THE RELATIONSHIP OF BELIEF IN CONTROL AND COMMITMENT TO LIFE TO CANCER PATIENTS' INCLINATION TO USE UNPROVEN CANCER THERAPIES

By

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Abstract

The purpose of this study was to explore the relationship of belief in control and commitment to life to the adult cancer patient's inclination to use unproven cancer therapies. A convenience sample of 40 lung cancer patients completed the Wallston's Multidimensional Health Locus of Control Scale, Crumbaugh's Purpose in Life Scale, Hiratzka's Alternative Therapy Scale, and a patient information sheet. The majority of participants exhibited a strong internal locus of control orientation and a strong commitment to life. Belief in control, commitment to life, and the degree of inclination to use unproven cancer therapies were not significantly associated. However, age was negatively correlated with inclination to use unproven cancer therapies. The majority of participants had heard of five or more unproven cancer remedies, and exhibited a strong inclination to use these unorthodox therapies. The most frequently used unproven therapies were anti-medicines - imagery, faith-healing, megadose vitamins, and taheebo. The rising popularity of these anti-medicines has been reported in the literature. The findings were discussed in relation

to theoretical expectations, other research studies, and the methodological problems inherent in the study. Implications of the findings for nursing practice, theory, and education were suggested. Recommendations for further nursing research were made.

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CHAPTER ONE

Background to the Problem

The Canadian Cancer Statistics estimates that 120,000 new cases of cancer, including skin cancer, were registered in Canada during 1988 (Canadian Cancer Society, 1988). Fortunately, improved diagnostic and reporting techniques, and superior cancer treatment methods have decreased the mortality rate and increased disease-free survival time and/or life expectancy for various types of cancers (Canadian Cancer Society, 1988). Yet, despite these modern advances, cancer remains a dreaded disease, associated with invasive treatments, unexpected recurrence, prolonged suffering, and premature death.

The emotional impact of a cancer diagnosis prompts some patients to seek out and use unproven cancer therapies (Brown, 1977; Faw, Ballentine, & vanEys, 1977; Burkhalter, 1978; Miller & Howard-Ruben, 1983; Cassileth, Lusk & Strouse, 1984; Eidinger & Schapira, 1984; Hiratzka, 1985; Smith, 1985; Uretsky & Birdsall, 1986; Brigden, 1987; Noble, 1988). Unproven cancer therapies are defined as "diagnostic and treatment methods which have not been assessed through the standard scientific process, and

for which there is inadequate information on which to judge their safety and effectiveness" (Evers, 1987, p.2). Several terms such as unorthodox cancer treatments, unconventional cancer therapies, alternative therapies, nontraditional cancer methods, and unproven cancer therapies are often used interchangeably. In this thesis, the term unproven cancer therapies will be used.

Although many patients who use unproven cancer therapies continue with conventional therapies, some abandon the traditional route for an unproven cancer therapy which promises a reliable cure (Cassileth et al., 1984). In addition to this risk, the use of alternative cancer therapies which include medications, vitamins, diets, psychic surgery, and mechanical devices may result in physical harm, emotional upheaval, false hope, and substantial economic loss (Brown, 1977; Burkhalter, 1977; Gardner, 1980; Martin, Stolfi, & Sawyer, 1983; McNaull, 1985; Brigden, 1987). It is estimated that two billion dollars are spent annually in North America on a myriad of unorthodox cancer treatments (Cancer Control Agency of British Columbia, 1987).

Several authors have speculated as to why cancer

patients are attracted to unconventional therapies. These speculations encompass lack of information about cancer treatment methods, a sense of hopelessness, impatience with and suspicion of the health care system, fear of death, and frustration with treatment side effects (Brown, 1975; Brown, 1977; Burkhalter, 1978; Patrick, 1981; Noble, 1988). Moreover, the need for control has been identified as a possible reason for cancer patients to use or consider using an unproven cancer therapy.

As a head nurse in an ambulatory care cancer clinic, I have watched cancer patients explore, seek out, and diligently use various unproven cancer therapies. Some of these patients confirmed that the need to control their own destiny compelled them to investigate and utilize unproven cancer therapies, while others claimed that their "will to live" was the compelling force. These assertions about factors that seemed to motivate their use of unproven therapies prompted this research study.

Statement of the Problem

The anxiety and dread that may be experienced by cancer patients, their families, and their friends create a situation in which the assurance of a quick,

reliable, and painless cure is difficult to disregard. A limited number of studies indicate that many individuals with a cancer diagnosis are proponents of unproven cancer therapies (Faw et al., 1977; Cassileth et al., 1984; Eidinger & Schapira, 1984; Hiratzka, 1985; Mooney, 1987). However, little is known about the factors that may be influential in their decision to use these unproven cancer therapies. It is not known whether belief in control and commitment to life are variables of importance to cancer patients' inclination to use unproven cancer therapies.

Purpose of the Study

The purpose of this study was to investigate the relationship of belief in control and commitment to life to the adult cancer patient's inclination to use unproven cancer therapies and to explore other descriptive information regarding the use of unproven cancer therapies.

Significance of the Study

Despite the lack of scientific information, the use of unproven cancer therapies has been considered an acceptable alternative by numerous cancer patients and their families (Faw et al., 1977; Cassileth et

al., 1984; Eidinger & Schapira, 1984; Hiratzka, 1985; Mooney, 1987; Noble, 1988). This research project aimed to provide some insight into the factors that influence the cancer patient's propensity toward use of unorthodox treatments. With increased understanding of the person who is inclined to use unproven cancer methods, the nurse will be in a better position to facilitate decision-making and provide appropriate patient education and emotional support. In addition, the nurse will be in a better position to explain to this "high risk" group the dangers inherent in using certain unproven cancer therapies and in delaying or abandoning conventional treatment in favour of an unorthodox treatment.

Conceptual Framework

The conceptual framework used for this study was the cognitive theory of psychological stress and coping constructed by Lazarus and Folkman (1984) (see figure 1). According to this theory, coping arises from cognitive appraisal of the transaction between the person and the environment. As a result of appraisal processes, coping strategies are selected from a variety of coping options, and then utilized, which in turn influence the adaptational

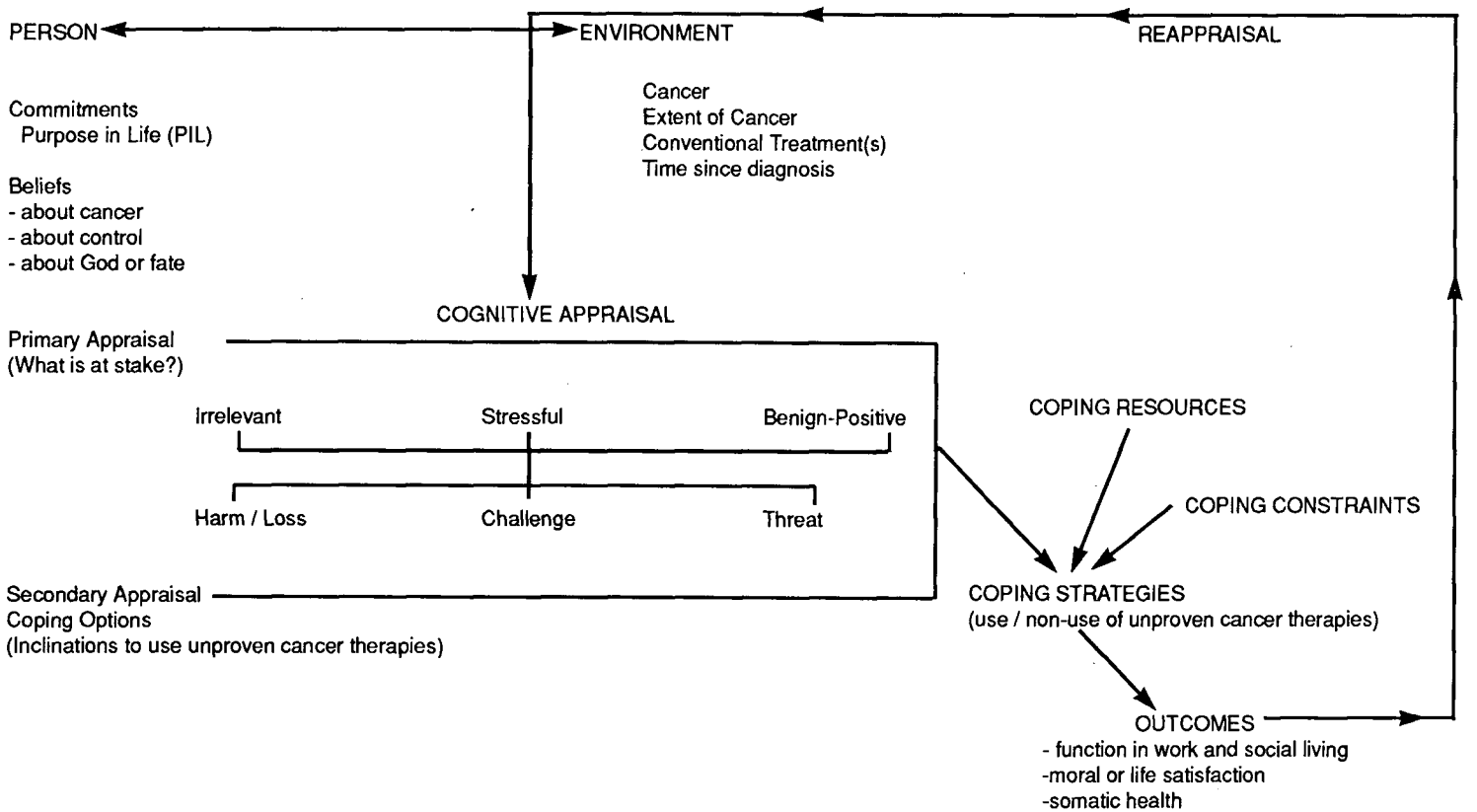

Figure 1: Conceptual Framework for the study: Belief in Control, Commitment to life, and cancer patients' use and / or inclination to use of unproven therapies.

Notes: Adapted from Coping with the uncertainties of breast cancer: Appraisal and coping strategies (p. 7), by A. Hilton (1987). Doctoral Dissertation, The University of Texas at Austin. Copyright: 1987, A. Hilton

outcomes. Reappraisal follows and alters the original appraisal. This study examined the relationship between the person factors of belief in control and commitment to life, and the patient's coping option of inclination to use unproven cancer therapies.

Lazarus and Folkman (1984) define psychological stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing" (p.19). This definition stipulates that different persons experience different types and degrees of psychological stress. In order to understand these differences, the examination of the process of coping is essential.

Cognitive Appraisal

Cognitive appraisal consists of two components: (1) the evaluation of what is at stake in the encounter (primary appraisal); and (2) what coping options are available (secondary appraisal) (Lazarus & Folkman, 1984). Primary appraisal identifies whether the encounter is irrelevant (the encounter has no implication for the person's wellbeing),

benign-positive (outcome is construed as positive), or stressful. Secondary appraisal is the evaluation of the efficacy and usefulness of all coping options and available resources in order to effectively manage the threat or challenge.

Personality factors (person factors) and the actual situation characteristics (situation factors) influence any appraisal. The person factors of commitments and beliefs determine what is important for well-being in a given encounter. Commitments define what is important to a person and thereby direct the choices made (Lazarus & Folkman, 1984b, p.298). Commitment implies an enduring motivational quality, and the very strength of commitment can impel a person toward a course of action that can reduce threat and help sustain coping efforts in the face of obstacles. For example, the "will to live" is often seen as critical for survival in cases of life-threatening illness and is formed by each individual's particular commitments such as family, unfinished work and/or "beating the odds".

Beliefs are preexisting notions about reality which shape a person's perception of his/her environment (Lazarus & Folkman, 1984, p.63).

According to Lazarus and Folkman (1984b), general beliefs about personal control have to do with feelings of mastery and confidence --the extent to which people assume they can control events and outcomes of importance (p.299). One of the constructs of control which has been researched extensively is that of locus of control. Locus of control is the orientation that one has about the origin of control - in oneself, others, or chance.

The best known formulation is Rotter's (1966) concept of internal versus external locus of control. An internal locus of control refers to the belief that events are contingent upon one's own behaviour, and an external locus of control refers to the belief that events are not contingent upon one's actions, but upon chance, fate, luck, or powerful others. Rotter (1966) conceived that these general beliefs about control have their greatest influence when the situation is ambiguous and novel. Besides ambiguity and novelty, other properties of a situation such as duration, imminence, predictability, and temporal and event uncertainty interact with person factors and consequently, appraisal of harm, threat, or challenge ensues.

Coping Strategies

Lazarus and Folkman (1984) define coping as "... constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p.142). Coping strategies arise from cognitive appraisal but also depend upon the availability of coping resources, the constraints that inhibit resource utilization, and the degree of experienced threat. Coping strategies may be emotion-focused or problem-focused.

Adaptational Outcomes

The fundamental consequences of both coping and cognitive appraisal are adaptational outcomes. Lazarus and Folkman (1984b) identify three basic types of outcomes: functioning in work and social living in which the individual fulfills various social roles and is satisfied with his or her interpersonal relationships; morale or life satisfaction which refers to the individual's feelings about him/herself and his/her conditions of life; and somatic health which refers to mental and physical health.

Reappraisal

Reappraisal refers to a changed appraisal based on new information from the environment and/or the person. Reappraisal follows an outcome and is the basis for further coping, thereby generating a cyclical process.

Summary

The cognitive theory of psychological stress and coping (Lazarus & Folkman, 1984) proposes that person and situation factors are antecedents to cognitive appraisal. Appraisals, both primary and secondary, are critical in determining the effect of an encounter on a person's well-being. As a result of the appraisal processes, coping strategies are selected from a variety of coping options and utilized. This study explored the relationship between the person factors of belief in control and commitment to life, and the patient's coping option of inclination to use unproven cancer therapies.

Research Objectives/Hypotheses

In the proposed study, the main objective was to test the following hypotheses:

1. The cancer patient's degree of inclination to use unproven cancer therapies is positively associated

with an internal locus of control.

