	30.00%
Affordable expenses	4	10.00%
Have met with cancer patients who recovered by this treatment	4	10.00%
Not satisfied with conventional treatment	7	17.50%
Would like to try other treatments for better quality of life	10	25.00%

From table 4.31, 30.0% of the respondents are recommended by acquaintances to receive CAM treatment. 25.0% would like to try other treatments for better quality of life. 17.5% is not satisfied with conventional treatment. 10.0% choose CAM because of affordable expenses and the same proportion of the patient has met with other cancer patients who got recovered by this treatment. The rest has studied or heard of its effective results.

Table 4.32 Data by Complementary and Alternative Medicine Treatment Received

Sample Group	Complementary and Alternative Medicine Received
49 years; Stage I	1. Take more fruits and vegetables
	2. Refrain from having fried and burned meat
	3. Exercise regularly
53 years; Stage III	1. Take saw palmetto
	2. Exercise regularly
65 years: Stage III	1. Meditate regularly
	2. Take saw palmetto and pygeam
	3. Take more fruits and vegetables
66 years; Stage II	1. Exercise regularly
	2. Meditate more often
	3. Sleep adequately
	4. Take lycopene
66 years; Stage II	1. Drink vegetable and fruit juice every morning
	2. Take supplements such as vitamin C, vitamin B and zinc
	3. Exercise 3 times a week
67 years; Stage III	1. Start eating vegetable such as broccoli every day
	2. Take saw palmetto and pygeam
68 years; Stage III	1. Take resveratrol every day
	2. Take saw palmetto
68 years; Stage IV	1. Take saw palmetto and pygeam
	2. Exercise every morning
	3. Take more fruits and vegetables
71 years; Stage III	1. Eat fruits and vegetables regularly
	2. Take lycopene
	2. Exercise every evening
71 years; Stage III	1. Take vitamin B and D
	2. Take saw palmetto
	3. Exercise 4 times a week
73 years; Stage IV	1. Exercise every evening
	2. Take saw palmetto, maitake extract and selenium
	3. Eat fruits and vegetable every day
	4. Sleep adequately
74 years; Stage III	1. Pray and meditate every evening
	2. Exercise every morning
	3. Take lycopene
	4. Eat fruits and vegetable in every meal
75 years; Stage IV	1. Exercise regularly
	2. Take lycopene
	3. Sleep 8 hours a day

Table 4.32 (Continues)

Sample Group	Complementary and Alternative Medicine Received
80 years; Stage III	1. Take supplements including vitamin B and D and selenium
	2. Meditate regularly and avoid stress
80 years; Stage III	1. Eat more fruits and vegetable and reduce fried and grilled dishes
	2. Exercise every morning
	3. Take saw palmetto
83 years; Stage IV	1. Sleep adequately and avoid stress
	2. Take saw palmetto, selenium and pygeum

From table 4.32 the results can be classified into 4 categories of CAM treatment as in table 4.33

Table 4.33 Categories of CAM Treatments Received

Complementary and Alternative Medicine Received	Number of Patients	%
Natural products	14	50.00%
Mind and body medicine	14	50.00%
Manipulative and body-based practices	0	0.00%
Other CAM practices	0	0.00%

From table 4.33 half of the respondents received natural products under CAM treatment. The other half received mind and body medicine. None of the respondents received manipulative and body-based practices or other CAM treatments.

Table 4.34 Most Common Supplements Used

Most Common Supplements Used	Number of Patients	%
Saw palmetto	4	25.00%
Lycopene	4	25.00%
Saw palmetto and pygeam	3	18.75%
Vitamins C, B and zinc	1	6.25%
Vitamins B and D	1	6.25%

Table 4.34 (Continues)

Most Common Supplements Used	Number of Patients	%
Saw palmetto, maitake extract and selenium	1	6.25%
Vitamins B, D and selenium	1	6.25%
Saw palmetto, selenium and pygeam	1	6.25%

From table 4.34 saw palmetto and lycopene are most commonly used supplements each accounting for 25.0%. The second most commonly used supplements are saw palmetto together with pygeam, accounting for 18.75%. Each of the rest of the supplement formula accounts for 6.25%.

Table 4.35 Data by Extent of Influence of CAM on Lifestyle Change

Extent of Influence of CAM on Lifestyle Change	Number of Patients	%
None	0	0.00%
Have certain effects	8	50.00%
Have enormous influence	8	50.00%
Total	**16**	**100.00%**

From table 4.35 half of the respondents believe that CAM treatment has some influence on lifestyle change while the other half believe that it has enormous influence on their lifestyle change.

Table 4.36 PSA Level After Complementary and Alternative Medicine

PSA Level after CAM Treatment	
49 years; Stage I	4
53 years; Stage III	3.5
65 years: Stage III	3
66 years; Stage II	3.9
66 years; Stage II	3.2
67 years; Stage III	2.9
68 years; Stage III	2.5
68 years; Stage IV	2.9
71 years; Stage III	3

Table 4.36 (Continues)

PSA Level after CAM Treatment	
71 years; Stage III	3
73 years; Stage IV	2.5
74 years; Stage III	2
75 years; Stage IV	3.2
80 years; Stage III	3
80 years; Stage III	3
83 years; Stage IV	2.5

Table 4.37 Arithmetic Mean and Standard Deviation of PSA Level after Complementary and Alternative Medicine

Variable	$\bar{X}$	S.D.
PSA level after CAM treatment	3.01	0.51

From table 4.37 the arithmetic mean and standard deviation of PSA level after CAM treatment for patients under the study are 3.01 and 0.51 respectively.

Table 4.38 Arithmetic Mean and Standard Deviation of Satisfaction on Complementary and Alternative Medicine

Variable	$\bar{X}$	S.D.	Satisfaction
Satisfaction after CAM treatment	4.50	0.63	Most satisfied

From table 4.38 the level of satisfaction after CAM treatment for patients under the study is ‘most satisfied’ ($\bar{X}$ = 4.50, S.D. = 0.63).

Table 4.39 Arithmetic Mean and Standard Deviation of Quality of Life After receiving Complementary and Alternative Treatment

Variable	$\bar{X}$	S.D.	Quality of Life
Quality of life after CAM treatment	4.56	0.81	Best

From table 4.39 the quality of life of patients under the study is best ($\bar{X}$ = 4.56, S.D. = 0.81).

