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Bachelor's Thesis

**FACTORS INFLUENCING THE USE OF
COMPLEMENTARY AND ALTERNATIVE
MEDICINE AMONG CANCER PATIENTS**

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ABSTRACT

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<p>The use of complementary and alternative medicine (CAM) in the West is increasing despite resistance from the conventional medical profession. This bachelor thesis focuses exclusively on the use of CAM among cancer patients in the West (Europe and North America). It examines the factors that influence the use of CAM and the reasons why CAM is chosen. A systematic literature review was used to obtain the results of this thesis.</p> <p>Six articles were included in this literature review. These articles yielded three main factors that influenced the use of CAM among cancer patients. These factors were gender, age and education. Female cancer patients were more likely to use CAM. CAM users were also of a significantly lower age than non-CAM users and had a higher level of education. Reasons cited for the use of CAM were a feeling of helplessness, to counter the side-effects of cancer treatments, holistic care and to fight cancer.</p> <p>The outcome of this systematic literature review shows that doctors should be aware of the growing use of CAM and as such, be able to disperse impartial information regarding its use. Some CAM therapies can also be integrated into conventional cancer care at no additional cost. The process of care in conventional cancer treatment should be examined in order to treat the patient in a holistic care.</p> <p>Keywords: complementary medicine, alternative medicine, cancer, West</p>	
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1. Introduction

1.1. Background

The story of modern medicine told in standard histories of modern medicine and widely adopted by medical practitioners is a story about how science-based medicine gradually replaced quackery and traditional medicine. In some cases this involved incorporating traditional medical treatments into modern medical practice (e.g. the use of colchicine derived from autumn crocuses to treat gout (Collins and Pinch 2005, 86) In many cases, it involved the replacement of traditional remedies with science based treatments and the relegation of older treatments to the status of folk medicine and often as quack medicine.

Modern science-based medicine is the legally and economically established and institutionalized form of medicine in modern Western societies and there are concerted efforts to promote its adoption and availability around the world. It is fair to say that up until fairly recently its stance toward alternative therapies has been one of hostility. For example, as late as 1980 a British Medical Association handbook “threatened that doctors who had dealings with osteopaths and similar healers could expect to be subject to disciplinary proceedings” (Collins and Pinch 2005, 87) By 1948 in the UK alternative medicine had nearly disappeared.

One striking feature of the contemporary healthcare scene is the return to popularity among many ordinary people of therapies that have long been either relegated to the dustbin of history or as quackery or studied by anthropologists as “folk-medicine.” By 1981 the number of alternative medical practitioners had grown to rival that of general medical practitioners (Collins and Pinch 2005, 87)

The author is interested in reasons why alternative medicine (often referred to as “Complementary Alternative Medicine” or CAM) is gaining popularity in the Western world. The author was intrigued this was the case despite hostility or

ignorance towards CAM by medical professionals trained in conventional medicine, be they in the East or in the West. (Hyodo I ym. 2003, 2864 - 2866)

The author narrowed the scope of the literature research to include use of CAM in the Western world. The primary reason for this restriction is that the so-called "West" (geographically referring to North America (USA and Canada) and Europe) is that the process described above is much more clearly a feature of the Western world than of other parts of the world. Most western countries have some form of universal healthcare. Most western countries have highly developed medical institutions established and protected by law and deeply aligned with scientific practices. The conflicts between modern science-based medicine and traditional folk-medicine are older and more pronounced in the West. So in a sense, the disappearance and return of folk-medicine is primarily a Western phenomenon.

As a further limiting device we have focused in the use of CAM by cancer patients. Cancer is a disease in which abnormal cells mutate and multiply at a higher than normal rate and invade other cells. (National Cancer Institute, USA. 2009). Mortality rates are high and treatments often difficult with harsh side-effects. Cancer patients and survivors are one of the highest users of CAM. Molassiotis ym. state in their article that CAM is commonly used among cancer patients with a prevalence rate of 31.4% across studies. Recent figures suggest an even higher percentage of CAM usage among cancer patients. (Molassiotis ym 2005.)

1.2 Purpose and aim of the study

The purpose of this study is to gain a better understanding of the reasons why people with cancer choose to use CAM.

The aim of this study is to explore factors that might influence people with cancer to use CAM.