2. The cancer patient's degree of inclination to use unproven cancer therapies is positively associated with commitment to life.

In addition, the secondary objectives were to :

1. explore the reasons why some cancer patients have tried or have considered trying unproven cancer therapies.

2. To explore the reasons why some cancer patients have not tried or would never consider trying unproven cancer therapies.

3. To explore the participants' source(s) of information about unproven cancer therapies.

4. To assess the cost of the unproven cancer therapy(ies) that have been tried by the participants.

Definitions of Terms

For the purpose of this study, the following definitions were used:

Cancer: a group of diseases with related clinical features which, if untreated, result in death. At the cellular level, cancers are diseases of abnormal cell growth, abnormal cell function, and abnormal cell differentiation. Cancer cells have the ability

to invade surrounding tissues and metastasize (Calman & Paul, 1978).

Belief in Control: the orientation by which an individual assumes he/she can control important events and outcomes occurring in his/her life space (Rotter, 1966). Belief in control will be operationalized by Wallston's Multidimensional Health Locus of Control Scale which measures both internal and external locus of control orientations (Wallston et al., 1976) (Appendix A).

Internal Locus of Control: the tendency to believe that one can influence the course of events (Rotter, 1966).

External Locus of Control: the tendency to believe that the course of events is in the hands of others or controlled by fate, chance, or surrounding forces (Rotter, 1966).

Commitment to Life: a sense that life has meaning (Lazarus and Folkman, 1984). Commitment to life will be operationalized by Crumbaugh's Purpose in Life Scale (Crumbaugh, 1968).

Conventional Cancer Therapies: surgery; chemotherapy, and radiotherapy administered according to protocols followed by the Cancer Control

Agency of British Columbia (CCABC).

Unproven Cancer Therapies: treatment methods which have not been assessed through the standard scientific process, and for which no adequate information exists on which to judge their safety and effectiveness (Evers, 1987). Types of unproven cancer therapies will be operationalized by Hiratzka's (1985) Alternative Therapy Scale. The scale has been adapted to include those unproven cancer therapies which have been identified as the most popular and current therapies available in British Columbia (Cancer Control Agency of British Columbia, 1987b) (Appendix B).

Inclination to use unproven cancer therapies: the mental disposition toward use of unproven cancer therapies. Disposition implies only the direction of attraction and not the final choice (Webster's Dictionary, 1972). Inclination to use will be operationalized by Hiratzka's Alternative Therapy Scale (Hiratzka, 1985) (Appendix B).

Assumptions

1. The diagnosis of cancer is appraised as a stressful event by each individual.
2. Research subjects will respond to the research

questionnaire honestly and to the best of their ability.

Limitations

1. The findings of this study are not generalizable beyond this study's small, convenience sample.
2. The findings of this study are limited to those patients attending the lung chemotherapy and follow-up clinic at the ambulatory care department at the Cancer Control Agency of British Columbia (CCABC) in Vancouver, B.C.
3. The unproven cancer therapies selected for this study may not adequately represent the entire list of the most popular and current therapies that are used by cancer patients in British Columbia.

Overview of the Thesis Content

This thesis is comprised of five chapters. In Chapter One, the background to the problem, conceptual framework, purpose, and research objectives and hypotheses are presented. In Chapter Two, a review of selected literature is presented using two major sections: the use of unproven cancer therapies, and the person factors of belief in control and commitment to life which have been identified as variables that may influence the degree

of inclination to use unproven cancer therapies. Chapter Three addresses the research methodology including a description of the research design, data collection instruments, data collection procedure, ethical considerations, and statistical procedures used in data analysis. In chapter Four, the description of the sample, findings, and discussion of the results are presented. The summary, conclusions, implications for nursing practice, education, and theory, and recommendations for future research are presented in Chapter Five.

CHAPTER TWO

Review of Selected Literature

Introduction

The review of the literature is reported using two major sections. The first section deals with person factors which have been identified as variables that may influence inclination to use of unproven cancer therapies and has been subdivided into two major sections: belief in control and commitment to life. The second section focuses on a discussion of the literature pertinent to the use of unproven cancer therapies.

Person Factors that may Influence Inclination to Use Unproven Cancer Therapies

Brown (1975) examined the reasons for "cancer quackery's" success, and delineated three classifications for people who seek "the delusions of cancer quackery" (p.24). These classifications were: the miracle seeker, the impatient, and the straw grasper. Brown's later work (1977) reinforced the reasons that patients embrace these unproven cancer therapies. She contends that fear, frustration, and the inadequacy of the health care team in the provision of psychological support to cancer patients

and their families lead these patients "into the hands of a quack" (p.104).

From similar perspectives, Burkhalter (1977, 1978), Lehrer, (1979), Levitt, Guralnick, Kagan, & Gilbert (1979), Glucksberg (1980), Patrick (1981), Holland (1982), Miller & Howard-Ruben (1984), and Brigden (1987) elaborated on common qualities and types of unproven cancer remedies, and their attraction. These authors identified many reasons why people may turn to unproven cancer therapies. These reasons included desperation, feelings of hopelessness, skepticism about the standard treatments, anger, impatience, fear of pain and disfigurement, fear of death, and suspiciousness of doctors and drugs. Furthermore, the majority of these authors did not advocate or support the use of unproven cancer therapies.

Belief in Control

Control can be defined as the belief that an individual has at his/her disposal a response that can influence the aversiveness of an event (Thompson, 1981). Thompson (1981) identified a fourfold typology of control: behavioural control, cognitive control, information control, and retrospective

control. Behavioural control can affect the aversiveness of an event by terminating the event, decreasing its probability and intensity, or changing its duration or timing. Cognitive control, either avoidant or nonavoidant, can also mitigate the aversiveness of an event. Information control provides the individual with information about an anticipated aversive event, whereas retrospective control assists the individual in deciding whether or not the aversive event could have been controlled, and if it can be in the future.

Rotter (1966) originally hypothesized the construct of locus of control to describe the orientation by which individuals are able to control the important events occurring in their life space. Internal locus of control individuals perceive that the event or reinforcement is contingent upon their own behaviour while individuals with an external locus of control perceive that fate, chance, surrounding forces, or the control of powerful others are responsible for the event (Rotter, 1966; Phares, 1973; MacDonald 1971; Lefcourt, 1973; Wallston & Wallston, 1976).

Phares (1976) presented evidence that power is a

motivational concept that is related to the locus of control concept. Power can be understood as a kind of confidence or a belief in the efficacy of one's efforts, and therefore, "internals seem to enjoy a greater potential for power" (Phares, 1976, p.71). However, Phares (1976) pointed out that an internal locus of control is not sufficient to attain power or influence over the environment. Individuals must be motivated to achieve a given reward, and reasonably confident of the success of their efforts.

Powerlessness is the antonym of power. Miller (1983) and Sheppard (1985) defined powerlessness as the perception of an individual that his/her own actions will not significantly affect an outcome. Powerlessness is situationally determined, and is generated when one or more of the power sources -- physical stamina, self-concept, knowledge, energy, motivation and belief systems -- are compromised.

Nagy and Wolfe (1983) found that chronically ill patients, who experienced repeated contacts with medical care services, exhibited high Chance and high Powerful Other locus of control orientations. Dennis (1987) studied 70 medical-surgical patients in order to determine if their perception of control

over impending events helped to mediate stress reactions. She found that the patients developed cognitive control strategies in order to assist them in getting well/going home. These strategies included seeking knowledge and central information about their illness, treatments, and prescribed life style changes.

Jamison and colleagues (1986) studied the psychological impact of cancer on locus of control in teenagers and found that adolescent cancer patients scored significantly lower on internal locus of control than their healthy peers. In another study, Kerber (1987) examined the relationship between locus of control and recent life changes (ie: recurrence) in adults with cancer and found that locus of control was not significantly correlated with disease-free interval.

Brockopp, Hayko, Winscott, and Davenport (1988) studied 71 cancer patients' perceptions of personal control in relation to their psychosocial needs. The researchers found statistically significant relationships between personal control and the adult cancer patients' psychosocial needs for information, honesty, expression of anger, and a discussion of

issues related to death and dying.

Hallal (1982) studied the relationship of health locus of control to the practice of breast self-examination (BSE) as a early breast cancer detection method (N = 207). Her study found that practicing BSE was not significantly correlated with a higher score on the Internal subscale of the Multidimensional Health Locus of Control (MHLC) Scales but that practicing BSE was negatively correlated with obtaining a higher score on the Powerful Other subscale.

Studies on control have been conducted that concentrated on individuals with breast cancer. Dodd (1983) found that health locus of control was not significant as a moderating variable in measuring self-care behaviours used by breast cancer patients (N=30) to manage the side effects of chemotherapy.

In contrast, Brandt (1987) found that the locus of control for 31 women receiving chemotherapy for breast cancer indicated a tendency toward externality. Brandt also found a significant correlation between hopelessness and external locus of control ($r = .37$, $p < 0.05$). Participants who exhibited more external locus of control tended to

express greater hopelessness.

Hilton (1987) studied 227 women with breast cancer and found that most of these women (73.1%) felt that they had little control over the cause of their cancer. In addition, 70.5% felt they could not have prevented the growth of their cancer. The majority of the study group did not feel that the cause of their cancer could have been influenced by others. In contrast, 72.2% of the subjects perceived they had considerable control of their cancer's course and recurrence.

Taylor, Lichtman, and Wood (1987) interviewed 78 breast cancer patients and found that 56% felt they personally had some degree of control over the course of their cancer. However, the subjects believed that other factors could influence the course of the disease. Seventy-eight percent of the subjects believed that one of these other factors was the physician or treatments, while 10% believed God was another important factor. These findings indicate that the patients see themselves, as well as others, controlling their situation rather than themselves alone or others alone.

Only one study was found in the literature that

addressed the relationship between locus of control and self-use of unproven cancer therapies. Hiratzka's (1985) exploratory study was carried out to determine if a relationship existed between health locus of control and adult cancer patients' knowledge and attitudes toward unproven cancer therapies ($N = 125$). A significant positive correlation was found between cancer patients' inclination to use unproven cancer therapies and the degree of internality of their health locus of control ($r = 0.24$, $p = <0.01$). In addition, positive correlations were found between the knowledge scores and both Internal ($r = 0.30$, $p = <0.001$) and Powerful Other ($r = 0.22$, $p = <0.014$) locus of control orientations.

Commitment to Life

Crumbaugh (1968) defined purpose in life as the degree to which an individual experiences a sense of meaning. Similarly, Lazarus and Folkman (1984b) identified that committed persons have a generalized sense of purpose in life and can identify what is important and unimportant to their wellbeing. They asserted that "clinicians often dealing with people in health crises often use the expression `will to

live' to refer to what we call a commitment" (p.298).

Many popular books about the cancer experience focus on purpose in life. Dosdall (1986), a cancer patient and author, wrote that having something to live for keeps a person "on track" or involved with life. His own personal experience taught him the value of setting goals, planning for the future, and the power of the mind over the body. Simonton and colleagues (1974), who are renowned for their self-awareness techniques to help cancer patients cope with cancer, were fascinated by the discovery that "the cancer patients who continued to do well, for one reason or another, had a stronger "will to live"" (p.5). They pointed out that the will to live is stronger when there is something to live for. Furthermore, they contended that goal setting helps patients focus on their reasons for living and reestablishes their connection with life. Cousins (1979) maintained that the will to live was a physiological reality with therapeutic characteristics. Cousins wrote that "there is always a margin within which life can be lived with meaning and even with a certain measure of joy, despite illness" (p.203). From a physician's perspective,

Siegel (1986) recorded many experiences of exceptional cancer patients who sustained a will to live and achieved their personal goals.

Although various publications describe the purpose in life of individual cancer patients, little scientific research has specifically investigated purpose in life in people with cancer. Miller and Nygren (1978) compared the coping strategies of 10 cancer patients before and after they attended a structured educational program titled "Learning to live with cancer". They found that focusing on the positive aspects of life and rethinking the reasons for living were two strategies utilized both before and after the classroom sessions. Lewis (1982) found that higher levels of personal control were significantly associated with more purpose in life and meaningfulness (N = 57). She also found that the relationship between time since diagnosis and purpose in life was not statistically significant. A descriptive study by Kesselring and colleagues (1985) reported that 9 Swiss cancer patients (N = 45) had few expectations for life/future, whereas 21 were accepting of the diagnosis and aware of future possibilities. In contrast to this study, Dodd and

colleagues (1985) found that all 40 Egyptian study participants perceived that the meaning of having cancer was uniformly bleak (ie: suffering, hopelessness, death). Another study by Thorne (1985) of eight Canadian families reported that a major key to success at minimizing cancer's impact on future orientation was to plan for the future.

Hilton (1987) examined how women with breast cancer (N=227) perceived their purpose in life and found that 65.2% had definite purpose and meaning in life; 27.8% were in the indecisive range; and 5.7% lacked clear meaning and purpose. She also found that the subjects in her study used more Making Self/Things Better as a coping strategy if they had higher purpose in life. This strategy included activities such as exercise, prayer, problem analysis, and rediscovering what is important in life.

Owen (1989), in a qualitative study on nurses' perceptions on the meaning of hope in patients with cancer, concluded that meaning in life or commitment to life may be one of the precursors to feeling hopeful. The six clinical nurse specialists, who were interviewed by Owen, believed that commitment to

life was one of the six elements or subthemes in a conceptual model of hope. The other five subthemes were: energy, peace, personal attributes, future redefinition, and attainable goals.

Unproven Cancer Therapies

Janssen (1979), and Miller and Howard-Ruben (1983) reviewed the history of cancer quackery and the major unorthodox remedies: Koch's treatment, Harry Hoxsey's herbal tonic, krebiozen, and laetrile. The therapeutic effects of the above treatments were explored in these articles, and each treatment was exposed as a "health hoax" (Janssen, 1979, p. 528). For example, scientific analysis of Koch's treatment showed it to be distilled water of extraordinary purity -- it contained one part of its alleged active ingredient, the chemical glyoxylide, and one trillion parts of water. It was pointed out that even though there was no evidence that Koch's treatment had any therapeutic effect, over three thousand health practitioners had promoted its use during the 1940's. Koch's treatment is currently illegal in both Canada and the United States but can be obtained in Mexico and through some underground holistic practitioners (Miller & Howard-Ruben, 1983).