Table 4.40 Opinion on Comparison Between Conventional Medicine and Complementary and Alternative Medicine

Sample Group	Comments on Comparison between Conventional and CAM Treatments
49 years; Stage I	Both CAM and conventional treatments have a similar purpose of recovering patients. However, conventional treatment yield effective results in a shorter period of time than CAM treatments. Most CAM treatments require a change in ways of living, which is more demanding.
53 years; Stage III	Expenses incurred by conventional treatment can be claimed by insurance companies. Very few medical institutions offer reliable CAM treatments
65 years: Stage III	Even though CAM treatments may have fewer side effects, confronting with prostate cancer at an advanced stage requires reliable effective treatment. Therefore, conventional treatment is needed in this case.
66 years; Stage II	After providing conventional treatment, doctors gave very few advice on lifestyle change. CAM treatments have fewer side effects and require lifestyle change after cancer recovery.
66 years; Stage II	CAM treatments consist of various options that demand less expense and are easy to follow. Moreover CAM treatments have fewer side effects than conventional treatment.
67 years; Stage III	CAM treatments are less common in Thailand in cancer treatment. It is difficult to find an institution, which provides trustworthy CAM treatments.
68 years; Stage III	Patients who receive conventional treatment need to be hospitalized. Certain medication is rather expensive. If patients cannot afford such medication, conventional treatment will appear less effective. However, CAM treatments require less expense.
68 years; Stage IV	Conventional treatment yields short-term effective results without lifestyle change. However, after conventional treatment, CAM treatments would help lifestyle change on the patients, helping to prevent recurring cancer occurrence.

Table 4.40 (Continues)

Sample Group	Comments on Comparison between Conventional and CAM Treatments
71 years; Stage III	Conventional treatment can indicate whether the treatment will be effective or not. If doctors indicate that the treatment would be ineffective, patients may need other options that can provide them with strong will to fight with the disease. All patients can afford some CAM treatments such as eat healthily and exercise regularly.
71 years; Stage III	CAM treatment is believed to be effective in a long run and requires less expense if well planned. However, it needs lifestyle change, which is troublesome for certain patients
73 years; Stage IV	CAM treatment can serve as a later choice for a patient who has received conventional treatment but is not satisfied with the result. Patients can become hopeful again with CAM treatment. With improved quality of mind, patients' health can be improved also.
74 years; Stage III	Conventional treatment may have more side effects even though it has a reliable diagnosis and treatment methodology. CAM treatment is usually conducted outside of hospitals, proving to be less trustworthy.
75 years; Stage IV	Conventional treament can be claimed by insurance companies while CAM treatment cannot. Conventional treatment should be utilized together with CAM treatment to yield the most effective result.
80 years; Stage III	CAM treatment cannot be effective in a short period of time. It requires patients' commitment in lifestyle change. However, certain options under CAM treatments are less expensive than conventional treatment.
80 years; Stage III	Conventional treament is conducted in hospitals, which are more easily accessible by prostate cancer patients. CAM treatments are still not widespread and patients usually choose this option by word-of-mouth.
83 years; Stage IV	CAM treatments have fewer side effects but very few hospitals provide such treatments. Certain CAM treatments are practical and easy to follow. They are also less expensive than conventional treatment.

From table 4.40 the respondents believe both conventional and CAM treatments have similar purpose of healing prostate cancer but are different as follows,

Conventional Treatments

Advantages are their direct effective results. Most of the respondents claim that the treatments are effective within a short period of time. The treatments have solid scientific evidence and are more reliable and widely accepted. Moreover, the expenses can be reimbursed from insurance companies.

Disadvantages are their high risks of side effects. In case, the patients are not insured, the treatment expenses may be too high. The treatment is conducted only in hospitals.

CAM Treatments

Advantages are a variety of treatment options to be chosen. The treatment expenses are affordable. They are easily applied and have fewer side effects, leading to better quality of mind of the patients.

Disadvantages are its requirement of long continuous commitment to the treatment. Its required lifestyle change may be too demanding for some patients. It has less scientific evidence and is less reliable. It is less widely accepted and therefore difficult to find a trustworthy medical institution, which provides such treatments.

Table 4.41 Data by Agreement on the Effectiveness of the Application of Conventional Medicine Together with Complementary and Alternative Medicine

Receiving Conventional Treatment Together with CAM Treatment Yields More Effective Results and Leads to Less Recurring Cancers and Better Quality of Life than Receiving Conventional Treatment Alone	**Number of Patients**	**%**
Agree	16	100.00%
Disagree	0	0.00%
Total	**16**	**100.00%**

From table 4.41 all of the survey participants agree that receiving both conventional and CAM treatments yields more effective results and leads to less recurring cancers and better quality of life than receiving conventional treatment alone.

4.6 Analysis Results to Prove Hypotheses

In this section, the data to prove the two hypotheses are collected from the sample population, who are male prostate cancer patients of any age that receive complementary and alternative medicine together with or replacing conventional medicine

The data are analyzed using inferential statistics. The researcher chooses t-test to prove the two hypotheses and specify the statistical significance at 0.05. The analysis results are presented as follows,

4.6.1 PSA Level After Receiving Complementary and Alternative Medicine Together with or Replacing Conventional Medicine is Statistically Significantly Lower than that After Conventional Medicine Only

Table 4.42 The Correlation Between PSA Level After Receiving Complementary and Alternative Medicine Together with or Replacing Conventional Medicine and that After Receiving Conventional Medicine only

Paired Differences					t	df	p-value
Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
			Upper	Lower			
0.71	0.35	0.09	1.09	0.32	8.00	15	< 0.05

From table 4.42 the average PSA level after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 8.00$). The average PSA level after receiving both CAM and conventional treatments is 0.71 higher than receiving conventional treatment alone, which is statistically significant.

4.6.2 Satisfaction Level After Receiving Complementary and Alternative Medicine Together with or Replacing Conventional Medicine is Statistically Significantly Higher than that of Conventional Medicine Only

Table 4.43 The Correlation Between sSatisfaction Level After Receiving Complementary and Alternative Medicine Together with or Replacing Conventional Medicine and that After Receiving Conventional Medicine Only

Paired Differences					t	df	p-value
Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
			Upper	Lower			
0.88	0.34	0.09	1.33	0.42	10.25	15	< 0.05

From table 4.43 the average satisfaction level after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 10.25$). The average satisfaction level after receiving both CAM and conventional treatments is 0.88 higher than receiving conventional treatment alone, which is statistically significant.

4.6.3 Quality of life Level After Receiving Complementary and Alternative Medicine Together with or Replacing Conventional Medicine is Statistically Significantly Higher than that of Conventional Medicine Only

Table 4.44 The Correlation Between Quality of Life Level After Receiving Complementary and Alternative Medicine Together with or Replacing Conventional Medicine and that After receiving Conventional Medicine Only

Paired Differences					t	df	p-value
Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
			Upper	Lower			
1.06	0.77	0.19	1.65	0.47	5.51	15	< 0.05

From table 4.44 the average quality of life after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 5.51$). The average quality of life after receiving both CAM and conventional treatments is 1.06 higher than receiving conventional treatment alone, which is statistically significant.