The research question formulated to answer this is:

What are the factors influencing the use of CAM among cancer patients and cancer survivors in the western world?

In order to make this study more comprehensive, the author endeavoured to include articles dealing with various factors and reasons associated with the use of CAM. The author hopes to shed some light on the growing popularity of CAM despite attempts by established medical agencies to stifle its growth.

2. CAM

2.1 What is CAM?

Since CAM is a very general term used to cover a vast variety of treatments, it would be useful to understand a little more precisely what the term CAM means before delving into the factors and reasons for CAM usage. Obviously, many of these terms are imprecise. The NCCAM uses CAM as a blanket term to describe any sort of medicine or treatment not incorporated into the traditional Western model. (National Centre for Complementary and Alternative Medicine. 2009). Interesting in this definition is the use of “traditional” to mean “modern western”. Western medicine, conventional medicine or allopathic medicine as it is sometimes called, is ‘a system in which medical doctors and other healthcare professionals (such as nurses, pharmacists, and therapists) treat symptoms and diseases using drugs, radiation, or surgery.’ (National Cancer Institute, USA. 2009). In keeping with wide-spread practice, this study uses CAM to mean all of the “other” forms of treatments not usually promoted or practiced by bio-medical science-based healthcare professionals.

Clearly the conjunction of “alternative” and “complementary” is a little confusing. In the simplest of explanations, complementary medicine is used to mean treatments which are used in conjunction with conventional medicine.

Alternative medicine, on the other hand, is used to denote therapies which are used in place of conventional medicine. A combination of conventional medicine and CAM is regarded by the NCCAM as integrated medicine. (NCCAM 2009)

In this study, CAM is used inclusively, that is, it means therapies that are either complementary (additional helper role) or rival (competing substitution role).

The National Centre for Complementary and Alternative Medicine (NCCAM) has divided CAM into four major categories, acknowledging that there might be

some overlapping between these categories. CAM whole medical systems, which cut across domains, are also studied by NCCAM. (NCCAM 2009)

2.2 Whole Medical Systems

CAM whole medical treatments are systems which have evolved independent of traditional western medicine and often predate conventional medicine. They have their own framework of theory and practise and do not rely on western medicine. Some of these systems were developed outside the western world, such as Ayurveda (in India) and Chinese traditional medicine (in China). Ayurveda was developed in the sub-continent of India and is a holistic practise which aims to prevent diseases through the harmonization of body, mind and spirit. (NCCAM 2009) Ayurveda and other alternative medical systems form a major part of the health care system available in India and are closely regulated by the Indian government. (National Portal of India. 2005.) Traditional Chinese medicine originated in China and is based on the concept that a disruption in the flow of qi (or energy) and an imbalance of the forces of yin and yang in one's body result in diseases. (NCCAM 2009)

Whole medical systems which originated in the West include homeopathic medicine and naturopathic medicine. Homeopathy was developed in Germany over 200 years ago and is based on the Law of Similars which states that 'like cures like'. In other words, homeopathic medicine can cure a sick person if it causes similar symptoms in a healthy person. Homeopathic remedies are made from substances found in nature and are used in very small doses. (National Centre for Homeopathy. 2010). Naturopathic medicine is based on the assumption that every human body has an innate ability to heal itself. Naturopathic doctors teach their patients the use of exercise, diet and other natural therapies to maintain good health and combat illnesses. (The American Association of Naturopathic Physicians. 2009).

2.3 Mind Body Medicine

Mind body medicine uses the power of thoughts and emotions to bring about positive change in one's body or physical health. Using this technique, the mind is trained to concentrate on the body without any distractions. Changing one's health can only result from periods of "focused concentration". (University of Maryland Medical Centre. 2009). Some practises which were considered as Mind Body Medicine have now been accepted and amalgamated into conventional medicine. Cognitive behavioural therapy (CBT), once considered to be in the realm of Mind Body Medicine, is now firmly entrenched in the treatment of many mental health disorders such as anxiety disorders, depression and phobias. (NCCAM 2009 ; Callaghan and Waldock 2006, 144-145) CBT is based on the rationale that our thoughts influence the way we perceive the world and the way we feel. (Callaghan and Waldock 2006, 144.)