Miller and Howard-Ruben (1983) listed over one hundred different varieties of unorthodox cancer treatments that have been or are currently available. In 1984 they published a second article that explored the current trends in unproven cancer therapies and the implications for patient care. These current trends include Simonton's psychotherapy, immuno-augmentative cancer therapy (IAT), and dimethyl sulfoxide (DMSO). It is interesting to note that Laetrile was cited as the most commonly known and consistently marketed unorthodox medication.

There is a long history of adversity and controversy in the area of unproven cancer therapies (Brown, 1975; Gardner, 1980; Glymour & Stalker, 1983; Behney, 1987). An excellent illustration of the controversy that surrounds the use of unproven cancer therapies was provided by Siegal's (1986) account of the legalization of Laetrile in the United States. Laetrile was legalized in twenty-seven states as a result of public pressure that persuaded the legislators to disregard the tenacious opposition of the medical profession, and the Food and Drug Administration (Siegal, 1986). Public pressure also

prompted the National Cancer Institute (NCI) to initiate a clinical trial designed to study the effectiveness of Laetrile. Initially, NCI refused to conduct a study of Laetrile because it was viewed as unethical to administer "an almost certainly useless drug" to cancer patients when drugs that had been proven to be useful were available (Siegal, 1986, p.82). The NCI study concluded that Laetrile is a toxic, cyanide-laden drug which is not effective as a cancer treatment (Martin, 1977; Inglefinger, 1977; American Cancer society, 1977; Siegal, 1986). Despite these research findings, the public continues to petition for the legalization of Laetrile throughout Canada and the United States.

Many authors, health care professionals, and the general public disagree about the classification of treatments as effective or ineffective, and about who has the right to determine the risks and benefits of available therapies (Gardner, 1980; Salsbury & Johnson, 1981; Casselith, 1982; Lister, 1983; Martin et al., 1983; Pitard, 1985; Oldham, 1985; "Rights of Patients", 1985; "Presidential Initiative", 1986; Jarvis, 1986; Rogers, 1987). "Presidential Initiative "(1986), reported that "...by what legal

or moral right do we abide a system that tells huge numbers of gravely ill Americans they cannot try these [new medical] therapies until a bunch of people [Food and Drug Administration] say so?" (p.6). Rogers (1987) wrote that "cancer patients for whom the conventional therapies have been exhausted have the right to seek unconventional treatment as the last resort" (p.406). In contrast to these views, Martin and colleagues (1983), Siegal (1986), and Jarvis (1986) presented several fallacies that surround the use of alternative cancer therapies, and concluded that these treatments must not be made available to the public until their effectiveness is scientifically proven.

Salsbury and Johnson (1981) summarized the two major conflicting views regarding the use of unproven cancer therapies. They explained that "Group One" is fundamentally opposed to these therapies and supports the standard and experimental treatments that are offered by the NCI, the American and Canadian Cancer Societies, and the major cancer centres. "Group two" supports treatments that are nontoxic and "natural", and consider the standard cancer treatments toxic. This group is represented by such organizations as

the International Association of Cancer Victors and Friends, and the Cancer Control Society. In addition to these two views, Salsbury and Johnson (1986) delineated that there is also a gray area: an overlap of the approaches favoured by the two groups. The gray area is the result of several treatment components being accepted by both groups but used in different ways. The authors described the difference as responsible versus irresponsible use, and they utilized the Simonton's method to describe this difference. They proposed that the Simonton's method is responsibly used when it is used as a supportive therapy; the method is irresponsibly used when it is offered as a primary therapy. In conclusion, the authors stated that the cancer patient should "find a medically qualified (Group One) cancer specialist who is sympathetic to the value of these other areas, and work out a treatment plan that is acceptable to both" (p.163).

Although many articles have been written that discuss unproven cancer therapies, very little research has been conducted that investigated the actual use of these unorthodox therapies. Furthermore, the studies that have addressed the use

of unorthodox cancer therapies have utilized convenience rather than random sampling, and consequently, the samples may not be representative of the population because not every element of the population had an opportunity for selection (Burns & Grove, 1987).

Faw and colleagues (1977) surveyed patients and/or parents of pediatric cancer patients to determine the percentage of patients who were knowledgeable about unproven cancer therapies. Sixty-nine interviews, which were undertaken at an outpatient pediatric oncology clinic, revealed that 27 patients (39.1%) had tried, considered, or received recommendations to try unproven cancer therapies. The survey also determined that friends and relatives were the usual source of information about unproven cancer remedies.

In another study, Cassileth and colleagues (1984) reported that 40% of patients, who used both conventional and unconventional therapies, discontinued conventional care entirely in favour of alternative regimes after an average of 8 months on standard therapy. The remaining 60% of patients pursued both kinds of treatment simultaneously. The

researchers identified six common types of unorthodox treatments that were used by the study subjects. These six types were (in descending order of frequency): metabolic therapy, diet therapies, megavitamins, mental imagery, spiritual or faith healing, and "immune" therapy. In addition, the researchers noted that time since diagnosis did not substantively influence patients' views or behaviour.

The findings of Cassileth and colleagues (1984) were not consistent with the findings of Eidinger and Schapira (1984) who surveyed 315 cancer patients regarding their views of unconventional therapies. They found that 25% believed that these treatments were effective in curing cancer. Seventy percent stated that they would use one of the forms of unconventional therapy if it was available locally. However, only seven percent of the patients were currently taking or had taken medications to treat their cancer other than those prescribed by their physician. Two explanations regarding unconventional use of cancer therapies were proposed by Eidinger and Schapira. First, patients become desperate when conventional treatments fail or are

too unpleasant, and are willing to try any treatment that may offer some hope, especially if it is more palatable. Second, unconventional therapies require active participation by the patient, and this participation has a beneficial effect.

Richardson (1987) compared 56 known unproven cancer therapy users with 56 known non-users in order to determine if there was a relationship between the use of unproven therapies and the frequency of contact with physicians and other cancer centre care givers. The researcher found that as the frequency of contact increased (frequency > 20 visits), the proportion of patients using unproven cancer therapies increased. In addition, Richardson's study (1987) found that there was no association between marriage, birthplace, a family history of cancer, smoking, time between date of diagnosis and date of referral, and use of unproven cancer therapies.

Mooney (1987) studied unconventional cancer therapy usage in 71 patients with metastatic disease. She reported that only 18% had used some form of unconventional therapy, and that users were more action-oriented and more knowledgeable about treatment options.

Summary of the Literature Review

Literature, which explores the issue of unproven cancer therapies, focuses mainly on the types of therapies, the reasons why cancer patients use these therapies, and the controversies that surround their use. Many authors believe that fear, frustration, and the inadequacies of the health care system are the prime reasons why patients turn to unorthodox treatment. Moreover, many proponents of unorthodox treatment claim that individuals, who have a life threatening disease, have the right to pursue and use unconventional therapies.

Scientific research concerning these therapies is sparse. Surveys have identified the most common types of unproven cancer therapies and the percentage of study participants who use these therapies.

A few research studies have examined the variables of belief in control and commitment to life in individuals with cancer. The importance of the variable of belief in control to cancer prevention, the management of treatment side effects, and the incidence and/or recurrence of disease appears to be uncertain. Nonetheless, the results of various studies suggest that cancer patients see themselves

as well as others controlling their cancer situation.

Only one study was found in the literature that explored the relationship between locus of control and use of unproven cancer therapies. Hiratzka's study (1985) found a positive correlation between cancer patients' inclination to use unproven therapies and an internal locus of control orientation ($r = 0.24$, $p = <0.01$).

Commitment to life has been described by many authors as essential to the promotion of quality of life for cancer patients. Research studies indicate that a diagnosis of cancer may cause some patients to consider their lives meaningless, lacking direction and purpose, while others consider their lives meaningful with a definite purpose and goal. No studies were found in the literature that examined the relationship between commitment to life and incliniation to use unproven cancer therapies.

Research has not addressed the association between belief in control, commitment to life, and the adult cancer patient's inclination to use unproven cancer therapies. Therefore, this study was designed to address the gaps identified in the literature.

CHAPTER THREE

Methodology

Introduction

This chapter describes the research design, sampling procedure, data collection instruments, data collection procedure, ethical considerations, and the statistical procedures used in data analysis.

Research Design

A descriptive correlational design was used for this study. This type of design allowed the researcher to test functional relationships among variables (Burns & Grove, 1987).

Sampling Procedure

Originally, a convenience sample of 68 subjects was to be selected from the population of adult lung cancer patients who were attending either the lung chemotherapy and follow-up clinic or the radiotherapy follow-up clinic at the ambulatory care department at the A. Maxwell Evans Clinic of the Cancer Control Agency of British Columbia in Vancouver. Permission to access these clinics was obtained from the Lung Tumour Group. However, after data collection was initiated, the researcher learned that access to accrue study participants was limited to patients

attending the lung chemotherapy and follow-up clinic. In addition, the number of follow-up patients had declined because of physicians' and patients' summer vacation schedules. Because of these factors, data collection continued for ten weeks and resulted in a smaller sample than originally planned.

Lung cancer patients were chosen for several reasons. First, there is a high incidence of the disease. In 1987, the Cancer Control Agency of British Columbia (CCABC) reported a total of 1869 incident cases of lung cancer. Second, lung cancer is a malignancy that affects both males and females. In British Columbia, 1198 males and 671 females were diagnosed with this disease in 1987 (Cancer Control Agency of British Columbia, 1987c). Of this group, approximately 53% attended the CCABC's ambulatory care department for treatment and/or follow-up (Cancer Control Agency of British Columbia, 1987c). Finally, lung cancer would provide a homogeneous group in relation to a highly threatening situation. In terms of life expectancy, the majority of patients die within three years of diagnosis (Spiro, 1988; Canadian Cancer Statistics, 1988).

Subjects selected for inclusion in the study met

the following criteria. They all:

1) were 20 years of age or older.
2) had a confirmed diagnosis of lung cancer.
3) had attended the ambulatory care department for more than one (1) month.
4) were not currently an inpatient in any hospital or any other health care institution.
5) were mentally competent and had no evidence of cerebral metastases.
6) were physically and emotionally able to complete the questionnaire.
6) were literate in the English language (able to read and write).

Sixty-five patients who met the study criteria were approached by the researcher and asked to participate in the study. Fifty-two patients agreed to participate and were given a questionnaire by the researcher. Forty patients (77%) returned the questionnaire. Of the questionnaires returned, the small number of missing responses were substituted by the mode for each item. The final sample therefore consisted of 40 lung cancer patients. The characteristics of the sample will be presented in Chapter Four.

Data Collection Instruments

Three instruments and a patient information sheet were used in this study. The Multidimensional Health Locus of Control (MHLC) was utilized to measure the person factor of belief in control (Wallston et al., 1976), the Crumbaugh Purpose in Life Test (PIL) was used to measure the person factor of commitment to life (Crumbaugh, 1968), and the Hiratzka's Alternative Therapy Scale (ATS) was adapted and used to identify awareness of and degree of inclination to use unproven cancer therapies. The ATS was also used to elicit data on the reasons why the individuals were/were not inclined to use unproven cancer therapies, cost of the unproven cancer therapies, and source(s) of information about the therapies. A patient information sheet was used to elicit data on the socio-demographic characteristics (age, sex, marital status) and the patient's understanding of the intention of treatment (curative versus palliative). In addition, limited information was obtained from the medical records.

Wallston's Multidimensional Health Locus of Control (MHLC)

The MHLC measures the dimensions of health locus

of control beliefs in adults (Appendix A). The three dimensions are: internality (ILOC), and externality, the latter which incorporates Chance (CLOC), and Powerful Other (PLOC) (Wallston & Wallston, 1981). The self-administered instrument consists of 18 items, six for each dimension. The items are measured on a six-point Likert scale ranging from 1 (strongly agree) to 6 (strongly disagree).

The internal consistency was originally tested with 115 predominantly middle-class people and ranged from an alpha of 0.83 to 0.86. The three MHLC subscales are empirically independent. The Internal and Chance scores are negatively correlated and the Chance and Powerful Other scales have a low correlation of 0.2 (Wallston, 1981).

Wallston and Wallston (1978) demonstrated the differential functional utility of the MHLC scale over the traditional, more generalized I-E scale (Rotter, 1966) by running separate item analyses on 34 items written as face-valid measures of generalized expectancies regarding locus of control. The following criteria were used to select the items that constituted the final scale: a) an item mean close to 3.5 which is the scale midpoint; b) a wide

distribution of response alternatives on the item; and c) a low correlation with social desirability. Using the above criteria, 18 pairs of items were selected with the items paired on the basis of meaning. The pairs were then subdivided into three subscales with six pairs of items chosen for each subscale - ILOC, CLOC, and PLOC. Then, the pairs were divided to construct two equivalent forms of the MHLC scale (Form A and B). Form B was used in this study. Alpha internal consistency reliabilities for Form B were reported as follows: ILOC 0.71, PLOC 0.72, and CLOC 0.69.

Dodd and colleagues (1985) found that the three subscales of the MHLC instrument demonstrated high reliability coefficients. The Cronbach alpha reliability coefficients of the MHLC in their study ranged from 0.65 to 0.75.

In this study, the internal consistency reliability using Cronbach alpha were as follows: ILOC 0.78, CLOC 0.56, and PLOC 0.82.

As an initial indication of predictive validity, correlations were computed between health status and the MHLC scores. As expected, health status correlated positively with ILOC ($r = .403$, $p < .001$),

negatively with CLOC ($r = -.275$, $p<.01$), and did not correlate with PLOC ($r = -.055$) (Wallston & Wallston, 1976).