CHAPTER 5

RESULT CONCLUSION, DISCUSSION AND SUGGESTION

Quality of Life of Prostate Cancer Patients That Receive Complementary and Alternative Medicine in Thailand

5.1 Conclusion of Research Procedures

5.1.1 Purpose of Independent Study

5.1.1.1 To study details of prostate cancer including its incidence, risk factors, symptoms, screening and conventional treatment in Thailand

5.1.1.2 To study and collect complementary and alternative treatments that can be used together or replacing conventional treatment of prostate cancer patients in Thailand in terms of advantages, disadvantages, limitations and applications

5.1.1.3 To study and compare satisfaction and quality of life of prostate cancer patients after receiving conventional treatment only and those of patients after receiving complementary and alternative treatment together with or replacing conventional treatment

5.1.2 Research Hypotheses

Conventional medicine applied together with complementary and alternative medicine in prostate cancer treatment would yield better results. Applying both conventional medicine and CAM would improve quality of life of the patients than applying only conventional medicine for the treatment.

5.1.3 Sample Population

Sample group consists of as many prostate cancer patients of any age that receive complementary and alternative medicine together with or replacing conventional medicine as possible. This independent study includes 16 patients.

5.1.4 Methods and Tools

The main tool in this independent study is questionnaire drafted by the researcher, consisting of the following parts

Part 1: General information of the sample population with 10 check-lists and fill-in-the-blanks

Part 2: Personal information of the sample population and his or her family regarding prostate cancer with 6 check-lists and fill-in-the-blanks

Part 3: Health and behavior information of the sample population before being diagnosed of prostate cancer with 8 check-lists and fill-in-the-blanks

Part 4: Conventional medicine and attitude of the sample population towards conventional medicine with 6 check-lists, rating scales, fill-in-the-blanks and open ended questions

Part 5: Complementary and alternative medicine and attitude of the sample population with 9 check-lists, rating scales, fill-in-the-blanks and open ended questions

5.1.5 Data Collection

5.1.5.1 In this independent study, the researcher collects data by handing out survey questionnaires. The researcher requests collaboration from the sample group and directly give them the questionnaires

5.1.5.2 The sample group is directly contacted through several hospitals that are willing to cooperate on this independent study.

5.1.5.3 In case that it is not convenient to meet with some sample population in person, the questionnaires are mailed, faxed or emailed.

5.1.5.4 All 16 questionnaires given out are responded and returned.

5.1.5.5 The researcher reviews completeness of all returned questionnaires before conducting data analysis.

5.1.5.6 The data collection period is from September 2011 to March 2012.

5.1.6 Data Analysis

The data collected are reviewed for completeness and analyzed by SPSS for Windows software.The descriptive statistics used in the independent study includes frequency, percentage, arithmetic mean, and standard deviation. The inferential statistics includes t-test to prove the hypothesis. The statistical significance is determined at $p = 0.05$.

5.2 Conclusion of Research Results

The independent study, Quality of Life of Prostate Cancer Patients That Receive Complementary and Alternative Medicine Treatment in Thailand, based on the 16 complete questionnaires is concluded as follows,

5.2.1 Analysis Results of General Information of the Sample Population

5.2.1.1 Age: most sample population is of age higher than 70, accounting for 50.0% of total sample size, followed by 60 - 69, which accounts for 37.5%. 40 -49 and 50 – 59 ranges each account for 6.25% of total sample size. No participants are of 39 years old or younger.

5.2.1.2 Highest education: most survey participants received bachelor’s degree, which accounted for 62.5% of total sample size. Those who have high school or vocational diploma account for 12.5% while each of the rest highest educational levels accounts for 6.25% of total sample size.

5.2.1.3 Occupations: enterpreneurs account for 25.0% of total sample size while private sector employees and civil servants each account for 18.75% of total sample size. 12.5% of the participants have no occupation and none of them are farmers.

5.2.1.4 Average monthly family income: 31.25% of survey participants have total monthly family income between Baht 90,001 and Baht 110,000. 25.0% of the participants receive monthly family income between Baht 70,001 and Baht 90,000. The participants who receive the income between Baht 30,001 and 50,000 and those who receive between Baht 50,001 and 70,000 each account for 12.5% of total sample size. The respondents, who receive between Baht 110,001 and 130,000, between 130,001 and 150,000 and higher than 150,000, each account for 6.25% of total sample size. None of the responses are below Baht 30,000.

5.2.1.5 Marital status: most survey participants are married, contributing to 43.75% of the total responses. While divorced participants account for 25.0%, single and widowed participants account for 18.75% and 12.5% of total sample group, respectively.

5.2.1.6 Living status: most respondents, 55.56% of all sample group, live with children. 38.89% live with spouses and 5.56% live with parents. None of them live alone.

5.2.1.7 Diseases other than prostate cancer: 68.75% of survey respondents have no diseases other than prostate cancer while the rest have. Two of them have hypertension. One of them has heart disease while the other two have diabetes.

5.2.1.8 Ability to conduct daily activities: 62.5% of respondents can conduct daily activities normally. The rest of the respondents sometimes need assistance in conducting daily activities.

5.2.2 Analysis Results of Personal Information of the Sample Population and his or Her Family Regarding Prostate Cancer

5.2.2.1 Relatives: 75.0% of respondents have relatives who have or used to have prostate cancer while the rest has no relatives who have or used to have prostate cancer.

Among those who have such relatives, 9 of them have fathers who have the disease while 3 of them have grandfathers who have the disease.

5.2.2.2 Cancers other than prostate cancer: none of the respondents have cancers other than prostate cancer.

5.2.2.3 Benign prostate hyperplasia: 68.75% of the survey participants have had benign prostate hyperplasia while the rest never have.

5.2.2.4 Prostatitis: 75.0% of respondents have had prostatitis while the rest never have.

5.2.2.5 Sexual transmitted disease: 75.0% of the respondents do not have sexual transmitted disease while the rest have.

5.2.3 Analysis Results of Health and Behavior Information of the Sample Population before Being Diagnosed of Prostate Cancer

5.2.3.1 Testosterone intake: 56.25% of the survey participants never take testosterone. 25.0% of the respondents take the hormone regularly while the rest rarely take it.

5.2.3.2 Fruit and vegetable intake: 50.0% of the respondents regularly take fruits and vegetables. 31.25% rarely have fruits and vegetables while the rest never have them.

5.2.3.3 High fat intake: 56.25% of the patients rarely take high-fat diet. 37.5% regularly have such diet while the rest never have it.