Biofeedback is a technique which allows people to control their internal bodily processes which occur involuntarily through the use of the mind. It is usually used to treat headaches, migraines and chronic pain. (UMMC 2009).

Perhaps the most universal and well-known mind body technique is the use of spirituality to influence health. Spirituality does not just include prayer and devotion but also attitudes, spiritual beliefs and spiritual practices. (UMMC 2009) A study conducted in a palliative care hospital showed spiritual well-being as having a direct positive influence on the mental health of cancer patients who were terminally ill and had less than 3 months to live. Suicidal ideation was negatively related to spiritual well-being. (McClain CS ym. 2003, 1606)

2.4 Biologically Based Practices

Biologically based medicine and practices involve the consumption of additional herbs, extracts, nutrients and food to supplements one's normal diet. As the name suggests, all these preparations are biologically based and constitute of fatty acids, probiotics, protein, vitamin and minerals. (Ohio Academy of Family Physicians. 2008). Orthomolecular medicine or megavitamin therapy is a form of biologically based medicine. It treats specific illnesses using a high-dose combination of amino acids, vitamins and minerals that are normally found in the body. (Merck. 2009). In a nationwide study of the professional use of CAM among critical care nurses in USA, diet was the most commonly used at 94.2%. (Tracy ym 2005, 408)

2.5 Manipulative and Body-Based Practices (MBBP)

These CAM practices use manipulation and / or movement of one or more body parts to restore the body to health. Manipulation is described as the use of 'controlled force to a joint, moving it beyond the normal range of motion (in an effort to aid in the restoring of health.) (NCCAM 2009).

Osteopathy and chiropractic are two similar forms of BBMB which deal with the patient from a holistic point of view. Both believe the body has an innate ability to heal itself and view the musculoskeletal system as a reflection of, and influence on, the condition of other body parts and systems. Thus the aims of these practices are to harmonise the structure and function of the body (primarily the spine) and assist it in its self-healing process. (American Osteopathic Association. 2010, NCCAM. 2009).

While chiropractic and osteopathy share a common philosophy, there are some differences between the two including treatment objective, medical recognition and treatment techniques. (Tio 2007.) Osteopathic doctors in USA receive the same education as conventional physicians but are additionally trained in the use of osteopathic manipulation techniques (American Association of Colleges of Osteopathic Medicine. 2010.) A study among patients with lower back pain showed that they were most satisfied with visits to a chiropractor as compared to other health care professionals. They also consumed less prescribed medication than those who visited other health care professionals. (Carey ym.1995, 915, 917).

Not all BBMP focus on the backbone and spine. Massage therapy is a form of BBMP which focuses on the manipulation of soft body tissues and muscles. Fingers and hand are generally used to do this but forearms, elbows or feet may also be used. There are many different kinds of massage such as Swedish massage and sports massage. Reflexology is a type of foot massage (though sometimes the hands and ears may also be utilised) which promotes healing and health for the whole body. (NCCAM 2009). Reflexology is supposed to eliminate the blockage of energy and thus remove the pain or disease from the affected body part (Merck. 2009.)

2.6 Energy Medicine

Energy therapies are the use of energy fields to cure illnesses and promote healing and health. This in turn can be further broken down into biofield therapies and bioelectromagnetic-based therapies.

Biofield energy therapies affect the energy fields that (purportedly) surround and penetrate the human body. These energy fields are manipulated by applying pressure or the laying of hands. Reiki, qi gong and therapeutic touch all fall into this category (NCCAM 2009).

Bioelectromagnetic-based therapies are the 'unconventional use of electromagnetic fields, such as pulsed fields, magnetic fields, or alternating-current or direct-current fields' in healing the body and ridding it of illnesses (NCCAM 2009) Despite wide spread scepticism of bioelectromagnetic therapies in the west, a Chinese literature review on the subject comes to the conclusion that the use of pulsed electromagnetic fields in primary osteoporosis relieves pain quickly and effectively while enhancing bone formation. It also increases bone marrow density in secondary osteoporosis. Interestingly enough, of the 111 articles collected, only 10 were published in English despite english databases being searched. (Huang LQ ym. 2008, 2095 - 2097).