Crumbaugh's Purpose in Life Scale (PIL)

The Purpose in Life Test (PIL) is a 20-item scale that measures the degree to which an individual experiences meaning and purpose in life (Crumbaugh, 1968). Responses are answered on a 7-point scale rated from 1 (low purpose) to 7 (high purpose). Higher scores denote greater levels of experienced purpose or meaningfulness. The PIL's reported internal consistency reliability (split-half correlation) was 0.85 for a sample of 120 church parishioners (Crumbaugh, 1968). Spearman-Brown corrected this to 0.92.

The PIL has been shown to be a psychometrically sound instrument. Meier and Edwards (1974) reported a 1-week stability coefficient of 0.83. Reker and Cousins (1979) found that PIL's internal consistency coefficient (split-half correlation) was 0.77, corrected to 0.87. The test-retest correlations for 31 introductory psychology students over a 6-week period yielded stability coefficients of 0.79 for the PIL. Lewis (1982) used the PIL in studying personal

control and quality of life in late-stage cancer patients. She found the internal consistency reliability of the PIL to be 0.92 and the internal reliability to be 0.88. Hilton's study (1987) of 227 breast cancer patients also found that the PIL scale demonstrated high internal consistency with a coefficient alpha of 0.88. Item-total correlations ranged from 0.21 to 0.70, all of which were significant at the .05 level.

In the present study, the internal consistency reliability using Cronbach alpha was 0.94.

Hiratzka's Adapted Alternative Therapy Scale (ATS):

The Alternative Therapy Scale measures awareness of and inclination to use unproven cancer therapies (Appendix B). The first section of the scale is comprised of sixteen types of unproven cancer therapies, and the participants are asked to answer two questions regarding each method. The first question assesses awareness and asks whether the participants have or have not heard of each of the therapies. The participants' awareness scores are derived by adding the number of unproven cancer treatment methods about which they have heard.

The second question asks the subjects to indicate

where they would rank themselves on a six-point inclination scale for each of the listed methods as well as any additional methods they might add to the list. The scale has the following levels: a) would never consider trying, b) have not considered trying, c) have not tried, d) would consider trying at some time in the future, e) have considered trying, and f) have tried. Each level is assigned a numerical value ranging from one (would never consider trying) to six (have tried). The higher the score the greater the level of inclination to use unproven cancer treatment methods.

The individuals' overall inclination to use score is derived by assigning the number of their highest level of response to any of the therapies on the list. This score is not contingent upon how many times they mark a particular level. That is, if participants indicate they have tried laetrile, they will receive a score of six even though they may mark that they "would never consider trying" any of the remaining items.

The second section of the scale focuses on the reasons why the subjects are/are not inclined to use unproven cancer therapies, the cost of the unproven

therapies used, and the source(s) of information about the therapies. No data are available from the author regarding validity or reliability of Hiratzka's scale.

The ATS was modifed for this study. With permission from the author, eleven unproven cancer therapies were added to the list in order to include the most current and popular therapies. These additional items for the scale were chosen from the literature and in consultation with the Cancer Control Agency of British Columbia's manual of methods of unproven cancer therapies (1987b).

Patient Information Sheet

In addition to the three instruments, an information sheet which was developed by the investigator to record relevant demographic data and the patient's understanding of the intention of treatment was given to each participant (Appendix C). This information was used to describe the sample as well as assess the possible influence of these variables on the hypotheses under study.

Medical Records

In addition to the information gathered by questionnaire, the researcher obtained the following

data from the patient's medical record: date of diagnosis, status of disease, current treatment(s), time since previous treatment(s), effectiveness of initial treatment and any subsequent treatment(s), intent of present treatment (curative versus palliative), and smoking history.

Procedure for Data Collection

The researcher was present at the ambulatory care department during the lung chemotherapy and follow-up clinic. Patients were identified and selected consecutively from the daily clinic appointment schedules. The patients were individually approached by the researcher while they were waiting for their clinic appointments and a brief verbal explanation of the study was given. The purpose of the study was also outlined in a Patient Information and Consent Form (Appendix D).

After the consent form was signed, participants were given a clipboard, a pencil, and an envelope, and asked to complete the questionnaire while they waited for their appointments. Completion time was approximately 30 minutes. The completed questionnaire was returned in the envelope to the researcher who was available at the clinic while the

participant was completing the questionnaire. If the study participants were unable to complete the questionnaire during their time at the clinic, a self-addressed, stamped envelope was provided. Participants were requested to mail the completed questionnaire to the researcher. The researcher was available by telephone to answer any questions.

Pilot Test

A procedural pilot test was conducted on five subjects who were interviewed after completing the questionnaire. No changes were made in the format as a result of the initial pilot testing. The five completed questionnaires were included in the final data pool.

Consent and Human Rights Considerations

The investigator received approval through the University of British Columbia Behavioural Sciences Screening Committee for Research and Other Studies Involving Human Subjects, and the following committees at the Cancer Control Agency of British Columbia (CCABC): Nursing Research, Lung Tumour Group, and Clinical Investigations. In addition, consent to access the study participants' medical records was obtained from the Health Records

department at CCABC.

Ethical considerations involved each participant's right to informed consent and right to privacy. Therefore, each potential participant was given a Patient Information and Consent Form describing the intent and design of the study. A signed consent form indicated the subject's willingness to participate (Appendix D).

All prospective participants were informed in writing that they had the right to refuse to participate, to withdraw from the study at any time, and to refuse to answer any questions without penalty. In addition, potential participants were advised that non-participation in the study would not jeopardize in any way present or future care they may receive. The researcher was available at the clinic and by telephone to answer any questions.

All information obtained from the medical records and from the questionnaires was held confidential through the use of code numbers. Participants were asked not to write their name or identify themselves in any way on the questionnaire. A list of the participants names and code numbers, and consent forms were kept separate from the data

and accessible only to the researcher. Furthermore, to insure that the patients clinicians would not be informed of the patients' enrolment in this study, the consent forms were kept by the researcher. In compliance with the quidelines set down by the Clinical Investigation Committee, consents will be retained by the investigator for a period of two years. After the two years, all consents will be submitted to the Health Records at CCABC for filing in the patients' medical records.

Finally, published and unpublished materials will not include names of subjects but will acknowledge that CCABC allowed this study to be conducted with patients attending the ambulatory care department at the A. Maxwell Evans Clinic.

Data Analysis

Data from the questionnaires were coded, entered into a computer file and analyzed using the Statistical Package for the Social Sciences (SPSS:X) computer program. All key-punching was verified by a colleague. Descriptive and nonparametric statistics were utilized to analyze the data. The association between belief in control and the cancer patient's inclination to use unproven cancer therapies as well

as the association between commitment to life and the cancer patient's inclination to use unproven therapies were tested using the Spearman rank correlation coefficient. Nonparametric statistics were employed because a small convenience sample was used and therefore the assumption of normality upon which parametric statistics rests could not be assured (Conover, 1980; Burns & Grove, 1987).

The level of significance set for this study was 0.05.

CHAPTER FOUR

Presentation and Discussion of Results

Introduction

This chapter is arranged under three headings: characteristics of the sample, findings, and discussion of results.

Characteristics of the Sample

The sample consisted of 40 lung cancer patients who were attending the lung chemotherapy and follow-up clinic at the ambulatory care department at the A. Maxwell Evans Clinic at CCABC. The demographic data, health characteristics, and information regarding subject perception about the intent of treatment(s) will be reported. In addition, information gathered from the medical records will be presented.

Demographic Characteristics of the Sample

Demographic data collected from the study participants were age, sex, and marital status. The age of the participants ranged from 34 to 79 (M=60) years (see Table I). Of the 40 subjects, 14 were female (35.0%) and 26 (65.0%) were male. The marital status of the participants was as follows: 30 were married (75.0%), one was separated (2.5%), seven were

divorced (17.5%), and two were widowed (5.0%).

Table I

Age of Study Participants

Age	Frequency	Percent
30-39	1	2.5
40-49	2	5.0
50-59	15	37.5
60-69	19	47.5
70-79	3	7.5
Total	40	100.0

Health Characteristics of the Sample

The health data collected from the patients' medical records were time since diagnosis, disease status, current treatment(s), previous treatment(s), time since previous treatment(s), and smoking history.

The number of months since diagnosis of their lung cancer ranged from 1.5 to 50.0 (M= 14.46) months (see Table II). According to the medical records, 55.0% of the subjects had clinical evidence of metastatic disease at the time of diagnosis.

Thirty subjects had undergone previous

Table II

Time since Diagnosis in Months

Time	Frequency	Percent
1-6	16	40.0
7-12	5	12.5
13-24	11	27.5
25-48	7	17.5
>48	1	2.5
Total	40	100.0

treatment(s). Twenty-two subjects (55.0%) had received both chemotherapy and radiotherapy, while six (15.0%) had been treated with chemotherapy alone. Only two subjects (5.0%) had undergone "complete sugical resection" of their lung tumour immediately following diagnosis. Time since previous treatment(s) ranged from one to 46 (M= 10.7) months.

In terms of current treatment, 23 subjects (57.5%) were not receiving any current treatment but were being followed by their clinic physician. Eight subjects (20.0%) were receiving chemotherapy for their lung cancer, two (5.0%) were undergoing radiotherapy, and two (5.0%) were receiving both

chemotherapy and radiotherapy for their disease. Five subjects (12.5%) were being palliated with medications for either disease progression or recurrence.

The physicians' progress notes in the medical records reported the current disease status of the participants. These notes indicated that 20 subjects (50.0%) were in "complete remission", 17 (42.5%) had active disease with metastases, and three (7.5%) had recurrent disease.

All 40 subjects had a history of smoking. Nineteen subjects (47.5%) were smokers at the time of diagnosis while 21 subjects (52.5%) had either quit at the time of diagnosis or several years prior to being diagnosed with lung cancer.

Intent of Treatment(s)

Two questions on the questionnaire addressed the participants' perceptions of the intent of treatment(s). The first question asked "do you believe that your cancer is going to be cured?" Thirty subjects (75.0%) believed that their cancer was going to be cured while only three (7.5%) believed that their disease was not curable. Four (10.0%) were uncertain about the prognosis. Three

subjects (7.5%) did not answer the question.

The second question asked "has your clinic doctor told you that your cancer can be cured?" Fourteen subjects (35.0%) indicated that their clinic physician had told them that their cancer could be cured. Eleven subjects (27.5%) claimed that they were told by their cancer doctor that their disease was not curable. Thirteen subjects (32.0%) were uncertain whether their clinic doctor had divulged anything about their prognosis. Two subjects (5.0%) did not answer the question.

According to the Spiro (1988), there are four aims to treatment(s) for lung neoplasms: cure, remission, disease control, or palliation. The medical records were examined in order to ascertain the aim of treatment(s) for each study participant. Unfortunately, intent of treatment(s) was often difficult for this researcher to determine from the medical records.

Findings

The findings of the study will be presented in relation to the major study variables: awareness of and the degree of inclination to use unproven cancer therapies, belief in control, and commitment to

life. The results of the hypotheses' testing - the relationship of belief in control to inclination to use unproven therapies, and the relationship of commitment to life to inclination to use - will then be presented. Spearman rank correlation coefficient was the statistical test used to test the hypotheses. Following this, the findings will be presented that explored the supplementary objectives: reasons why the patients have tried or have considered trying unproven therapies, reasons why the patients have not tried or would never consider trying unproven therapies, the sources(s) of information about the therapies, and the cost of the therapies that have been tried by the participants. Finally, the results of the ancillary analyses which examined the relationship between inclination to use and the variables of age, gender, marital status, and participants' perceptions of intent of treatment(s) will be reported.

Awareness of and Inclination to Use Unproven Cancer Therapies

Awareness of Unproven Cancer Therapies

The participants' awareness scores were derived

by adding the number of unproven cancer treatment methods about which they had heard. There were 27 unproven cancer therapies listed, and 10 additional spaces for the participants to write in any other therapies about which they were familiar. The awareness scores ranged from one to 13 ($\underline{M}$ = 5.925, mode = 5). Twenty-two subjects (55.0%) had heard of six or more unproven therapies while 18 subjects (45%) had heard of five unproven therapies or fewer. All forty subjects had heard of at least one of the therapies on the list (see Table III).

The participants were most familiar with faith healing (92.5%), laetrile (70.0%), and megadose vitamin therapy (65.0%). The first two columns in Table IV presents the total number of participants who had heard/not heard about each unproven cancer therapy on the list.

Inclination to Use Unproven Cancer Therapies

The study participants ranked themselves on a six-point inclination scale for each of the listed methods as well as any additional unproven therapies they added to the list. Eighteen subjects (45%) had actually tried an unproven therapy. Of these 18 subjects, two had tried a total of three

Table III

Awareness of Unproven Cancer Therapies Scores

Number of Therapies	Frequency	Percent
0	0	0
1	3	7.5
2	3	7.5
3	3	7.5
4	3	7.5
5	6	15.0
6	5	12.5
7	5	12.5
8	3	7.5
9	5	12.5
10	3	7.5
11	0	0
12	0	0
13	1	2.5
>14	0	0
Total	40	100.0

Table IV: Awareness of and Inclination to Use Unproven Cancer Therapies

	Have Heard Of	Have Not Heard Of	Have Tried	Have Considered Trying	Would Consider Trying at Sometime in Future	Have Not Tried	Have Not Considered Trying	Would Never Consider Trying
1. Laetrile	28	12	1	0	1	12	11	3
2. Grape Cure (grape diet)	8	42	0	0	1	2	2	2
3. Psychic surgery	23	17	1	0	0	3	6	8
4. Ozone generators	5	35	0	0	0	1	4	0
5. Carcin (neocarin or carzodelan)	2	38	0	0	0	1	2	0
6. Chaparral tea	8	32	0	0	2	3	3	0
7. Hoxey chemotherapy (Harry Hoxsey's Herbal Tonic)	3	37	0	0	0	1	2	0
8. Coffee enemas	4	36	0	0	0	1	2	2
9. Vibrating machines	7	33	0	0	0	2	4	0
10. Taheebo	7	33	3	0	3	1	2	0
11. Kelly Malignancy Index and Ecology Therapy	0	40	0	0	0	0	2	0
12. Krebiozen	3	37	0	0	0	0	3	1
13. Carrot juice diet	20	20	0	1	5	7	2	1
14. Greek Cure (Dr. Hariton Alivizatos)	0	40	0	0	0	0	2	0
15. Iscador	0	40	0	0	0	0	2	0
16. Orgone accumulators	1	39	0	0	0	0	1	0
17. Antineoplastons	0	40	0	0	0	0	2	0
18. Chacon	1	39	0	0	0	0	2	0

Table continued on page 62

Table IV: Awareness of and Inclination to Use Unproven Cancer Therapies (cont.)