5.2.3.4 Exercise: 50.0% of the respondents exercise less than 3 times a week. 25.0% of them exercise at least 3 times a week while the rest never exercise.

5.2.3.5 Sexual intercourse: half of the respondents have sexual intercourse less than 3 times a week while the other half have it at least 3 times a week.

5.2.3.6 Smoking behavior: 56.25% of the participants never smoke. 31.25% of them smoke regularly while the rest rarely smoke.

5.2.3.7 Sleeping behavior: 31.25% of the respondents sleep less than 5 hours a day. The same proportion sleeps 6 – 7 hours a day. 18.75% of them sleep 5 – 6 hours a day. 12.5% of them sleep 7-8 hours a day and 6.25% sleeps more than 8 hours a day.

5.2.3.8 Annual health checkups: 50.0% of the respondents sometimes have health checkups. 31.25% have annual health checkups while the rest never have any health checkup.

5.2.4 Analysis Results of Conventional Medicine and Attitude of the Sample Population Towards Conventional Medicine

5.2.4.1 Significant symptoms leading to medical checkups: most patients encountered problems with urination. Some faced incontinence, frequent urination, inability to pass urine, difficulty stopping the urine flow and a sense of incompletely emptying the bladder. Others have problems with ejaculation. Some of those have less semen during ejaculation or have painful ejaculation. All of these symptoms are significant leading to medical checkups.

5.2.4.2 Conventional treatment: 38.46% of the patients received surgery for conventional treatment. The same percentage of them received chemotherapy. 23.08% of them received radiation. All of the patients received one kind or another conventional treatment.

5.2.4.3 Side effects from conventional treatment: the respondents have faced various side effects from conventional treatment. The side effects include nausea, loss of energy, exhaustion, pain, diarrhea, impotence and urinary incontinence. All of these are side effects from surgery, radiation and chemotherapy.

5.2.4.4 The arithmetic mean and standard deviation of PSA level after conventional treatment for patients under the study are 3.71 and 0.56 respectively.

5.2.4.5 The level of satisfaction after conventional treatment for patients under the study is ‘satisfied’ ($\bar{x}$ = 3.63, S.D. = 0.62).

5.2.4.6 All of the survey participants have not faced recurring of prostate cancer after conventional treatment.

5.2.4.7 The quality of life of patients under the study is good ($\bar{x}$ = 3.50, S.D. = 0.82).

5.2.5 Analysis Results of Complementary and Alternative Medicine and Attitude of the Sample Population

5.2.5.1 Reasons behind decision to use complementary and alternative medicine: 30.0% of the respondents are recommended by acquaintances to receive CAM treatment. 25.0% would like to try other treatments for better quality of life. 17.5% is not satisfied with conventional treatment. 10.0% choose CAM because of affordable expenses and the same proportion of the patient has met with other cancer patients who got recovered by this treatment. The rest has studied or heard of its effective results.

5.2.5.2 Complementary and alternative medicine treatment received: half of the respondents received natural products under CAM treatment. The other half received mind and body medicine. None of the respondents received manipulative and body-based practices or other CAM treatments.

5.2.5.3 Saw palmetto and lycopene are most commonly used supplements each accounting for 25.0%. The second most commonly used supplements are saw palmetto together with pygeam, accounting for 18.75%.

5.2.5.4 Half of the respondents believe that CAM treatment has some influence on lifestyle change while the other half believe that it has enormous influence on their lifestyle change.

5.2.5.5 The arithmetic mean and standard deviation of PSA level after CAM treatment for patients under the study are 3.01 and 0.51 respectively.

5.2.5.6 The level of satisfaction after CAM treatment for patients under the study is 'most satisfied' ($\bar{x}$ = 4.50, S.D. = 0.63).

5.2.5.7 The quality of life of patients under the study is best ($\bar{x}$ = 4.56, S.D. = 0.81).

5.2.5.8 Most of the respondents believe that both conventional and CAM treatments have the same purpose of healing cancer, each of which has different pros and cons. Both treatments should be combined to help cure cancer patients more effectively.

5.2.5.9 All of the respondents agree that prostate cancer should be cured by receiving both conventional and CAM treatments rather than conventional treatment alone.

5.2.6 Analysis Results to Prove Hypotheses

5.2.6.1 The average PSA level after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 8.00$). The average PSA level after receiving both CAM and conventional treatments is 0.71 higher than receiving conventional treatment alone, which is statistically significant.

5.2.6.2 The average satisfaction level after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 10.25$). The average satisfaction level after receiving both CAM and conventional treatments is 0.88 higher than receiving conventional treatment alone, which is statistically significant.

5.2.6.3 The average quality of life after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 5.51$). The average quality of life after receiving both CAM and conventional treatments is 1.06 higher than receiving conventional treatment alone, which is statistically significant.

5.3 Discussion of Research Results

5.3.1 General Information of the Sample Population

In this independent study, most of prostate cancer patients are older than 70 years old, which is corresponding to the previous statistics of occurrence of prostate cancer in patients older than 65 years old.

Most of the patients have bachelor's degrees and their average monthly family income is in the high segment of greater than 30,000. Their occupations are varied, which can be described from a range of sources of the survey respondents. They are from both public and private medical institutions and are contacted by mail, fax and e-mail. Some of them have access to internet and have a good basic background of complementary and alternative medicine treatments.

Most of the patients in the sample group are married and staying with their children or spouses, implying that they are supported by their closely related people and have strong will to fight with the disease. These people can help take the patients to see doctors, take care of their lifestyles and eating behaviors and to have good understanding of complementary and alternative medicine.

Most patients do not have diseases other than prostate cancer. Others have hypertension, heart disease and diabetes, which are common among the elderly.

Based on the sample group, they can rely on themselves without assistance from others because these patients are selected by the medical institutions to provide responses to the questionnaire. It is more convenient to collect data from such patients.

5.3.2 Personal Information of the Sample Population

Most of the patients in the sample group have relatives who also have or used to suffer from prostate cancer. Even though the sample size is rather small, this result is in line with the previous evidence that prostate cancer is inherited. In other words, those who have relatives who suffer from prostate cancer have higher potential to have prostate cancer than those who do not.

The patients in the sample group do not have cancers other than prostate cancer. However, most of them have benign prostate hyperplasia and prostatitis. Based on previous evidence, patients who previously experience these two diseases have higher risk of having prostate cancer as well.

However, most of the patients do not have sexual transmitted disease, which is one of the risk factors for prostate cancer. This result may be due to certain limitations in selecting sample population. The sample size may be too small to extrapolate the results to the entire population.

5.3.3 Health and Behavior Information of the Sample Population before Being Diagnosed of Prostate Cancer

Data in this section indicates health and behavior of the sample group before being diagnosed of prostate cancer. A variety of certain behaviors are considered risk factors of prostate cancer.