3. Method Of Literature Review

3.1. Systemic Literature Review

A systemic literature review is defined as “an efficient scientific technique to identify and summarise evidence on the effectiveness of interventions and to allow the generalisability and consistency of research findings to be assessed and data inconsistencies to be explored” (Scottish Intercollegiate Guidelines Network 2009). Systemic reviews are used in answering focused, clinical questions in depth.

The first step in developing a systematic review would be to define a healthcare question which needs to be answered (Hemmingway and Brereton 2009, 4). This question usually has four variables: a specific population and setting, the condition of interest, an exposure to a test or treatment and one or more specific outcomes. (Cook ym. 1997, 378) These variables make up the inclusion criteria of the studies selected for the systematic literature review.

The next step is to search all available literature on the topic. To avoid publication bias, more than one database is searched (Hemmingway and Brereton 2009, 4). If only English-language literature is searched, a language bias cannot be avoided.

Assessment of the articles begins once all relevant studies have been identified. Abstracts are perused to ascertain relevancy before the full-text article is read. Full-text articles are closely scrutinised for relevancy and adherence to inclusion criteria. Studies that meet the inclusion criteria are then assessed for methodological quality. Poor quality studies are excluded from the systematic review but may be included under the review report. Ideally, this stage of the systematic review should be done by two independent reviewers. (Hemmingway and Brereton 2009, 4)

Evidence synthesis is the next stage of the review where data from the various studies are combined. Depending on the type of data collected, meta-analysis (for homogenous quantitative data), meta-synthesis (for qualitative data) or narrative summaries (for non-homogenous quantitative data) are used. (Hemmingway and Brereton 2009. 4)

The final stage to a systematic literature review is putting the results of the review into context. This is done under the 'Discussion' heading of the review where quality, heterogeneity of the studies and bias are touched upon. (Hemmingway and Brereton 2009, 4)

3.2 Method of Review

In order to find the 10 articles needed to do this thesis, the author started searching appropriate databases. The databases chosen by the author for the research were Wiley InterScience, Elsevier Science Direct and EBSCO Host which consisted of Academic Search Elite and CINAHL. More than one database was used to avoid publication bias. Another factor for this was due to the fact that a large number of articles focused on demographic data. The author wanted to cover a wide variety of possible causes and reasons for the factors which influence the use of CAM among cancer patients.

Furthermore, the author wanted articles that were not only relevant but also contemporary. Therefore, only articles published within the last 10 years (between the years 2000 – 2010) were considered. Within these articles, only the newest ones (which were published within the last 5 years) which were relevant were chosen. Only English language articles were chosen for the purpose of this thesis.

The inclusion criteria defined by the author were that all articles used had to analyse and explain the reasons and factors which influenced the use of CAM in cancer patients. Articles excluded from the literature review were articles which focused on CAM usage among paediatric cancer patients, research not conducted in the Western world and where the users of CAM were not cancer patients.

Search words used were “contemporary”, “alternative” and “medicine”. Only full-text articles in English were displayed.

Table 1

Keywords	Databases	Hits	Abstracts Read	Full Text Read	Articles Accepted	Articles Included
complementary alternative, cancer	EBSCO Host (Academic Search Elite and CINAHL)	451	11	5	5	2
complementary alternative, cancer	Wiley Science Direct	756	16	4	4	3
complementary alternative, cancer	Elsevier Science Direct	1264	5	5	1	1

In order to obtain the 10 articles needed for the thesis, the author randomly picked EBSCO Host as the first database to be searched. The first hundred articles in the database were searched and eleven articles were deemed relevant for closer perusal. The abstracts of these eleven articles were then read to determine the relevancy of these articles for the thesis. Out of these eleven articles, six articles were discarded after reading the abstract for not conforming to the inclusion criteria specified earlier. Two were discarded as they did not address the factors which influenced the use of CAM among cancer patients.

Another discussed the use of CAM in oncology surgery but the focus of the article was the use of CAM in surgical settings and not oncology. Two were disqualified according to the exclusion criteria : one for dealing with CAM in pediatric cancer patients and another for the use of CAM among Chinese women with breast cancer. The last one was left out despite its promising heading as it turned out to be a letter to the editor and not a research article. The full-text articles for the remaining five articles were read and found relevant to the object of this thesis.