	Have Heard Of	Have Not Heard Of	Have Tried	Have Considered Trying	Would Consider Trying at Sometime in Future	Have Not Tried	Have Not Considered Trying	Would Never Consider Trying
19. Comfrey	10	30	0	0	1	6	3	0
20. Diamethyl sulfoxide	3	37	1	0	0	3	2	0
21. Essiac	6	34	0	0	1	3	2	1
22. Faith Healing	37	3	3	0	1	13	8	9
23. Immunoagumentative Therapy (IAT)	2	38	0	0	0	1	3	0
24. Koch's treatment	0	40	0	0	0	1	2	0
25. Macrobiotic diets	11	29	1	0	1	3	2	1
26. Megadose vitamin ttherapy	26	14	4	1	9	5	5	1
27. Imagery	18	22	8	2	2	4	2	1
28. Are there any other methods of cancer treatment that you have heard of that have not been recommended to you by your doctor? If so please list them and answer the questions to the right of the double line concerning them								
1. Self Hypnosis			1					
2. Garlic			1					
3. Live cell therapy			1					
4. Naturopathic medicine			1					
5.								
6.								
7.								
8								
9.								
10.								

of the therapies on the list while two had tried a total of two therapies. The remaining 14 subjects had tried one unproven therapy only (see Table IV).

Two subjects (5%) had considered trying; and eight subjects (20%) indicated that they would consider trying an unproven therapy at some time in the future. Only two subjects (5%) indicated that they would **never** consider trying any of the unproven cancer therapies on the list.

According to Hiratzka (1985), inclination scores of four or higher indicate a strong inclination or a positive attitude toward the use of unproven cancer therapies (four - would consider trying some time in the future; five - have considered trying; six - have tried). In this study, 28 patients (70%) had a strong inclination toward such use.

There were 13 unproven cancer therapies which scored a four or higher on the degree of inclination to use scale (see Table IV). The most popular was imagery which eight people had actually tried and four who had either considered trying or would consider trying some time in the future. Megadose vitamin therapy, faith healing, and taheebo were the next three most popular therapies. Four participants

added the following unproven therapies to the list: self-hypnosis, live cell therapy, garlic, and naturopathic medicine. These four participants indicated that they had tried these additional therapies.

Belief in Control

Belief in control was measured by the MHLC scale. The Internal Locus of Control (ILOC) scores ranged from 14 to 36 with a median of 28, a mean of 27.63, and a SD of 5.44. The Chance (CLOC) scores ranged from 8 to 29 with a median of 18.00, a mean of 17.38, and a SD of 5.6. Powerful Other (PLOC) scores ranged from 7 to 36 with a median of 21.50, a mean of 21.75, and a SD = 7.39. Table V presents a summary of the MHLC scores and Table VI presents the median, mean, and standard deviation for the three subscales of the MHLC.

According to Wallston and Wallston (1981), scores greater than 18 on one subscale and lower than 18 on the other two subscales indicate a "pure" or strong locus of control orientation. In this study, examination of the individual scores on the three subscales of the MHLC (Appendix E) disclosed two interesting findings. First, 14 subjects had

Table V

Summary of the Multidimensional Health Locus of Control Scores

	Score	Frequency of Locus of Control		
		Internal	Chance	Powerful Other
	1-6	0	0	0
Low	7-12	0	10	3
	13-18	2	13	9
	19-24	9	13	15
High	25-30	14	4	6
	31-36	15	0	7
	Total	40	40	40

Table VI

Median, Mean, and Standard Deviation for the Multidimensional Health Locus of Control Subscales

	Locus of Control		
	Internal	Chance	Powerful Other
Median	28.00	18.00	21.50
Mean	27.63	17.38	21.75
Standard Deviation	5.44	5.60	7.39

high scores (>18) on both the ILOC and PLOC subscales, and two subjects had high scores (>18) on both the ILOC and CLOC subscales. Second, 13 subjects scored high (>18) on all three subscales. Therefore, in this study, there were nine "pure internals" and only two "pure externals".

Hypothesis 1: The cancer patient's degree of inclination to use unproven cancer therapies is positively associated with an internal locus of control.

The first hypothesis postulated in this study was that the degree of inclination to use unproven therapies is positively associated with an internal locus of control orientation. Spearman rank correlation coefficient was used to test this hypothesis. No significant correlation was found between inclination to use and internal locus of control (rho = 0.03, p = 0.42). In addition, no significant relationship was found between inclination to use and either Chance (CLOC) (rho = -0.09, p = 0.28) or Powerful Other (PLOC) (rho = -0.11, p = 0.23) orientations. The degree of inclination to use unproven cancer therapies was therefore not positively associated with an internal

locus of control orientation.

Commitment to Life

Commitment to life was measured by Crumbaugh's Purpose in Life scale (PIL). PIL scores ranged from 73 to 140 with a median of 116 and a mean of 112.65 (SD = 15.99) (see Table VII). Twenty-six subjects (65%) scored greater than 113 which indicates a definite purpose and meaning to life. Only six subjects (15.0%) scored less than 91 which indicates a lack of clear meaning and purpose in life. Eight subjects (20.0%) scored between 91 and 113 which represents a somewhat uncertain purpose in life.

Hypothesis 2: The cancer patient's degree of inclination to use unproven cancer therapies is positively associated with commitment to life.

The second hypothesis of this study proposed that the degree of inclination to use unproven therapies was positively associated with commitment to life (see Table VII). Spearman rank correlation coefficient was used to test this hypothesis. No significant correlation was found between inclination to use and commitment to life (rho = -0.10, p = 0.27). The degree of inclination to use unproven cancer therapies was not positively

associated with commitment to life.

Table VII

Purpose in Life Scores

PIL Score	Frequency	Percent
Low		
<72	0	0.0
73-91	6	15.0
Uncertain		
92-112	8	20.0
High		
113-140	26	65.0
Total	40	100.0

Supplementary Objectives

The supplementary objectives of this study were to explore the reasons why some cancer patients have tried or have considered trying unproven cancer therapies, and the reasons why others have not tried or would never consider trying unproven cancer therapies. In addition, this study investigated the participants source(s) of information about unorthodox cancer remedies, and assessed the cost of the therapies that have been tried by the subjects.

Reasons to Consider or Use Unproven Cancer Therapies

The subjects were asked to identify the reasons why they had considered or would consider using unproven cancer therapies. Ten of the eighteen participants who answered the question indicated that they would consider using an unproven therapy if their present treatment(s) did not work. One subject stated "when all other treatments have been tried and were unsuccessful, then I would try anything". Others used statements such as "if all else fails"; and "it's worth trying these treatments if nothing else can be done".

Fourteen participants who had tried an unproven therapy offered an explanation for the use. The three principal explanations were as follows:

1) six indicated it was a recommendation by others (family member, family doctor, nurse, television - "heard about it on Donahue").

2) four indicated that they believed in the unproven cancer therapy.

3) four used it as an adjunct to the current, traditional treatment; "I needed something more positive and it gave me control as well as knowing that I was getting good medical care".

Reasons Not to Consider or Use Unproven Cancer Therapies

The participants were asked to identify the reasons why they had not tried, had not considered or would never consider using unproven therapies. The reasons can be classified into two major categories: skepticism regarding the efficacy of the therapies, and lack of information about the therapies. Ten participants were skeptical, explaining that they "didn't believe they [unproven therapies] work". Six other participants stated that more background information on these therapies is needed before they would try any. It is interesting to note that only one subject indicated that he would not try any unproven cancer method "because I have faith in the medical profession".

Cost

Participants were asked to estimate the cost of the unproven therapies which they had used. Only nine subjects (50%) provided the cost of the unorthodox therapy. Two subjects indicated that there was no cost. The remaining seven indicated that the monthly cost of the therapy ranged from $20.00 to $400.00 (yearly cost range - $240.00 to

$4800.00).

The least expensive therapy was vitamin therapy. Three participants indicated that they had spent less than $600.00 per year on the vitamins. The most expensive therapies were those that required the help of a therapist. Two participants provided examples of this type of expenditure. The participant who spent $400.00 per month explained that this total price included the appointment with the therapist, the prescribed medications, and money spent on gasoline. The other participant spent $55.00 for each self-hypnosis and imagery session that was facilitated by a holistic practitioner.

Sources of Information about Unproven Cancer Therapies

This study asked the participants to indicate how they heard/learned about the various unproven cancer therapies. A list of sources was provided, and the participants were asked to check all that applied. The most common information source was the media (books, magazines, newspapers, radio/TV) (see Table VIII). Friends and relatives were the next most common sources of information about unorthodox treatments.

Table VIII

Sources of Information about Unproven Therapies

(N = 29)

Source	No. of Participants	Percent
Magazines	16	55.17
Radio/TV	15	51.72
Books	13	44.82
Friends/Relatives	13	44.82
Newspapers	12	41.38
Health food store	5	17.24
Family Dr.	5	17.24
Cancer Dr.	2	6.90
Nurse	2	6.90
Other (Naturopath)	1	3.45
Mail Order	0	0.00

Doctors and nurses were not customary sources of information about unproven cancer therapies. Only two participants indicated that they had heard about imagery from a nurse. Family doctors and oncologists, although seldom regarded as sources of information, usually provided information about therapies such as vitamins, imagery, and diets.

Ancillary Analyses

The variables of age, gender, marital status, and participants' perception of intent of treatment(s) were correlated with the degree of inclination to use unproven cancer therapies in order to identify any relationships among these variables. Ancillary analysis was also performed to investigate the relationship between awareness of unproven therapies and the degree of inclination to use, and the relationship between awareness of unproven therapies and belief in control.

Spearman rank correlation coefficient was used to examine the relationship between age and the degree of inclination to use. A significant negative correlation (rho = -0.28, p = 0.04) was found between age and inclination to use unproven cancer therapies. The younger subjects were more apt to have a stronger inclination to use unorthodox cancer treatments than the older subjects.

The degree of inclination to use unproven therapies was crosstabulated by gender and marital status. Nineteen of the 26 male patients (73%) and nine of the 14 female patients (64%) had a strong inclination to use unproven treatments. There

appeared to be no significant difference in inclination to use unproven cancer remedies because of gender.

Of the 30 married patients, 19 (63.3%) demonstrated a strong inclination to use unorthodox cancer treatments. In fact, 13 married patients (43.3%) had used an unproven therapy. All the divorced (N = 7) and widowed patients (N = 2) were inclined to use an unproven therapy. Four divorced patients (57.1%) and one widowed patient (50%) had actually tried an unproven cancer remedy. However, due to small cell size, no statistical analysis was performed.

In this study, 30 subjects (75%) believed that their cancer was curable, and 14 (35%) believed that their oncologist had told them that their cancer was curable. Crosstabulation of the degree of inclination to use unproven therapies and the patients' belief that their cancer was curable indicated that of the 30 patients who believed that their lung cancer was going to be cured, 21 (65%) had a strong inclination to use unproven cancer therapies. Spearman's correlation coefficient was computed to determine if there was a relationship

between patients' belief in cure and inclination to use unproven therapies. No significant relationship was found (rho = 0.05, p = .38).

Spearman's correlation coefficient was computed to determine the association between awareness of unproven therapies and the degree of inclination to use these therapies. Although not significantly related, the association between awareness and degree of inclination approached a level of significance (rho = 0.25, p = 0.059).

Spearman rank correlation coefficients were also computed between belief in control and awareness of unproven cancer therapies. No significant correlation was found between awareness and any of the three locus of control orientations, although the association between awareness and PLOC approached a level of significance (ILOC: rho = 0.18, p = 0.13; CLOC: rho = -0.18, p = 0.13; PLOC: rho = -0.23, p = 0.07).

Discussion of the Results

The discussion of the results will take place under six major headings: characteristics of the sample, awareness and inclination to use unproven therapies, belief in control, commitment to life, and

the relationship of belief in control to inclination to use, and the relationship of commitment to life to inclination to use unproven cancer therapies. In addition, discussion will address the findings of the supplementary research objectives and ancillary analyses. The results of this study will be discussed in relation to theoretical expectations, other research studies, and the methodological problems inherent in the study.

Characteristics of the Sample

The small sample size, the convenience method of sampling, and the investigator's inability to access the radiotherapy follow-up clinic may have resulted in a sample that was not representative of the population of lung cancer patients who are currently attending the ambulatory care department at the A. Maxwell Evans Clinic at the Cancer Control Agency of British Columbia in Vancouver.

According to the Canadian Cancer Statistics (1988) the ratio of new cases of lung cancer (male/female) in Canada is 2.5:1 (number of new cases: male - 11,200 and female - 4,200). Therefore, with respect to gender, the sample of this study appears to approach the national trend

(study ratio - 1.9:1).

The Province of British Columbia Division of Vital Statistics Annual Report (1987) provides data which illustrates that even though death by lung cancer increases with age (>60 years - total deaths = 1149; <60 years - total deaths = 281), lung cancer is a neoplasm that is indiscriminate of age. The sample in this study reflects this proclivity, 18 subjects (45.0%) were under 60 years of age, and 22 subjects (55.0%) were over 60 years of age. Therefore, with respect to age, the sample of this study appears to be representative of the population of lung cancer patients in British Columbia.

Awareness of and Inclination to Use Unproven Cancer Therapies

This section will discuss the findings related to the participants' awareness of and degree of inclination to use unproven cancer therapies.