Most of the survey participants eat fruits and vegetables regularly. More than half of them never smoke. These are considered healthy behaviors. In addition, a

largest proportion of the patients sleep 6-7 hours a day while the same proportion sleeps less than 5 hours a day. These are followed by those who sleep 5-6 hours a day and 7-8 hours respectively. These patients have rather sufficient resting period.

Some of the patients in the sample group take testosterone, which is a risk factor of prostate cancer. Even though most of the patients do not take testosterone, there are other factors that cause them to have prostate cancer.

A good number of the patients regularly take high-fat diet. Most of the participants never exercise or exercise less than 3 times a week. All of the patients have sexual intercourse with varied frequencies. All of these behaviors are risky for causing prostate cancer. Therefore, in order to enhance healthy behaviors for all males who have or have not had prostate cancer to prevent the disease from occurring, healthy behaviors should be educated among all males. Medical doctors and other media should be responsible for distributing correct information of prostate cancer. Moreover, relatives and close friends of the patients should receive accurate information of the disease as well in order to help take care of the patients correctly.

Most of the survey respondents sometimes have health checkups while fewer patients have their health checkups annually. Interestingly, some of the patients never have health checkups before. In fact, all people should have medical checkups at least once a year based on the policy of Ministry of Health. Annual health checkups would help doctors find abnormal signs or symptoms at an early stage and patients to realize their abnormality in health early. Patients would be advised and treated at an early stage of the cancer by doctors. Public agencies should be responsible for issuing policies to support annual health checkups among all Thai people equally.

5.3.4 Conventional Medicine and Attitude of the Sample Population Towards Conventional Medicine

Data in this section indicates conventional medicine and attitude of the sample population towards conventional medicine. It has been found that most patients encountered problems with urination. Some faced incontinence, frequent urination, inability to pass urine, difficulty stopping the urine flow and a sense of incompletely emptying the bladder. Others have problems with ejaculation. Some of those have less semen during ejaculation or have painful ejaculation. All of these data indicate that the patients themselves could recognize abnormal signs and symptoms of the disease and seek medical help to find their causes. Moreover, all of these are the significant signs or symptoms of prostate cancer that lead patients to seek medical help in hospitals in general.

Most of the patients received surgery for conventional treatment and received chemotherapy. A minority of them received radiation therapy. All of the patients received one kind or another conventional treatment. In conventional medicine, medical doctors would consider appropriate treatments for each stage of prostate cancer. They may consider other factors such as other health states, willingness of the patients and readiness of the patients to face with side effects that may happen from the treatments.

Most of the patients face side effects from conventional treatments. The side effects include nausea, loss of energy, exhaustion, pain, diarrhea, impotence and urinary incontinence. All of these are side effects from surgery, radiation and chemotherapy (Beecher, 1959).

All of the patients do not have recurring of prostate cancer after conventional treatment. However, since the sample group is rather small, this may affect the reliability of analysis of the statistical results. Moreover, some of the respondents report of not facing recurring of prostate cancer because they do not find any signs or symptoms of the prostate cancer and do not have follow-on health checkups. This group of patients may miss the opportunity to know that they are fully recovered from prostate cancer. This may reduce the reliability of the data previously analyzed.

The level of satisfaction after conventional treatment for patients under the study is 'satisfied' and the quality of life of patients under the study is good. These results are based on patients after receiving only conventional medicine. The results show that their satisfaction and quality of life are good but not the best. Most of the respondents report that there should be alternative treatments that can be applied together with the conventional treatment to yield best and most effective results, reduce side effects, and improve quality of life after the treatments. Complementary and alternative medicine is needed to meet with this demand by the patients.

5.3.5 Complementary and Alternative Medicine and Attitude of the Sample Population

Data in this section indicates complementary and alternative medicine and attitude of the sample population towards complementary and alternative medicine. It has been found that a large portion of the respondents are recommended by acquaintances to receive CAM treatment. The following portion would like to try other treatments for better quality of life. Some patients are not satisfied with conventional treatment. Others choose CAM because of affordable expenses and the same proportion of the patient has met with other cancer patients who got recovered by this treatment. The rest has studied or heard of its effective results. It seems that relatives or close acquaintances support the patients to receive most effective treatment for prostate cancer. The following reason is their dissatisfaction with conventional treatment results and quality of life after the treatment. These patients are mostly at an advanced stage of prostate cancer. They tend to be more hopeless than the patients in an earlier stage. They want to receive other alternative treatments to fulfill their demand and have fewest side effects at affordable prices. With the aforementioned reasons, complementary and alternative medicine has become influential for prostate cancer patients.

Half of the respondents received natural products under CAM treatment. The other half received mind and body medicine. None of the respondents received manipulative and body-based practices or other CAM treatments. The mind and body medicine includes meditation, exercise, yoga and qi kong. Natural product treatments include herbs, supplements and other nutritional diets. The natural products and mind and body medicine are popular because these two options are easily applicable and affordable (Castleman 1996). These two methods emphasize lifestyle change of the patients. Moreover, books and other media nowadays provide information of this healthy lifestyle change more prevalently. Therefore, these two methodologies are most popular in prostate cancer treatment during these days. Moreover, the two methodologies applied among Thai prostate cancer patients are similar to those applied by the patients in other countries. They take similar vitamin and mineral supplements, receive similar diet and exercise regularly (Seyle, 1978).

Manipulative and body-based practices and other CAM practices are less popular mainly because these treatments are mostly conducted in medical institutions or hospitals and by doctors or experts in the field, which is less easily accessible than the two most popular treatments. Most of the treatments cannot be conducted by the patients themselves. Some of the methods are expensive and are not widely known and accepted. Some of them have little scientific evidence, leading to the patients not choosing these treatments for their prostate cancer.

Most commonly used supplements are saw palmetto and lycopene. The following commonly used supplements are saw palmetto together with pygeam. Other supplements used include vitamins B, C and D, zinc, selenium, and maitake extract (Nussbaum, 1992).

All of the respondents agree that CAM treatment has influence on lifestyle change to various extents. Half of the respondents believe that CAM treatment has some influence on lifestyle change while the other half believe that it has enormous influence on their lifestyle change. Most of them change their lifestyle by eating more healthy diets and beverages, exercising more frequently, refraining from smoking, meditating regularly and keeping their minds relaxed. These practices are corresponding with complementary and alternative medicine.