The author then moved on to the next database, also chosen randomly. Once again, the first one hundred articles from Wiley Science Direct were searched to determine which were relevant to the author's literature review. From these one hundred articles, sixteen articles looked promising and abstracts were obtained. After reading the abstracts, only 4 articles were deemed relevant for the final full-text reading. Twelve articles were discarded after perusal of the abstracts : five for not focusing on the factors which influenced the use of CAM among cancer patients, two for being Australian studies (and omitted for geographical reasons), one for focusing on psychological characteristics of CAM usage among cancer patients (and coming to the same conclusions as another study which was already included), one for focusing on socio-demographic data (which was provided anyway by almost all the articles included in this literature review), one for dealing with gynaecological cancer thus concentrating on women and excluding men from their sample, one for focusing on CAM usage for cancer patients in Washington, USA, whose insurance covered the cost of CAM (this was only applicable in one state and the author thought the population sample was not representative of the whole nation's population) and the final one for not having a full-text article despite having a link to one. Of the remaining articles, all four were found relevant to the author's literature review after the full-text reading.

Since only one article was still missing, the author chose the first ten articles from the final database, Elsevier Science Direct to see if there were any matches. All ten articles were relevant at first glance as they were sorted according to relevancy. On closer observation, four were immediately discarded as two dealt with cancer patients in Turkey, one in Israel and the other focused on CAM usage among pediatric patients. The last article discarded dealt with CAM that included spirituality and prayer. Of the remaining five articles, the author chose the most recent one, thus bringing the number of articles selected for the literature review to the required ten.

Out of these ten articles, the best six were picked at the author's discretion on advice of the author's mentor.

3.3 Analysis of the Material

The author strove to use the most recent articles in this literature review to ensure the most up-to-date researches were included. The articles were published by well-known publishing houses online. The table below summarises the articles used in the literature review according to year of publication.

Table 2

<i>Year of publication</i>	2007	2008	2009
<i>Number of researches</i>	1	1	4

Of these six articles, two were published in the Journal of Alternative and Complementary Medicine, two in the European Journal of Cancer Care and one each in Complementary Therapies in Medicine and Cancer. Four studies were conducted in Europe, three of them in UK and the remaining one in Austria. Two were conducted in USA, one in Connecticut which also included a nationwide survey and the other wholly from a nationwide survey.

To get a better overview of the researches included in this review, the participants involved are briefly discussed. Two studies dealt exclusively with a male sample population while another two had a sample that consisted of more than half females. The remaining two studies had an (almost) equal ratio of male: female ratio in its sample population. Three studies had a predominantly white sample population. Women were not only adequately represented in all the studies but sometimes oversampled as well. Only one strove to be representative in terms of age, occupational status, sex and area of residence. Another collected its sample population of patients from different cancer organizations, attempting to get a diverse sample population in terms of age and income.

Questionnaires were used in all but one of the studies included in this review. The exception was an observational study where data was collected retrospectively from cancer and hospital network information systems. Questionnaires were used in conjunction with interviews in a third of the research included in this review. Half relied solely on questionnaires. None of the studies used the same questionnaire, which might be due to the diverse nature of CAM and the even more diverse reasons cancer patients and survivors had for using CAM.

Data was analysed using univariate analysis, multivariate models, odds ratio and 95% Confidence Intervals. Computer programs were used for data analysis. SAS was used in two studies while Atlas.ti, SPSS and Stata were used in one study each.

Table 3 shows in more detail the research articles included in this literature review. It lists the number of participants in each sample, their gender according to percentage and the country where the research was conducted. It also touches briefly on the purpose of the study and the results concluded.

Table 3.