Awareness of Unproven Cancer Therapies

Awareness of unproven cancer therapies scores were found to range from 1 to 13 (M = 5.9, mode = 5). These findings were not surprising. This researcher believes that many cancer patients have access to an information network (i.e. medical literature, health

care professionals, organizations, media, health fairs), and consequently, are aware of at least five unproven therapies.

Hiratzka (1985) reported similar results: her study found that awareness scores ranged from none to 14 therapies. In this study, 22 subjects (55.0%) had heard of six or more unproven remedies while 18 subjects (45.0%) had heard of five therapies or fewer. These results were compared to the findings in Hiratzka's (1985) study. Hiratzka reported that over 50% of her study sample (N = 125) had heard of three or fewer unproven therapies while only six percent had heard of over five methods. One possible explanation for the different findings is that subjects in Hiratzka's study had fewer unproven therapies (N = 16) from which to choose while this study provided the subject with a list of 27 unproven therapies.

This study found that the participants were most familiar with faith healing (92.5%), laetrile (70.0%), and megadose vitamin therapy (65.0%). Likewise, Faw and colleagues (1977) discovered that laetrile and faith healing were named more often then any other individual therapy. Hiratzka (1985)

reported that 69% of her sample had heard about laetrile but only three subjects added vitamin therapy to Hiratzka's list of unproven therapies. In addition, no one in Hiratzka's study identified faith healing as an alternative therapy. The three therapies that were recognized most frequently by the participants in Hiratzka's study were (in descending order of frequency): laetrile, Greek cure, and carrot juice diet.

Obviously, faith plays a significant role in the cancer experience since so many patients are familiar with faith healing. Holland (1982) states that the prospect of uncontrollable or recurrent disease often produces a sense of helplessness and hopelessness, and consequently, many cancer patients "have a comforting belief that God or some philosophical benevolent force will protect them,...they will be miraculously saved" (p.11). Testimonials claiming that pure, simple faith cured cancer make faith healing and the healing powers of spiritualists irresistible to many cancer patients.

It is also apparent that laetrile, which has been promoted since the early 1900s but remains illegal in Canada, is still a "cause celebre"

(Janssen, 1979). Inglefinger (1977) contends that denunciation or prohibition of laetrile "will only swell the ranks clamoring for this extract of apricot pits. Forbidden fruits are mighty tasty, and especially to those who hope that a bite will be life-giving" (p.1168).

Although faith healing and laetrile continue to be two well-known unorthodox cancer remedies, differences in awareness of other unproven therapies are evident. Two possible explanations for these differences are:

1) the popularity of specific unproven therapies changes over time and consequently, the therapies that participants in Hiratzka's 1985 study recognized may not be "in vogue" in 1989.

2) the popularity of certain unproven therapies may depend on their accessibility and availability. Thus individuals living in different countries, states, or provinces may be more cognizant of those therapies that are readily attainable within their geographical region.

Inclination to Use Unproven Cancer Therapies

In this study, 28 subjects (70%) exhibited a strong inclination to use unproven cancer therapies.

In fact, 18 participants (45%) had actually tried an unproven therapy. Furthermore, eight subjects (20%) indicated that they would consider trying, and two other subjects (5%) had considered trying unproven cancer treatments. These findings were not surprising. From past experience in caring for cancer patients, this researcher believes that over 50% of cancer patients have tried or at least considered trying an unorthodox cancer treatment at some time during the course of their disease.

This study found that 45% of the study participants had tried some type of unproven therapy. This finding can be compared to the findings obtained by Cassileth and colleagues (1984). Of the 325 patients studied by Cassileth and colleagues, 54% were using unorthodox treatments as well as receiving conventional treatments.

In contrast to the finding of this study concerning the use of unproven therapies, Eidinger and colleagues (1984) found that only seven percent of their study participants (N=315) had tried some type of unproven cancer remedy. Hiratzka (1985) reported that 11% of study participants in her study (N=108) had tried an unorthodox cancer treatment.

There are two possible explanations for the difference in findings between this study and the above two studies. First, the subjects in the studies by Eidinger and colleagues (1984) and Hiratzka (1985) had fewer unproven therapies from which to choose - the former listed only three therapies and the later listed 16 unproven cancer therapies. This study provided the subjects with a list of 27 unproven cancer therapies. Second, the studies by Eidinger and colleagues (1984) and Hiratzka (1985) surveyed patients with different types of cancer while this study's participants were all diagnosed with lung cancer. It is possible that patients with different types of cancer and therefore, different prognoses may have dissimilar opinions about the need to try unproven therapies. For example, patients with Hodgkins disease who are told their cancer has a 95% cure rate may be less likely to try an unproven therapy than those patients who are told they have an oat cell lung cancer and less than a 50% chance of surviving beyond one year from the time of diagnosis (Spiro, 1988, p.165).

Mooney (1987) also found a low percentage of

users in her study: only 18% of patients with metastatic disease (N = 71) had used some form of unconventional therapy. One explanation for the difference between Mooney's study and this study is plausible. The subjects in Mooney's study were inpatients in an acute care hospital and consequently, access to and/or opportunity to use unproven cancer remedies may have been limited. The subjects in this study were outpatients and therefore, unproven cancer therapies were undoubtedly easier to access and use.

This study found that 70% of the participants exhibited a strong inclination to use unproven cancer therapies. Similar to this finding, Eidinger and colleagues (1984), who asked 315 cancer patients "if different kinds of treatments, eg. laetrile, etc., were available here [Saskatoon] would you try them?", reported that 70% of patients said that they would consider taking one of the forms of unconventional therapy.

Although pediatric oncology is not particularly comparable to adult oncology, the study by Faw and colleagues (1977) does provide some valuable insights into the use of unproven cancer therapies. Their

study (1977) found that 39.1% of 69 pediatric oncology patients had tried, considered trying, or were recommended by significant others to try unproven cancer remedies.

In contrast to the findings of this study concerning the degree of inclination to use, Hiratzka (1985) reported that only 27% of the subjects in her study had a strong inclination to use unproven cancer therapies. One possible explanation for the different findings is that subjects in Hiratzka's study had fewer unproven therapies from which to choose and consequently, the therapies that the subjects may have been inclined to use were not listed.

Although physicians' attitudes were not explored in this research study, the subjects offered their perceptions regarding their physicians' attitudes toward the use of unproven cancer therapies. On numerous occasions during this study, many subjects shared with the researcher their frustration in dealing with doctors (and nurses) who refuse to acknowledge the existence of users or potential users of unproven cancer therapies. Ten subjects believed that their doctors vehemently opposed their use of

these therapies. In addition, 16 subjects expressed concern that the current issues surrounding the use of unproven therapies were often completely ignored by the health care professionals. The researcher was accustomed to hearing these comments from other cancer patients encountered during her clinical experience. However, recent literature indicates that doctors are becoming interested in discovering the scope of alternative treatment methods. Reilly (1983) surveyed 100 young interns in family practice with regards to their attitude toward alternative medicine. Eighty-six had a positive attitude toward alternative medicine, and of these, 31 had referred patients for such treatment and 12 had made referrals to nonmedically qualified practitioners. Furthermore, Lister (1983) reported that 60.0% of unorthodox practitioners in his sample were physicians; and 30.0% of patients' conventional physicians supported the use of alternative treatments.

It is obvious from the results of this study and previously conducted studies that the use of alternative cancer therapies is indeed an issue for cancer patients. Many patients are users or

potential users of unproven cancer therapies even though the verdict concerning the efficacy of unproven treatments has not been reached.

Belief in Control

Lazarus and Folkman (1984b) stipulate that "people vary in the extent to which they believe they can control their fate, and that this in turn affects their appraisal of threat and their efforts to cope,..." (p.299). The results of this study showed that the majority of the study participants exhibited an internal locus of control orientation. The ILOC scale had the highest mean of all three orientations. This finding is consistent with findings obtained in studies by Dodd (1983), Taylor and colleagues (1987), and Dirksen (1989). All of these studies found that the locus of control orientation in cancer patients tended toward internality. These findings imply that these cancer patients perceive the events that happen to them as being under their control.

Examination of the individual scores on the three subscales of the MHLC disclosed that 16 subjects (42.1%), who scored high on the ILOC subscale, also scored high on either the PLOC or CLOC subscale.

These individuals were not "pure internals" but exhibited both strong internal and external locus of control orientations. Therefore, this finding implies that these cancer patients perceive the events that happen to them as being not only under their control but also under the control of others, or a matter of chance or fate.

The findings of this study concerning belief in control can be compared to studies by Brandt (1987) and Hilton (1987). Brandt (1987) found that the locus of control for 31 women receiving chemotherapy for breast cancer indicated a tendency toward externality not internality. These "externals" felt a sense of hopelessness, and believed that their actions would not change the outcome of their treatment. Hilton (1987) reported that most of the breast cancer patients in her study (N=227) felt they had little control over the cause of their cancer, and that they could not have prevented the growth of their cancer. Nonetheless, the women in Hilton's study did feel they had control over recurrence and the course of their disease.

The Relationship Between Belief in Control and the Degree of Inclination to Use Unproven Cancer Therapies

In this study, no significant correlation was found between the degree of inclination to use and internal locus of control (ILOC) orientation (rho = 0.03, p = 0.42). This finding was unexpected because the literature reports that cancer patients' need for personal control is often an important factor in their decision to try an unproven therapy. In addition, the researcher's past experience in caring for cancer patients led the researcher to believe that patients who judged themselves masters of their own destiny were more apt to consider using or use unproven cancer therapies.

Only one study was found in the literature that challenges the above findings. Hiratzka (1985) found a significant relationship between internal locus of control and inclination to use unproven therapies. Her study concluded that the higher ILOC score the more likely a positive attitude existed toward using unproven therapies.

The unexpected results of this study may be understood by examining the determinants of coping

put forth in the conceptual framework that was utilized in this study (Lazarus & Folkman's theory of stress, appraisal, and coping, 1984). According to this theory, belief in personal control is always embedded in a particular context of commitments and situational demands, resources, and constraints (Lazarus & Folkman, 1984, p.301). Perhaps the cancer patients in this study, influenced by other person factors such as past experience, education, and socialization, their present health status, and/or situation factors such as the availability of social networks and support systems, appraised their cancer situation as either a threat or a challenge. Consequently, regardless of their belief in personal control, other person and/or situation factors significantly effected the appraisal process and justified the coping option of inclination to use unproven therapies. Finally, the use of these therapies was viewed as a viable coping strategy since it might alter the outcome of the participants' disease.

Although 95.0% of the study participants exhibited an internal locus of control orientation, only 24.0% (9 subjects) were strongly internal. The

other 76.0% demonstrated that they were similar in strength on all three locus of control orientations or that they tended toward externality. Consequently, these individuals cannot be labelled "pure internals". These findings may help to explain the lack of significant correlation between internal locus of control and inclination to use unproven cancer therapies. It is possible that some internals who tended toward externality considered their cancer situation so stressful that their own ability to control their disease was inadequate. Consequently, they believed that powerful others and/or chance had some control over their cancer situation. As a result of this belief, these individuals may have viewed the use of unproven therapies as unwarranted.

Although not statistically significant, low negative correlations were found between the degree of inclination to use and Chance (CLOC) (rho = -0.09, p = 0.28) and Powerful Others (PLOC) (rho = -0.11, p = 0.23) locus of control orientations. The more the study participants tended toward externality the less likely they were inclined to use unproven cancer therapies. Three explanations for this finding are possible. First, the "externals" may cast the

cancer physician in the role of powerful other and the oncologist may not approve of alternative therapies. Second, the individuals who tended toward externality may perceive the conventional treatment(s) as external forces rather than themselves and consequently, the use of unproven cancer therapies was unwarranted. Finally, the "externals" may believe that the consequences of their lung cancer were beyond their control, a matter of fate, and thus, the use of unproven cancer therapies was futile since it would ultimately not alter the disease outcome.

The lack of variance between the PLOC and CLOC subscales indicates that there was little variability of scores within these two subscales with regards to their inclination to use unproven cancer therapies. This finding suggests that it did not matter if these participants believed that their cancer situation was "in the hands of God" or fate, or under the control of powerful others - the use of unproven cancer therapies was not considered a realistic coping option.

Commitment to Life

According to the conceptual framework used in

this study, the person factor of commitments expresses what has meaning for the individual and is an antecedent to cognitive appraisal (Lazarus & Folkman, 1984). In this study, 26 subjects (65%) scored greater than 113 on the Purpose in Life scale which indicates a definite purpose and meaning to life. Hilton (1987) also found that 65.0% of the subjects in her study had a definite purpose and meaning in life. In addition, many popular books about the cancer experience (Simonton et al., 1974; Cousins, 1979; Dosdall, 1986; Siegal, 1986) affirm that having a purpose in life or a "will to live" is essential to survival and to sustaining a quality of life.

Only six subjects (15.0%) scored less than 91 which indicates a lack of clear meaning and purpose in life. Three reasons for this lack of clear meaning in life are plausible. First, some of the participants may be unable to cope with the side effects of treatment or with the many disturbing emotions such as depression, fear, despair and self-pity that they have experienced since being diagnosed with lung cancer. As a result of this inability to cope, hopelessness and helplessness ensues, and life

becomes meaningless. Second, 11 subjects stated that they were told by their cancer doctor that their disease was not curable and consequently, believing that death from their neoplasm was inevitable, some may have lost their "will to live". Third, even though 30 participants (75%) believed that their cancer was curable, 13 participants (32.5%) were uncertain if their oncologist had divulged any information about the prognosis of their disease. Thus, regardless of their personal beliefs, the lack of communication with their physician about their prognosis may have caused some subjects to appraise their future as uncertain, lacking clear direction and purpose.

The Relationship Between Commitment to Life and the Degree of Inclination to Use Unproven Cancer Therapies

A significant correlation was not found between commitment to life and the degree of inclination to use unproven cancer therapies. This finding was unexpected because the researcher's past experience in caring for cancer patients revealed that patients who set future goals and had "something to live for" were more apt to investigate various types of

unproven cancer therapies. Since this relationship has not previously been systematically explored, there is no way of comparing the results of the correlational analysis obtained in this study. However, it is again possible that, regardless of the person factor of commitment to life, the coping option of inclination to use unproven therapies was viewed as beneficial and realistic because use might change the disease outcome.