The level of satisfaction after CAM treatment together with conventional treatment for patients under the study is 'most satisfied'. Their quality of life of patients under the study is best. These data are collected from the patients who receive both conventional and CAM treatments to rate the scale of satisfaction and quality of life. The results indicate that the sample group is more satisfied with their treatments and quality of life after the both treatments than with only conventional treatment. They indicate the highest level of both satisfaction and quality of life. The CAM treatments have fewer side effects. A lot of the CAM treatments are easily applicable require little expense. Coupled with conventional treatment, CAM treatments lead to higher satisfaction and better quality of life among the patients (Cancer, 1992).

In terms of attitude towards conventional and complementary and alternative medicines, it has been found that the respondents believe both conventional and CAM treatments have similar purpose of healing prostate cancer but are different as follows,

Advantages of conventional Treatments are their direct effective results. Most of the respondents claim that the treatments are effective within a short period of time. The treatments have solid scientific evidence and are more reliable and widely accepted. Moreover, the expenses can be reimbursed from insurance companies. Their disadvantages are their high risks of side effects. In case, the patients are not insured, the treatment expenses may be too high. The treatment is conducted only in hospitals (Beecher 1959).

Advantages of CAM treatments are a variety of treatment options to be chosen. The treatment expenses are affordable. They are easily applied and have fewer side effects, leading to better quality of mind of the patients. Disadvantages are its requirement of long continuous commitment to the treatment. Its required lifestyle change may be too demanding for some patients. It has less scientific evidence and is less reliable. It is less widely accepted and therefore difficult to find a trustworthy medical institution, which provides such treatments.

It can be concluded that both ways of treatments have different advantages and disadvantages. It cannot be determined which way serve as a better choice for prostate cancer patients. However, if we can combine both conventional and CAM treatments and reduce disadvantages of the two ways of treatments, the most effective and

satisfactory treatments will be yielded, recurring cancer will be minimized and quality of life will be better. Based on the results from the sample group, it can be concluded that treating prostate cancer by both conventional and complementary and alternative medicines can yield more effective treating results, less recurring of cancer and better quality of life than applying conventional treatment alone (Cancer, 1992).

5.3.6 Data to Prove Hypotheses

The average PSA level after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 8.00$). The average PSA level after receiving both CAM and conventional treatments is 0.71 higher than receiving conventional treatment alone, which is statistically significant

The average satisfaction level after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 10.25$). The average satisfaction level after receiving both CAM and conventional treatments is 0.88 higher than receiving conventional treatment alone, which is statistically significant.

The average quality of life after receiving CAM treatment together with conventional treatment is significantly different from receiving conventional treatment alone ($p < 0.05$, $t = 5.51$). The average quality of life after receiving both CAM and conventional treatments is 1.06 higher than receiving conventional treatment alone, which is statistically significant.

Therefore, it can be concluded that both satisfaction and quality of life after receiving both conventional and CAM treatments are greater than receiving conventional treatment only. Because results of each treatment for prostate cancer depend not only on each treatment itself but also other treatment options, combining various treatments including conventional and CAM ones which have different advantages and disadvantages would help minimize cons of other treatments, leading to the most effective results for the patients. The patients would have satisfaction, less recurring of cancer and better quality of life.

5.4 Suggestions

Based on the independent study of quality of life of Prostate Cancer Patients That Receive Complementary and Alternative Medicine Treatment in Thailand, the researcher would like to propose the following suggestions.

5.4.1 Suggestions Based on Research Results

5.4.1.1 The research results suggest that both satisfaction level and quality of life of patients who receive both conventional and CAM treatments are higher than those who receive only conventional treatment. Therefore, complementary and alternative medicine treatments should be more supported by both public and private agents. They should help publicize the CAM treatments to increase accessibility of patients to this type of treatment. More research on CAM treatments should be subsidized. Moreover, there

should be more support on reliable CAM treatments with scientific evidence in various medical institutions that currently provide only conventional medicine treatments to provide patients with more treatment options, increase efficiency of the treatment, enhance satisfaction and quality of life of the patients themselves. Taken care of by reliable medical doctors, the CAM treatments would be more trustworthy. This is in line with integrating treatment policy to help improve both mind and body of the patients rather than treat specific diseases, which would lead to more efficient results.

5.4.1.2 All medical doctors, especially those who currently accept only conventional medicine, should be more willing to accept CAM treatments and have opportunity to study pros and cons of the CAM treatments for benefits of the patients. As more medical doctors understand CAM treatments thoroughly, they would have correct information or mindset of the treatments and can apply CAM treatments together with conventional treatment more effectively for higher satisfaction and better quality of life of the patients.

5.4.1.3 For general public and prostate cancer patients who only accept conventional treatments, they should be more willing to study CAM treatments as well. They should receive accurate information of the treatments via reliable media sources on textbooks, internet and television. Moreover, they should consult with medical doctors and experts in the field for their own benefits and broaden treatment options for themselves. In addition, CAM treatments focus on lifestyle change including exercise more regularly, meditate normally, eat healthy diets and take proper supplements. Those who do not have prostate cancer yet can apply this knowledge to enhance their own mind and body health and protect them from the disease.

5.4.2 Suggestions for the Following Independent Studies

5.4.2.1 As this independent study faced limitations in the number of sample population, analysis of results may not be applicable and reliable completely. One of the problems stems from the fact that very few prostate cancer patients would receive both conventional and CAM treatments. Certain patients are not willing to give out their personal information. Some medical institutions are not willing to collaborate with the researcher in allowing their patients to provide the data. However, there should be more prostate cancer patients who adopt both conventional and CAM treatments in the future, potentially leading to larger sample population. This research topic should be supported in the future to be used in comparison with this independent study.

5.4.2.2 There should be more research studies on other cancers that apply both conventional and CAM treatments to investigate pros and cons, limitations and significance of the treatments.

5.4.2.3 As this independent study is based on the sample population who previously received conventional treatment and later received CAM treatment. Thus, in the following research studies, sample population receiving only conventional treatment and those receiving only CAM treatment should be included in order to be able to compare satisfaction and quality of life of those patients under different treating methods.

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APPENDIXE

APPENDIX

QUESTIONNAIRE

แบบสอบถาม

เรื่อง การนำแพทย์เสริมประสานและการแพทย์ทางเลือกมาใช้ในการรักษาผู้ป่วยโรคมะเร็งต่อมลูกหมากในประเทศไทย

คำชี้แจง โปรดทำเครื่องหมาย **x** ลงในช่อง ( ) หรือกรอกข้อมูลที่ตรงกับของข้อมูลผู้ให้การสัมภาษณ์

ส่วนที่ 1: ข้อมูลทั่วไป

1. ได้รับการวินิจฉัยเป็นโรคมะเร็งต่อมลูกหมากระยะ.....เมื่อ.....