<i>Authors and Title of Publication</i>	<i>Journal and Year of Publication</i>	<i>Sample, (gender) and place of research</i>	<i>Main objectives of the research</i>	<i>Main results of the research</i>
Schernhammer ES; Haidinger G; Waldhör T; Vutuc C. Attitudes about the use of complementary and alternative medicine in cancer treatment.	Journal of Alternative & Complementary Medicine. 2009.	4073 cancer patients. (Equal number of male to female ratio) Austria.	To determine influences on the attitude of people in using CAM as a cancer treatment.	Formal education, being female and of an older age lead to higher probabilities of using CAM. Personal experience (less satisfied with conventional care, knowing those who used CAM and beat cancer) also influenced their choice of using CAM.
Ferrucci LM, McCorkle R, Smith T, Stein KD, Cartmel B. Factors related to the use of dietary supplements by cancer survivors.	Journal of Alternative & Complementary Medicine. 2009.	827 cancer survivors. (61.2% women in sample.) Connecticut, USA.	To determine demographic, clinical, and psychosocial predictors of dietary supplement as a means of CAM in cancer survivors	Univariate analysis : probabilities were higher if the person was female, white and higher educated. Multivariate model : being female and having a higher level of education were associated with usage of dietary supplements.
Gage H, Storey L, McDowell C, Maguire G, Williams P, Faithfull S, Thomas H, Poole K. Integrated care: Utilisation of complementary and alternative medicine within a conventional cancer treatment centre.	Complementary Therapies in Medicine. 2009.	498 cancer patients. (78.7% women cancer patients in sample.) UK.	To compare characteristics of CAM patients where CAM is offered by professionals in a conventional cancer clinic to other cancer patients at same centre.	Predictors of CAM usage at this centre were being female, higher education, living closer to the cancer centre and having cancer.

Table 3 (cont.)

<i>Authors and Title of Publication</i>	<i>Journal and Year of Publication</i>	<i>Sample, (gender) and place of research</i>	<i>Main objectives of the research</i>	<i>Main results of the research</i>
Wilkinson S, Farrelly S, Low J, Chakraborty A, Williams R, Wilkinson S. The use of complementary therapy by men with prostate cancer in the UK.	European Journal of Cancer Care. 2008.	294 patients responded – 25% using CAM. (100% men) London, England.	To explore attitudes and factors contributing toward CAM usage, especially the relationship between CAM use and mental health status	Multivariate analyses reveal CAM users to be younger and have 'active surveillance' as a form of cancer management. There was no clinically significant difference between the mental health status of CAM users and non-users.
Stein KD, Kaw C, Crammer C, Gansler T. The role of psychological functioning in the use of complementary and alternative methods among disease-free colorectal cancer survivors.	Cancer. 2009.	529 (almost equal number of men to women). USA.	To explore the role of psychological functioning and gender differences and how this influences the use of CAM in colorectal cancer survivors.	CAM usage was more common among women, higher educated, recipients of chemotherapy and radiotherapy. Psychological factors influenced the use of CAM in women cancer survivors but not in males. Fatigue was the only nonmedical / demographic influence on CAM usage among male patients.
Evans M.A., Shaw A.R.G., Sharp D.J., Thompson E.A., Falk S., Turton P. & Thompson T. Men with cancer: is their use of complementary and alternative medicine a response to needs unmet by conventional care?	European Journal of Cancer Care. 2007.	31. (100% men) UK.	To investigate factors which determine CAM usage among men with cancer and the reasons for this (whether it is used as an alternative or supplementary to conventional cancer care.)	Factors influencing CAM usage in men were improving quality of life, actively 'fighting' cancer and possibly prolonging life. It was rarely used in place of conventional medicine. Reasons for this were gaps in conventional care such as lack of advice on lifestyle, self-help and diet, poor continuity of care and lack of empathy.

4. Results Of The Review

Having examined the participants involved in the studies, methods of data collection and analysis used, it is time to move on to the results yielded by this literature review. Although many factors were revealed to influence the use of CAM among cancer patients and survivors, three factors were apparent in at least two-thirds of the studies analysed. These factors were gender, age and education.

Out of the four studies which included women participants, all four found that women used significantly more CAM than their male counterparts. A higher appreciation of CAM was also apparent among women. In one study which focused only on male participants, it was found that wives, daughters and girlfriends played a big role in influencing the participants to try out CAM.

Emotional distress in women was a predictor of CAM usage though this was not without exceptions. Fear, anger and confusion were indicated with CAM usage but depression was not. In male participants, the same study found that CAM was used to address physical as opposed to psychological needs. In another study conducted among prostate cancer patients, the (male) participants who used CAM had a lower level of self-perceived mental health although neither CAM nor non- CAM users fell into the poor mental health group.

In studies which analysed the use of CAM according to age, all found that the mean age of CAM users were significantly lower than for non- CAM users. Where spiritual mind-body techniques were used as part of CAM, though its users were younger, the age difference was not statistically significant. When this category was excluded, age was once again significant statistically.