Supplementary Objectives

In this section, discussion will focus on the supplementary objectives of this study: the types of unproven therapies inclined to be used or used by the study participants, the source(s) of information, and the cost of the unorthodox cancer treatment methods that were used. In addition, ancillary analyses between the variables of age, gender, marital status, and participants' perceptions of intent of treatment(s) and awareness of and/or inclination to use unproven cancer therapies will be discussed.

Types of Unproven Cancer Therapies Inclined to be Used or Used by Cancer Patients

In this study, there were 13 unproven cancer therapies which scored a four or higher on the degree

of inclination to use scale. The most popular was imagery which eight people had actually tried and four who had either considered trying or would consider trying at some time in the future. Megadose vitamin therapy, faith healing, and taheebo were the next three most popular therapies.

This researcher was surprised that more people had not tried imagery considering the attention and support that this therapy is receiving from both the public and the medical community. Many popular books (Simonton et al., 1974; Pelletier, 1977; Fiore, 1981; Benson, 1984; Achterberg, 1985; Glassman, 1984; Dosdall, 1986; Siegal, 1986; Rossman, 1987) advise patients to use imagery, visualization, and relaxation as positive coping strategies void of side effects.

Numerous scientific inquiries (Redd, Anderson, & Minagawa, 1982; Morrow & Morrell, 1982; Lyles, Burish, Krozely, & Oldham, 1982; Scott, Donahue, Mastrovito, & Hakes, 1983; Cotanch, Hockenberry, & Herman, 1985; Cotanch & Strum, 1987) have identified the efficacy of imagery, visualization, and relaxation in reducing and/or controlling the adversiveness of cancer treatments and disease

symptoms.

There are three possible explanations for the limited use of imagery. First, there continues to be conflict surrounding the use of imagery at CCABC. For instance, the nursing department at CCABC has recently initiated an instructional program in relaxation and imagery designed for groups even though a CCABC library manual emphatically states that the Simonton method which involves relaxation and mental imagery is a definite risk. The manual of unproven methods of cancer treatment, which was put together by clinic staff, claims that patients who use imagery might abandon orthodox medical treatment even though they are discouraged from doing so by the staff at the Centre (p.61). Second, although individual health care professionals promote imagery as an adjunct to conventional treatments, it is costly in relation to time. Many health care providers, during the course of a busy day, do not have the time to instruct individual patients in imagery's proper use. Third, the majority of the participants in this study (57.5%) were not currently receiving any conventional treatment(s). Consequently, some patients who viewed imagery as

adjunctive therapy may no longer consider it as necessary because the conventional treatment(s) had been discontinued.

The therapies which were commonly used in this study were also reported by other researchers. Faw and colleagues (1977) identified faith healing as a frequently used alternative therapy. Cassileth and colleagues (1984) listed six types of unorthodox treatments that emerged as commonest among patients studied. In descending order of frequency of use these were: metabolic therapy, diet therapies, megavitamins, mental imagery, spiritual or faith healing and "immune" therapy (eg. autogenous vaccines). Eidinger & Schapira (1984) found that vitamins and special diets were considered by the study participants to be effective in curing cancer. Hiratzka (1985) reported that the six most frequently tried unproven remedies were (in descending order): Greek cure, vibrating machines, laetrile, coffee enemas, vitamin therapy, and chaparral tea.

These results indicate that today's alternative treatments are anti-medicines. Cassileth (1982) states "[Alternative therapies] are anti-medicines,

emphasizing purification through dietary regimens, detoxification and internal cleansing, or mind control" (p.1482). In addition, the commonly used therapies are natural, nontoxic, personalized, home-based alternatives that require active participation by the patient. Cassileth (1982) proposes that something can be learned by examining the frequent use of these nontoxic, natural therapies. He concludes that:

> "We [physicians] may not wish to recommend wheatgrass or spiritual healing in lieu of chemotherapy, but we might well consider the merits of patients' needs for involvement in their own care, their interest in helping themselves through attention to diet, their requirements for personalized attention to the self as opposed to the disease,..." (p.1484).

While many authors (Inglefinger, 1977; Burkhalter, 1977; Brown, 1978; Lehrer, 1979; Patrick, 1981; Holland, 1982; Glymour & Stalker, 1983) support the need for more active participation by the patient in health care, they argue that there is no such thing as a safe, "nontoxic therapy". They present case studies in which patients suffered physical,

irreparable harm from vitamin overdose, internal detoxification, and from following grueling dietary regimens. Furthermore, these authors stress that many patients, who assume responsibility for their well-being which they believe is mediated by their own behaviour and thoughts, must also assume the additional burden of guilt, they are responsible for having become ill.

Sources of Information about Unproven Cancer Therapies

This study found that the media (books, magazines, newspapers, radio/TV) was the most common information source for the participants. Friends and/or relatives were the next most common sources of information about unorthodox treatments. Hiratzka (1985) also found the media to be the most frequent source of information about unproven methods with friends and/or relatives ranking second. Faw and colleagues (1977) found that well-meaning friends and relatives were most often named by patients as those who recommended these remedies. From these results, it is obvious that, depending upon the individual's opinion about the use of unproven cancer therapies, the media and patients' significant others may be

either friend or foe!

Cost

Seven patients indicated that the monthly cost of the unproven cancer therapy ranged from $20.00 to $400.00 (yearly cost range - $240.00 to $4800.00). Only one study was found in the literature that examined the cost of alternative treatments. Cassileth and colleagues (1984) reported that the cost of these therapies was relatively modest, with most people spending under $1000.00 for the first year of treatment. However, they did find that some patients were paying more than $5000.00 per year for certain therapies such as diets, megavitamins, metabolic regimens, and "immune" therapy. In fact, it has been estimated that the public spends in excess of two billion dollars annually on unorthodox cancer treatments (Gardner, 1980; CCABC, 1987).

Fortunately for the participants in this study who were users of unproven therapies, the cost of the therapies was modest. Nevertheless, the use of specific unproven therapies can be expensive. This expense may become a economic hardship for many cancer patients.

Ancillary Analyses

Ancillary analyses focused on the relationships between the variables of age, gender, marital status, and participants' perceptions of intent of treatment(s) and awareness of and/or inclination to use unproven cancer therapies.

In this study, a negative correlation was found between age and the degree of inclination to use unproven therapies ($r = -0.28$, $p = 0.04$). The younger lung cancer patients were more apt to consider or to try an unorthodox therapy. This strong inclination to use unproven cancer therapies by young individuals was also found by Faw and colleagues (1977) in their study of 69 pediatric oncology patients. These researchers found that 27 patients (39.1%) had tried, considered, or received recommendations to try unproven remedies. In contrast to these findings, Hiraztka's study (1985) did not find any significant difference in the degree of inclination to use unorthodox treatments among the three age groups in her sample (range - 20 to >60 years).

It is apparent that the significance between age and propensity to use alternative cancer treatments

remains debatable. Nonetheless, as people are educated in health promotion and disease prevention, young persons are becoming more aware of the role of exercise, nutrition, heredity, personality, environment, and lifestyle in the maintenance of well-being and in the provision of health care to the whole person. In addition, many authors (Pelletier, 1977; Fiore, 1981; West & Inglis, 1983; Benson, 1984; Achterberg, 1985; Wurtman, 1986; Dosdall, 1986; Siegal, 1986; Rossman, 1987) suggest that the public is beginning to drift away from the medical establishment, with increasing belief in alternative medicine, because physicians employ a purely scientific approach to health/illness. Cassileth (1982) maintains that interest in alternative treatments "arises in the context of increasing mistrust and dissatisfaction with the standard health-care system and with researchers' failure to cure malignant disease" (p.1483). Glymour and Stalker (1983) argue that the increasing public support of alternative medicine "...is no reason to take its claims seriously; superstition, self-deception, stupidity, and fraud are ubiquitous and always have been" (p.962). This negative view of

unproven therapies is supported by many health care professionals.

Another finding of this study was that 30 subjects (75%) believed that their cancer was curable. This belief in cure was not surprising considering that the majority of participants had a strong commitment to life, a strong "will to live". However, a significant relationship was not found between intent of treatment(s) (cure versus palliative) and inclination to use. This finding suggests that the participants' belief in cure was not a factor related to inclination to use unproven cancer therapies.

Summary

This chapter began with a report of the demographic and health characteristics of the study's sample. The majority of the sample (57.5%) were not receiving any current conventional treatment(s) but were being followed by their clinic physician. Only 12 patients (30.0%) were undergoing active treatment(s) while five patients (12.5%) were being palliated with medications for either disease progression or recurrence.

Overall, the majority of participants in this

study had heard of at least five unproven cancer therapies, and exhibited a strong inclination to use unorthodox cancer remedies. The most commonly used therapies were anti-medicines - imagery, megadose vitamin therapy, faith healing, and taheebo.

Although the majority of study participants exhibited an internal locus of control orientation and a strong commitment to life, significant correlations were not found between belief in control, commitment to life, and the degree of inclination to use unproven cancer therapies. The conceptual framework used in this study, Lazarus and Folkman's theory of stress, appraisal and coping (1984), was useful in explaining these unexpected findings. The theory suggests that other factors such as the cancer situation, the participants' environmental resources, and coping constraints may prompt many patients to view use of unproven therapies as a viable coping option. Consequently, the use of unproven therapies becomes an acceptable coping strategy.

Subjects offered three explanations for the use of these unorthodox cancer methods. These explanations were: the therapy was recommended to

them; they believed in the efficacy of the therapy; and the therapy was an adjunct to the conventional treatment(s) they were receiving.

Twelve patients (30.0%) demonstrated a minimal degree of inclination to use unproven cancer treatments. These individuals were skeptical about the effectiveness of the therapies, and maintained that more scientific information was imperative before they would consider trying any of the therapies on the list.

The cost per month for these therapies ranged from zero to 400 dollars. The media and friends and/or relatives were the two most common sources of information about the unproven cancer therapies.

A negative correlation was found between inclination to use unproven therapies and age. The younger cancer patients were more apt to have a strong inclination to use unorthodox cancer remedies.

The results of this study indicated that the use of unproven cancer therapies is indeed an important issue for many cancer patients. The findings of the study were discussed in relation to the conceptual framework, other research studies found in the literature, and the methodological problems inherent

in the study.

CHAPTER FIVE

Summary, Conclusions, Implications, and Recommendations

Introduction

This study was designed to explore the association between belief in control, commitment to life, and the degree of inclination to use unproven cancer therapies. In addition, the study examined the various reasons why some people considered using and/or used unproven therapies while others were non-users. An overview of the study is presented in this chapter followed by conclusions, and implications for nursing practice, research, education, and theory.

Summary

A review of the literature suggests that a cancer patient's belief in personal control and commitment to life may influence quality of life, feelings of well-being, length of survival, and the degree of inclination to use of unproven cancer therapies. Only one study was found that explored the relationship between belief in control and the degree of inclination to use unproven therapies. Hiratzka (1985) reported that cancer patients who

exhibited an internal locus of control orientation were inclined to use unorthodox cancer remedies. Research has not addressed the association between commitment to life and the degree of inclination to use unproven cancer therapies. Therefore, this study was designed to address the gaps identified in the literature.

This descriptive and correlational study was conducted in Vancouver, British Columbia. Data were collected from a convenience sample of 40 lung cancer patients who were currently attending the ambulatory care department at the A. Maxwell Evans Clinic at the Cancer Control Agency of British Columbia.

All subjects completed Wallston's Multidimensional Health Locus of Control Scale (MHLC), Crumbaugh's Purpose in Life Scale (PIL), Hiratzka's Alternative Therapy Scale (ATS), and a patient information sheet. Limited data were also gathered from the participants' medical records. The data were analyzed using descriptive statistics and nonparametric statistical tests.

Twenty-six subjects were male and 14 subjects were female. Ages ranged from 34 to 79 ($\underline{M}$ = 60) years. The majority of the participants (75.0%) were

married. The number of months since diagnosis ranged from 1.5 to 50.0 months with the majority of subjects being six months or less from initial diagnosis. The largest percentage of subjects (55.0%) had clinical evidence of metastatic disease at the time of diagnosis. All 40 subjects had a history of smoking.

Twenty-three subjects (57.5%) were not receiving any current treatment(s) but were being followed by their clinic physician. Only 12 subjects (30.0%) were undergoing active, conventional treatment(s), and five (12.5%) were being palliated with medications for either disease progression or recurrence. Fifty-five percent of the subjects had been treated previously with both chemotherapy and radiotherapy for their neoplasm. Time since previous treatment(s) ranged from 1 to 46 months ($\underline{M}$ = 10.7).

The participants awareness of unproven cancer therapies scores ranged from 1 to 13 (mode = 5). From the list of 27 therapies, 22 subjects (55.0%) had heard of six or more of the therapies on the list. The therapies most frequently heard about were faith healing, laetrile, and megadose vitamin therapy. The media and friends and/or relatives were

the most common sources of information about unproven cancer treatment methods.

Seventy percent of the sample exhibited a strong inclination to use unproven cancer therapies. In fact, 45 percent (28 subjects) had actually tried one or more unproven therapy.

There were 13 unproven therapies which the participants were inclined to use. Imagery was the therapy that the participants most often used or considered using, followed by megadose vitamin therapy, faith healing, and taheebo. These alternatives can be classified as anti-medicines which are natural, nontoxic, and require active participation by the patient. A trend toward anti-medicines was reported in the literature.

The results of this study showed that the majority of the study participants exhibited an internal locus of control orientation. However, 29 out of the 38 subjects who were internally locused also exhibited a strong external locus of control orientation. Therefore, it appears that these cancer patients saw themselves as well as others or fate controlling their cancer situation rather than themselves alone or others alone.