2. อายุ.....ปี

3. การศึกษาสูงสุด

( ) ไม่ได้ศึกษา ( ) ประถมศึกษา ( ) มัธยมศึกษาตอนต้น/ปวช.
( ) มัธยมศึกษาตอนปลาย/ปวส. ( ) ปริญญาตรี ( ) สูงกว่าปริญญาตรี
( ) อื่นๆ

4. อาชีพ

( ) ไม่ประกอบอาชีพ ( ) เกษตรกร ( ) ธุรกิจส่วนตัว/ค้าขาย
( ) รับจ้าง ( ) พนักงานบริษัทเอกชน ( ) รับราชการ/รัฐวิสาหกิจ
( ) ข้าราชการบำนาญ ( ) อื่นๆ

5. รายได้เฉลี่ยของทุกคนในครอบครัวรวมกันต่อเดือน

( ) ต่ำกว่า 10,000 บาท ( ) 10,001 – 30,000 บาท ( ) 30,001 – 50,000 บาท
( ) 50,001- 70,000 บาท( ) 70,001 – 90,000 บาท ( ) 90,001 – 110,000 บาท
( ) 110,001 – 130,000 บาท ( ) 130,001 – 150,000 บาท ( ) 150,001 บาทขึ้นไป

6. สถานภาพสมรส

( ) โสด ( ) สมรส/คู่ ( ) หม้าย ( ) หย่า

7. ท่านพักอาศัยกับใคร (ตอบได้มากกว่า 1 ข้อ)

( ) อยู่คนเดียว ( ) พ่อ/แม่ ( ) สามี/ภรรยา ( ) ลูก/หลาน ( ) อื่นๆ

8. ท่านมีโรคประจำตัวอื่นนอกจากโรคมะเร็งต่อมลูกหมากหรือไม่

( ) ไม่มี ( ) มี โปรดระบุ.....

9. ความสามารถในการปฏิบัติกิจวัตรประจำวัน

( ) ช่วยเหลือตนเองได้ตามปกติ ( ) ช่วยเหลือตนเองได้บ้าง มีผู้ดูแลช่วยเหลือในบางกรณี

( ) ไม่สามารถช่วยเหลือตนเองได้ ต้องอาศัยผู้ดูแลช่วยเหลือ

ส่วนที่ 2: ข้อมูลประวัติส่วนตัวของผู้ป่วยและครอบครัวที่เกี่ยวข้องกับการเกิดโรคมะเร็งต่อมลูกหมาก

10. ส่วนสูง.....เซนติเมตร น้ำหนัก.....กิโลกรัม

11. ท่านมีประวัติญาติหรือบุคคลในครอบครัวที่เป็นหรือเคยเป็นโรคมะเร็งต่อมลูกหมากหรือไม่

( ) ไม่มี ( ) มี โปรดระบุ.....

12. ท่านเคยมีประวัติเป็นโรคมะเร็งอื่นๆ นอกจากมะเร็งต่อมลูกหมากมาก่อนหรือไม่

( ) ไม่มี ( ) มี โปรดระบุ.....

13. ท่านมีประวัติเป็นโรคต่อมลูกหมากโตมาก่อนเป็นมะเร็งต่อมลูกหมากหรือไม่

( ) ไม่มี ( ) มี โปรดระบุ.....

14. ท่านมีประวัติเป็นติดเชื้อที่ต่อมลูกหมากมากกว่า 1 ครั้งหรือไม่

( ) ไม่มี ( ) มี โปรดระบุ.....

15. ท่านมีประวัติเป็นโรคติดต่อทางเพศสัมพันธ์หรือไม่

( ) ไม่มี ( ) มี โปรดระบุ.....

ส่วนที่ 3: ข้อมูลด้านสุขภาพและพฤติกรรมสุขภาพของผู้ป่วยก่อนได้รับการวินิจฉัยว่าเป็นโรคมะเร็งต่อมลูกหมาก

16. ท่านเคยได้รับฮอร์โมนเทสโทสเตอร์โรนหรือไม่

( ) ไม่เคย ( ) เคยนานๆครั้ง ( ) ได้รับอย่างสม่ำเสมอ

17. ท่านรับประทานอาหารประเภทผักและผลไม้เป็นประจำหรือไม่

( ) ไม่รับประทานเลย ( ) รับประทานนานๆครั้ง ( ) รับประทานอย่างสม่ำเสมอ

18. ท่านรับประทานอาหารที่มีไขมันสูง เช่น เนื้อสัตว์ติดมัน ของทอด หรือไม่

( ) ไม่รับประทานเลย ( ) รับประทานนานๆครั้ง ( ) รับประทานอย่างสม่ำเสมอ

19. ท่านออกกำลังกายเป็นประจำหรือไม่

( ) ไม่ออกกำลังกายเลย ( ) น้อยกว่า 3 วันต่อสัปดาห์ ( ) ตั้งแต่ 3 วันต่อสัปดาห์ขึ้นไป

โปรดระบุการออกกำลังกายที่ท่านทำเป็นประจำ.....

20. ท่านมีเพศสัมพันธ์เป็นประจำหรือไม่

( ) ไม่มีเพศสัมพันธ์เลย ( ) น้อยกว่า 3 วันต่อสัปดาห์ ( ) ตั้งแต่ 3 วันต่อสัปดาห์ขึ้นไป

21. ท่านสูบบุหรี่หรือไม่

( ) ไม่เคยสูบ ( ) สูบเป็นครั้งคราวตามโอกาส ( ) สูบประจำ สูบมานาน.....ปี จำนวน.....มวน/วัน

22. ท่านนอนหลับโดยเฉลี่ยวันละ.....ชั่วโมง

23. ท่านได้รับการตรวจร่างกายประจำปีโดยบุคลากรทางการแพทย์และสาธารณสุขหรือไม่

( ) ไม่เคยได้รับการตรวจเลย ( ) ได้รับการตรวจบ้าง ไม่เป็นประจำทุกปี

( ) ได้รับการตรวจเป็นประจำทุกปี

ส่วนที่ 4: ข้อมูลด้านการรักษาและทัศนคติของผู้ป่วยต่อการแพทย์แผนปัจจุบัน

24. อาการสำคัญที่ทำให้ท่านไปพบแพทย์ที่โรงพยาบาล.....

25. หลังจากทราบผลการวินิจฉัยจากแพทย์ว่าเป็นโรคมะเร็งต่อมลูกหมาก ท่านเคยได้รับการรักษาโดยวิธีใดบ้าง (ตอบได้มากกว่า 1 ข้อ)

( ) การผ่าตัด ( ) รังสีรักษาหรือฉายแสง ( ) ยาเคมีบำบัด

( ) ไม่ได้รับการรักษา เนื่องจาก.....