Education was another important predictor in the use of CAM. All studies found that CAM users had a higher level of education, thus debunking the myth of silly, naïve consumers. One study which divided CAM usage into methods that involved spiritual mind-body techniques and non-spiritual mind-body techniques found that higher education was a strong predictor of the use of the former but not the latter. Another found that compared to cancer survivors with a high school education or less, their counterparts who had a high school or equivalent diploma were 2.77 times more likely to use dietary supplements as a means of cancer therapy. Cancer survivors with graduate school or professional education were 5.44 times more likely to use dietary supplements than those with a minimum high school education. Formal education also led to a higher appreciation of CAM.

Other factors which influenced CAM usage was the use of 'active surveillance' as a form of cancer management. Active surveillance or watchful waiting is when no treatment is commenced but both physician and patient observe the cancer to determine the next course of action. Follow-up tests are done at given intervals to see if there are any changes and if any course of treatment should be started. (Landman 2006.) This 'inaction' on the part of the physician as perceived by the patient can be quite stressful and so CAM is used as a way of taking charge of the situation.

Certain kinds of treatment prescribed by the physician also lead to the use of CAM. CAM usage is more common in cancer patients who have undergone chemotherapy, radiotherapy and surgery. One study found that 96% of CAM patients had undergone surgery while almost two-thirds had had chemotherapy and another one-third radiation therapy. The reasons for this might be explained by another study which found that CAM was used to relieve the side-effects of cancer treatments and manage cancer symptoms.

One study which focused exclusively on the reasons why CAM was used found that CAM users were unhappy with their current conventional care although this was more about the process of caring than the treatment itself. Patients found oncologists 'impersonal' and therefore failed to make a connection. CAM practitioners, on the hand, gave patients a sense of being understood and listened to. This addressed the dual needs of cancer patients for communication and a holistic approach of care.

CAM was also used as a means to prolong life and decrease the spread of cancer. This created a sense of hope, especially among younger patients. It was also found that a positive perception of CAM could be attributed to personal experience of or knowledge of people cured of cancer.

5. Discussion

Since this literature review was concerned with the factors influencing the use of CAM among cancer patients and survivors in the western world, the author endeavoured to include research from both Europe and USA. Articles used from research conducted in Europe had been done in UK and Austria. It must be noted that both UK and Austria have good health insurance coverage for all its citizens, irrespective of age, income or occupation. In Austria, all citizens as well as residents have full insurance coverage. (Wien.at. 2010.) In UK, the National Health Service (NHS) provides free health insurance for all its citizens. Private insurance is available if so desired. (HealthInsurance.co.uk. 2010.) The NHS also provides and covers the costs of certain CAM treatments. (Gage ym. 2009)

In USA, however, this is not the case. Despite Medicare and Medicaid, a survey conducted in 2008 showed that 20% of people between the ages of 18 – 64 were uninsured, as were 8.9% of children under the age of 18. (Centres for Disease Control and Prevention. 2009.) An American study found that the use of CAM was positively associated with a lack of health insurance. In this case, CAM providers who might be more affordable than conventional cancer caregivers would be chosen by some on a purely financial motive. (Goldstein ym. 2007. 24)

One interesting point that caught the author's eye was that when cancer patients saw conventional doctors, there was not a very high likelihood of them using CAM. But for patients who consulted a nurse practitioner, physician's assistant or mental health professional, the odds of using CAM were much higher. (Fouladbakhsh and Stommel 2010, E11) Another study found that oncology consultants, when talking to patients who used CAM, framed the use of CAM in an unfavourable light and tried to bias potential patient behaviour. Oncology nurses, on the other hand, were more open to patients using CAM. (Broom and Adams 2009, abstract). This is confirmed by a third research which says that almost 82% of oncologists believed that CAM was ineffective in the

fight against cancer. (Hyodo I ym. 2003, 2864) An interesting fact to note here would be that all three studies discussed above were conducted in three different continents – North America, Australia and Asia – yet the prevailing sentiment regarding CAM in the medical profession remains the same.