No significant correlation was found between an internal locus of control orientation and inclination to use unproven therapies. This finding suggests that an internal locus of control orientation is not related to inclination to use unproven cancer therapies. Furthermore, the lack of significant correlation may be related to the finding that many internals tended toward externality. These "internal-externals", faced with the stress of cancer, may have viewed their ability to control their cancer situation as inadequate. As a result, they may have believed that God, fate, or powerful others also had some control in their situation. This belief may have caused these "internal-external" individuals to consider the use of unorthodox cancer remedies as unnecessary.

The results of this study showed that the majority of the participants exhibited a strong commitment to life. Undoubtedly, this strong commitment to life influenced their belief in cure: 75% of the participants believed that their cancer was curable. However, no significant associations were found between commitment to life, belief in cure, and inclination to use. These finding suggests

that the participants' "will to live" or commitment to life was not related to their inclination to use unproven cancer therapies.

Lazarus and Folkman's (1984) theory of stress, appraisal, and coping was utilized to explain the lack of significant associations between the degree of inclination to use unproven therapies, belief in control, and commitment to life. The theory suggests that other factors such as the cancer situation, the availability of support networks, and various coping constraints may motivate some cancer patients to perceive use of unproven remedies as a viable coping strategy.

A significant negative correlation was found between age and inclination to use unproven therapies and age (rho = -0.28, p = 0.04). The younger participants were more inclined to use unproven cancer therapies.

Conclusions

Due to the small sample size, the researcher's inability to access lung cancer patients attending the radiotherapy follow-up clinic, and the non-random nature of the sampling procedure, the results of this study cannot be generalized. However, the findings

of this study suggest some similarities, differences, and trends.

Overall, lung cancer patients are cognizant of several unproven cancer therapies and exhibit a strong inclination to use such therapies. As a result, many consider trying or try various unorthodox treatments. Age seems to be associated with inclination to use in that the older lung cancer patients are less likely to try an unorthodox cancer therapy. However, an internal locus of control, belief in cure, and a strong commitment to life do not appear to be factors related to inclination to use unproven therapies. The degree of internality and other factors such as the cancer experience, the presence of support systems and other environmental resources, as well as coping constraints may prompt some cancer patients to view the use of unorthodox cancer methods as a viable and realistic coping option. This perspective may lead some patients to try some type of unproven cancer therapy as a coping strategy.

Implications for Nursing Practice

The findings of this study suggest five major implications for nursing practice. First, nurses are

often involved in the implementation of educational, supportive, and rehabilitative programs to cancer patients and to the community. Traditionally, the approach to these programs has not incorporated discussions about the use of unproven cancer remedies despite the fact that many cancer patients view the use of these therapies as acceptable. Thus, educational programs should provide factual information and clarify misconceptions about the various treatments that have not been approved through scientific means. Moreover, educational approaches must recognize, encourage, and incorporate an active, participative role for patients, especially young patients, and their significant others in the learning process.

Second, the nursing process must focus on assisting the individual to cope with the chronicity of the disease. Nursing assessments must determine the patient's understanding of cancer and its treatments, both conventional and alternative. Care planning and interventions must concentrate on the whole person. Attention to all aspects of the person and active participation are important characteristics of many popular alternative

treatments. Therefore, nursing care designed to care for the whole person ensures personalized care, and promotes active participation of the patient in decision-making and care planning. As a result, the appeal of the unorthodox practitioner may be reduced (Burkhalter, 1978), and/or the person's quality of life may improve regardless of the treatment method(s) chosen.

Third, newspapers and magazines, television talk shows, and news reports could be used by the nursing profession to keep the public informed of the benefits of conventional cancer care as well as the negative and positive aspects of alternative cancer treatments. In addition, use of the media could be an excellent way for the nursing profession to keep the community informed of the appropriate and correct use of unproven cancer remedies.

Fourth, nurses need to communicate to other nurses, cancer patients, and the general public the details surrounding the use of popular alternative methods and the promoters of unorthodox treatments. Receipt of information reduces ambiguity, mystery, and secrecy (Patrick, 1981). Likewise, nurses need to be able to communicate to physicians the patients'

questions and concerns about both orthodox and unorthodox cancer treatment methods. As patient advocates, nurses may be helpful in eliminating or diminishing the patients' feelings of guilt, uncertainty, self-blame, and confusion that often surround the use of unproven therapies. Consequently, trust and support in making informed choices may increase, and the need to seek unproven alternatives may decrease (Patrick, 1981). Moreover, nurses who are knowledgeable about the popular therapies will be in a better position to educate the public on the dangers inherent in using certain therapies, and to lobby the government to legislate against legalizing potentially harmful unproven therapies.

Finally, on numerous occasions during this study, many patients shared with the researcher their frustration in dealing with health care providers who refuse to acknowledge the existence of users or potential users of unproven cancer therapies. Likewise, the current issues surrounding the use of unproven therapies were often completely ignored. Thus, nurses who provide care to cancer patients must examine their own beliefs and values about the use of

unproven cancer therapies. Value clarification is crucial to oncology nurses' ability to provide holistic care to those patients who may be considering or using unproven therapies. In addition, value clarification is essential for nurse administrators since it is often these individuals who establish the policies pertaining to which unproven therapies, if any, will be supported, accepted, and/or promoted by the nursing department.

Implications for Nursing Education

Patrick (1981) emphasizes "for the nurse to knowledgeably interact with the client in reference to quackery, it is vital that the helper receive education on the topic" (p.369). Therefore, the nurse must keep abreast of alternative approaches to cancer treatment through self-education efforts. In addition, the nursing profession and the cancer care community have the professional responsibility to update nurses on the current unorthodox therapies and the many issues surrounding their care.

Implications for Nursing Research

This study raises many questions for further research concerning unproven cancer therapies. Studies need to be conducted to identify variables of

importance that influence people to think about and/or use alternative therapies. This study needs replication with a larger sample in order to identify the influence of control and commitment for not only those with cancers which have a generally poor prognosis but also for those with cancers which have a better prognosis.

The influence of variables within the person, within the situation, and also resources and constraints to appraisal and coping need to be explored. Person variables include cultural and religious beliefs. Situation factors include disease status and time since diagnosis. Resources and constraints to coping include age, gender, education, socio-economic status, promotional methods used by unorthodox practitioners, and discouragement practices.

According to Lazarus and Folkman (1984b), social support as a coping resource is at least partly correlated with coping competence (p.296). In this study and in previous studies, family, friends, and/or relatives were identified as the individuals who frequently recommended unorthodox remedies to the cancer patients. Further research is needed to

explore the role of these significant others in the decision-making process. Better understanding of the influence of significant others in the decision to use unproven cancer therapies is essential so that the nurse will be in a better position to involve these individuals appropriately in the planning and intervention phases of the nursing process.

Finally, studies should be conducted to measure the health care professional's knowledge and attitudes toward unproven cancer therapies. Perhaps these studies would identify personal limitations and knowledge deficits, and consequently, the cancer care community would be better able to meet the educational and support needs of both patients and care givers.

Implications for Nursing Theory

In this study two hypotheses were proposed to examine the relationships that may exist in reality between belief in control, commitment to life, and inclination to use unproven cancer therapies. Both person factors, belief in control and commitment to life, have been reported in the literature as variables that may influence cancer patients' decision to use unorthodox remedies.

Although this study did not find significant relationships between these two person factors and inclination to use, it did demonstrate that these variables are important to consider in appraisal and decision-making. It illustrates that other variables in the person and the situation are significant and may have more impact when considering a situation where the prognosis if fairly poor but hope is high. Therefore, other factors need to be examined in order to any draw conclusions about cancer patients who are inclined to use or use unproven cancer therapies.

The conceptual framework used in this study, Lazarus and Folkman's cognitive theory of psychological stress and coping (1984), was appropriate. This theory provided a practical and comprehensive way to examine the study variables.

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APPENDIX A

This is a questionnaire designed to determine the way in which different people view certain important health-related issues. Each item is a belief statement with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you disagree or agree with the statement. The more strongly you disagree with a statement, then the lower will be the number you circle. Please make sure that you answer every item and that you circle only one number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

Scale:

1 Strongly Disagree	4 Slightly Agree
2 Moderately Disagree	5 Moderately Agree
3 Slightly Disagree	6 Strongly Agree

1.	If I become sick, I have the power to make myself well again	1 2 3 4 5 6
2.	Often I feel that no matter what I do, if I am going to get sick, I will get sick	1 2 3 4 5 6
3.	If I see an excellent doctor regularly, I am less likely to have health problems	1 2 3 4 5 6
4.	It seems that my health is greatly influenced by accidental happenings	1 2 3 4 5 6
5.	I can only maintain my health by consulting health professionals	1 2 3 4 5 6
6.	I am directly responsible for my health	1 2 3 4 5 6
7.	Other people play a big part in whether I stay healthy or become sick	1 2 3 4 5 6
8.	Whatever goes wrong with my health is my own fault	1 2 3 4 5 6
9.	When I am sick, I just have to let nature run its course	1 2 3 4 5 6
10.	Health professionals keep me healthy	1 2 3 4 5 6
11.	When I stay healthy, I'm just plain lucky	1 2 3 4 5 6
12.	My physical well-being depends on how well I take care of myself	1 2 3 4 5 6
13.	When I feel ill, I know it is because I have not been taking care of myself	1 2 3 4 5 6
14.	The type of care I receive from other people is what is responsible for how well I recover from illness	1 2 3 4 5 6
15.	Even if I take care of myself, it's easy to get sick	1 2 3 4 5 6
16.	When I become ill, it's a matter of fate	1 2 3 4 5 6
17.	I can pretty much stay healthy by taking good care of myself	1 2 3 4 5 6
18.	Following doctor's orders to the letter is the best way for me to stay healthy	1 2 3 4 5 6

APPENDIX B

For each type of alternative therapy listed, please check whether or not you have heard of it. If you have heard of the treatment go to the right of the double line and check the column that applies to your situation. If you have not heard of it go on to the next treatment.

	Have Heard Of	Have Not Heard Of	Have Tried	Have Considered Trying	Would Consider Trying at Sometime in Future	Have Not Tried	Have Not Considered Trying	Would Never Consider Trying
1. Laetrile								
2. Grape Cure (grape diet)								
3. Psychic surgery								
4. Ozone generators								
5. Carcin (neocarin or carzodelan)								
6. Chaparral tea								
7. Hoxey chemotherapy (Harry Hoxsey's Herbal Tonic)								
8. Coffee enemas								
9. Vibrating machines								
10. Taheebo								
11. Kelly Malignancy Index and Ecology Therapy								
12. Krebiozen								
13. Carrot juice diet								
14. Greek Cure (Dr. Hariton Alivizatos)								
15. Iscador								
16. Orgone accumulators								
17. Antineoplastons								
18. Chacon								

	Have Heard Of	Have Not Heard Of	Have Tried	Have Considered Trying	Would Consider Trying at Sometime in Future	Have Not Tried	Have Not Considered Trying	Would Never Consider Trying
19. Comfrey								
20. Diamethyl sulfoxide								
21. Essiac								
22. Faith Healing								
23. Immunoagumentative Therapy (IAT)								
24. Koch's treatment								
25. Macrobiotic diets								
26. Megadose vitamin ttherapy								
27. Imagery								
28. Are there any other methods of cancer treatment that you have heard of that have not been recommended to you by your doctor? If so please list them and answer the questions to the right of the double line concerning them								
1.								
2.								
3.								
4								
5.								
6.								
7.								
8								
9.								
10.								

1. If you have considered or would consider trying any of the treatments on the list, please describe why or when you would try them. _____

2. If you have not tried, have not considered trying, or would never consider trying any of the treatments on the list, please describe why not. _____

3. If you have tried any of the treatments on the list or any additional ones, please describe why you decided to try the treatment(s). _____

4. If you have tried any of the treatments on the list or any additional ones, please estimate how much the treatment(s) cost you.

   $_____ Total Cost

   $_____ per treatment

   $_____ per month

   $_____ per year

   _____ there is no cost

5. If you heard of any of the above treatments, please write the name of the treatment in the space provided in the "Treatment" column and indicate how you learned about it. (Check [ ] as many as apply to you)

Source	Treatment		
nurse			
books			
magazines			
newspapers			
radio/TV			
mail order			
friends/relatives			
your family doctor			
your cancer doctor			
health food store			
other (please list)			

APPENDIX C

PATIENT INFORMATION SHEET

1. Age ____

2. Sex: Male ____ Female ____

3. Marital Status: Married ____ Separated ____

   Divorced ____ Widowed ____

   Never Married ____

4. Do you believe that your cancer is going to be cured?

   _____ Yes

   _____ No

   _____ Uncertain

5. Has your clinic doctor told you that your cancer can be cured?

   _____ Yes

   _____ No

   _____ Uncertain

APPENDIX D

THE RELATIONSHIP OF BELIEF IN CONTROL AND COMMITMENT TO LIFE WITH CANCER PATIENTS' INCLINATION TO USE UNPROVEN CANCER THERAPIES / page 2
Investigator: Barbara Skinn

By signing this consent form, I indicate that I fully understand the purpose of the study and my participation in it. I acknowledge that I have received a copy of the information and consent form. I have had questions answered to my satisfaction and I agree to participate in the study.

_____ _____
(Signature) (Date)

_____ _____
(Witness) (Date)

APPENDIX E

APPENDIX E

Wallson's Multidimensional Health Locus of Control Scores by Subject

Subject	Internal	Chance	Powerful Other
1	25	14	19
2	33	9	16
3	36	12	22
4	26	10	25
5	31	19	29
6	23	27	14
7	31	16	19
8	35	27	36
9	24	26	34
10	32	15	22
11	23	22	28
12	34	19	20
13	30	10	26
14	20	21	19
15	35	16	23
16	27	18	17
17	25	11	8
18	19	18	9
19	16	19	13
20	27	16	16
21	29	22	19
22	28	15	19
23	22	23	32
24	33	12	31
25	29	17	19
26	36	22	31
27	32	23	33
28	22	18	25
29	26	19	23
30	27	11	17
31	21	10	17
32	31	8	16
33	32	20	7
34	34	16	22
35	25	13	27
36	30	19	22
37	28	18	13
38	31	8	21
39	24	21	25
40	14	25	36