26. จากข้อ 25. ท่านได้รับผลข้างเคียงจากการรักษาด้วยวิธีดังกล่าวอย่างไรบ้าง

.....

.....

27. ระดับ PSA ภายหลังได้รับการรักษาจากโรงพยาบาลซึ่งเน้นที่แนวทางการรักษาแบบการแพทย์แผนปัจจุบัน (การผ่าตัด รังสีรักษา และยาเคมีบำบัด).....

28. ภายหลังได้รับการรักษาจากโรงพยาบาลซึ่งเน้นที่แนวทางการรักษาแบบการแพทย์แผนปัจจุบัน (การผ่าตัด รังสีรักษา และยาเคมีบำบัด) ท่านรู้สึกพึงพอใจกับผลการรักษาหรือไม่ (ให้คะแนนความพึงพอใจ)

5 4 3 2 1

พอใจมากที่สุด ( ) ( ) ( ) ( ) ( ) ไม่พอใจมากที่สุด

เนื่องจาก.....

29. ภายหลังได้รับการรักษาแบบการแพทย์แผนปัจจุบัน (การผ่าตัด รังสีรักษา และยาเคมีบำบัด) ท่านมีการก่อเกิดของโรคมะเร็งกลับขึ้นมาใหม่อีกหรือไม่

( ) ไม่มีการก่อเกิดของโรคมะเร็งขึ้นมาใหม่

( ) มีการก่อเกิดของโรคมะเร็งขึ้นมาใหม่ หลังจากรักษาไปแล้ว.....ปี

( ) อื่น ๆ

30. คุณภาพชีวิตภายหลังการรักษาโดยวิธีการแพทย์แผนปัจจุบันของท่านเป็นอย่างไร

5 4 3 2 1

ดีมากที่สุด ( ) ( ) ( ) ( ) ( ) ไม่ดีมากที่สุด

เนื่องจาก.....

ส่วนที่ 5: ข้อมูลด้านการรักษาและทัศนคติของผู้ป่วยต่อการแพทย์เสริมประสานและการแพทย์ทางเลือก

31. ท่านรู้จักการรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือกหรือไม่
( ) รู้จัก
( ) ไม่รู้จัก (**กรณีที่ตอบว่าไม่รู้จักให้สิ้นสุดการตอบแบบสอบถามที่ข้อนี้**)

32. กรณีที่ท่านรู้จักการรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือก ท่านได้ใช้วิธีการรักษานี้ร่วมด้วยหรือทดแทนการแพทย์แผนปัจจุบันหรือไม่
( ) ใช้
( ) ไม่ใช้ เนื่องจาก.....
(**กรณีที่ตอบว่าไม่ใช้ ให้สิ้นสุดการตอบแบบสอบถามที่ข้อนี้**)

33. เพราะเหตุใดท่านจึงเลือกมารับการรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือก (ตอบได้มากกว่า 1 ข้อ)
( ) เคยศึกษาหรือได้รับข้อมูลว่าเป็นการรักษาที่ดีและได้ผล
( ) มีบุคคลใกล้ชิดแนะนำให้มารับการรักษาวิธีนี้
( ) ค่าใช้จ่ายไม่สูงเกินไป
( ) เคยพบเห็นผู้ป่วยที่หายจากโรคมะเร็งโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือก
( ) ไม่พอใจผลการรักษาที่ได้จากการแพทย์แผนปัจจุบัน
( ) อยากทดลองแนวทางการรักษาแบบอื่นๆบ้าง เพราะอาจช่วยให้มีคุณภาพชีวิตที่ดีขึ้นกว่าเดิม
( ) อื่น ๆ

34. การรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือกที่ท่านได้รับมีวิธีใดบ้าง
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35. การรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือกมีบทบาทในการปรับเปลี่ยนการใช้ชีวิตของท่านหรือไม่ เช่น การปรับพฤติกรรมการรับประทานอาหาร การสูบบุหรี่ การออกกำลังกาย เป็นต้น

( ) ไม่มีบทบาท (ยังคงมีการใช้ชีวิตเช่นเดียวกับก่อนเป็นมะเร็งต่อมลูกหมาก)

( ) มีบทบาทพอสมควร (มีการปรับเปลี่ยนการใช้ชีวิตหรือพฤติกรรมบางอย่าง)

( ) มีบทบาทมาก (มีการปรับเปลี่ยนการใช้ชีวิตหรือพฤติกรรมหลายอย่างที่ส่งเสริมสุขภาพ)

ระบุการปรับเปลี่ยนการใช้ชีวิตหรือพฤติกรรมของท่าน

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36. ระดับ PSA เมื่อได้รับการรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือกแล้ว…….

37. เมื่อได้รับการรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือกแล้ว ท่านรู้สึกพึงพอใจกับผลการรักษาหรือไม่ (ให้คะแนนความพึงพอใจ)

5 4 3 2 1

พอใจมากที่สุด ( ) ( ) ( ) ( ) ( ) ไม่พอใจมากที่สุด

เนื่องจาก.....

38. คุณภาพชีวิตภายหลังการรักษาโดยวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือกของท่านเป็นอย่างไร

5 4 3 2 1

ดีมากที่สุด ( ) ( ) ( ) ( ) ( ) ไม่ดีมากที่สุด

เนื่องจาก.....

39. แสดงความคิดเห็นเปรียบเทียบความรู้สึกของท่านหลังจากได้รับการรักษาโดยวิธีการแพทย์แผนปัจจุบันและวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือก (ระบุความเหมือน ความต่าง ข้อดี ข้อเสีย เป็นต้น)

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40. ท่านคิดว่าการรักษาโรคมะเร็งต่อมลูกหมากโดยวิธีการแพทย์แผนปัจจุบันร่วมกับวิธีการแพทย์เสริมประสานและการแพทย์ทางเลือก ทำให้ได้รับผลการรักษาที่ดีขึ้น โอกาสที่โรคกลับมาเป็นซ้ำลดลง และมีคุณภาพชีวิตที่ดีขึ้นมากกว่าการใช้วิธีการรักษาเฉพาะวิธีการแพทย์แผนปัจจุบันเพียงอย่างเดียว

( ) เห็นด้วย

( ) ไม่เห็นด้วย เพราะ

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CURRICULUM VITAE

CURRICULUM VITAE

NAME Mr. Plengchat Triyawatanyu

DATE OF BIRTH 20 October 1985

ADDRESS 88/11 Pradipat 25
Payathai, Bangkok, Thailand 10400

EDUCATIONAL BACKGROUND

2009 Bachelor of Arts
Biochemistry
University of Pennsylvania

WORK EXPERIENCE

2009-Present Analyst
Private Equity (Thailand)