One last factor which warrants discussion is the supposed difference in motives between the genders when choosing CAM as a cancer treatment. Despite studies which say that men use CAM to treat ‘physical’ as opposed to ‘psychological’ needs (Fouladbakhsh and Stommel 2010, E14; Boon ym. 2000 in the image Evans 2007, 524; Boon ym. 2003 in the image Evans 2007, 524) the authors in this literature review put forth the notion that male survivors of cancer may use CAM as a means of discussing their feeling of vulnerability and depression. This is consistent with the findings in another study which state that one of the reasons men use CAM is to address their desire for communication with their cancer caregiver. A third study further confirms this view when its (male) participants showed that CAM users reported lower self-perceived mental health status than non-CAM users.

6. Limitations

The most obvious limitation to this literature review would be the diverse practices associated with CAM. As mentioned in the background of this review, CAM is made up of whole alternate medical systems, mind-body medicine, biologically based practices, manipulative body-based practices and energy medicine. Of the six studies included in this review, only two included all five categories of CAM in its scope of research. One of these studies was conducted in a NHS cancer centre which included CAM treatment in a convention cancer care setting. As such, it offered a rather limited range of CAM. Data collected from this study thus only shows the use of CAM in this one particular cancer centre and does not take into account CAM offered in the private sector.

Another study included the first four categories of CAM, although homeopathic medicine (an alternate medical system) was only offered in one of the three cancer centres included in its research. The author was intrigued by the label 'unusual / alternative therapies' under the heading 'Types of CAM used by participants (at setting or elsewhere)' but concluded it did not however, include energy medicine as CAM was earlier in the article defined as including 'special diets and also the use of counselling, psycho-therapy or exercise if received within the context of cancer care.'

Two studies completely left out alternative medical systems and energy medicine from its research. One of these studies focused exclusively on biologically based practices, namely dietary supplements. The final article made no distinction between the different kinds of CAM, mere stating that it included 'all therapies not formally accepted into conventional cancer care.'

Apart from the various categories of CAM, the definition of specific CAM categories also posed a challenge. One especially difficult area was that of mind-body medicine. Four articles included mind-body medicine in its research into CAM but only one made the distinction between spiritual and non-spiritual mind-body medicine, analysing data separately for these two sub-categories. Another included spiritual healing as part of CAM but made no distinction during data analyses between spiritual and non-spiritual data. Two studies excluded spirituality from its research.

This literature review uses a sample size of six, which is not very large. As such, it might not be representative of all literature available on the topic.

7. Conclusion

This literature review has made it apparent that the use of CAM among cancer patients and survivors is indeed considerable. An article included in this literature review found a staggering 69.3% of cancer survivors started using dietary supplement after their cancer diagnosis.

The medical profession needs to be aware of the growing use of CAM among cancer patients and survivors and take steps to disseminate important information regarding its use. Over-the-counter herbs and dietary supplements may have a negative drug interaction with medicine prescribed by oncologists and cancer specialists. Seemingly harmless supplements such as garlic and cod liver oil may be dangerous for cancer patients on anticoagulant therapies as these supplements also have an anticoagulant effect. (Corner ym. 2009, 276).

Dissemination of information by the medical profession is also important for the accuracy of the information provided. While most CAM users have thus far got their information about CAM from family members, books and magazines, younger users seem to prefer using the internet as a source of information. Internet sites providing information about CAM were 15.6 times more likely to have unreliable information as sites that did not include CAM information. (Ferucci ym. 2009, 679) However, for patients to trust their cancer specialists on CAM, the information given should be free of personal biases.

'No cost' CAM therapies can also easily be integrated into mainstream cancer management. Practices such as deep breathing exercises and guided imagery for relaxation can go a way in helping cancer patients and survivors deal with the fear and anxiety that goes with a cancer diagnosis. However, it must be noted that cultural and religious beliefs might also influence cancer patients and survivors in choosing (or not choosing) CAM (Fouladbakhsh and Stommel 2010, E11, E13).

Last but definitely not least, the medical profession as a whole can also introspectively examine and try to address the reasons why more and more cancer patients and survivors are turning to CAM. A good place to start would be by differentiating the cancer treatments offered and the process of care involved in these treatments. Cancer patients and survivors want continuity of care in their treatment, empathy from their caregivers, a holistic approach to healing and a sense of patient empowerment, all of which seem to be missing in the medical profession in a conventional cancer care setting.

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