CHAPTER TWO

Review of Literature
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REVIEW OF LITERATURE

No research venture is an isolated effort but emerges from the body of knowledge created by research and later becomes part of the body of knowledge to complete the picture and to generate further research.

The present review of literature examines the studies which led to the formulations of the problem of the present study. This chapter attempts to present a brief resume of research findings related to happiness, hope and health behavior among Coronary Artery disease (CAD) and Cancer patients.

2.1. HAPPINESS

Happiness is defined as a state of mind or feeling characterized by contentment, love, satisfaction, pleasure, or joy. Research has found that people who experience Happiness, calmness and other positive emotions are less susceptible to illness as opposed to people who lack positive emotions. An increase in happiness can leads to alleviation of symptoms of depression and can be the building blocks of resilience that helps to combat physical illness. (Fredrickson, 2001).

A study by Chaturvedi, (1991) utilizing interview methodology reported that peace of mind, spiritual and social satisfaction were considered to be very important for two-third of the cancer patients and level of satisfaction was valued higher than level of functioning. Having low income, having a widowed/ divorced status, presence of pain and advanced tumors at presentation have been reported to positively correlate with psychological distress.
Goldbourt, Yaari and Medalie (1993) found that those who were married at
midlife were 64% less likely to die of a stroke during the next 34 years than single
men. The data was adjusted for other stroke risk factors like socio-economic status,
blood pressure and smoking. But the marriage has to be a happy one. Men who
reported dissatisfying marriages were just as likely as single men to die of a stroke,
the researchers reported at the ASA’s international stroke conference.

Frasure-Smith, Lesperance, and Talajic (1993) followed 800 people with
stable heart disease including 100 individuals who also suffered from depression or
anxiety for 2 years. During the course of the study, 26% of the group with depression
experienced a major repeated cardiac event, including an emergency bypass surgery
or sudden death from a heart attack. By comparison, 13% of the subjects who were
comparatively happier and did not suffer from these psychiatric conditions were at a
lower risk.

King, Rowe, Kimble and Zerwic (1998) conducted a study to investigate
happiness, coping strategies and functional outcomes in women undergoing Coronary
Artery Surgery. The subjects were 55 females undergoing coronary artery surgery.
Data were collected in hospital and at 1, 6 and 12 months after surgery. Happiness
was related to positive moods and greater life satisfaction, and inversely related to
negative moods. Happy people were more likely to accept their situation, and less
likely to use escapism. In turn, these coping strategies were inversely related to
negative mood.

Waldstein, et al. (2000) conducted a study to investigate the electrocortical and
cardiovascular reactivity during positive and negative emotion. Participants were 30
healthy university students. Electroencephalographic (EEG), Blood pressure (BP) and heart rate (HR) responses were assessed while subjects engaged in laboratory tasks designed to elicit happiness or anger. Exploratory analysis revealed that anger eliciting tasks led to increased Blood pressure, faster rate of heart beat, and greater cardiovascular reactivity which led to the conclusion that negative emotions lead to life threatening diseases like CAD and cancer.

Kiecolt-Glaser, McGuire, Robles, and Glaser (2002) in their study provide an excellent review of physiological pathways through which emotions can influence bodily reactions. Negative emotions enhance the production of proinflammatory cytokines, for example, Inflammation which in turn has been linked to certain cancers, Alzheimer’s disease, arthritis, frailty, osteoporosis, and cardiovascular disease. Furthermore, negative feelings can contribute to delayed wound healing and infection.

Pai, Mehrotra and Vidyasagar, (2003a) conducted a study on cancer patients undergoing radiation and found that the common sources of distress were spread across five different domains viz. financial, physical, role disruptions, interpersonal and spiritual domain. The most frequently reported distressing thoughts of patients were that they were a burden on their family, their health was worsening and that their illness was a punishment from God.

According to Ostir, Ottenbacher and Markides (2004) older individuals with positive moods and attitudes protected against strokes. For every step up on the researcher’s happiness scale, male participant’s stroke risk dropped 41 per cent, women’s risk dropped 18 percent per happiness unit. Happy people are more likely to get medical care, exercise and stay healthy all protective factors against stroke.
According to Physician Judith Bronner-Huszar (2005) a good giggle makes patient’s feel better, not only emotionally but also physically. It temporarily makes the pain, even severe cancer pains disappear. The physician studied a number of cancer cases and came to the conclusion that from a purely physiological standpoint laughter creates increased relaxation and oxygenation. Endorphins, the body’s homegrown “narcotics” go to work. The body’s immune system is stimulated as well. Happiness brings about wellbeing by combating destructive stress, depression, rage and insomnia. It provides an overall liberating effect. It leads to distraction from oneself, from one’s physical and other concern’s and plays a very beneficial role.

Wardle and Steptoe (2005) conducted a study which examined the impact of happiness on health. 116 middle aged men and 100 women from London were monitored at work and leisure and tested in a laboratory. Blood and saliva samples were taken and they were asked to rate their happiness at different points during the day. The researchers found that there were lower levels in the happier people of fibrinogen, a clotting factor in the blood which increases the risk of a heart attack. One important finding of the study was that the associations between happiness and biological responses were independent of psychological distress.

According to a study by Pressman and Cohen (2005) people who report more positive emotions experience lower rates of chronic illnesses (e.g. T.B., cancer, CAD), symptoms and pain. Moreover, elderly people who live by themselves or with family rather than in retirement homes, positive emotional dispositions are linked with living longer and are also beneficial for recovery from serious diseases.
Kohli, Grover, Grover and Kaur (2005). Conducted a study on myocardial infarction patients (males and females, age, 20-70 years) and assessed the quality of life of patients and their attendants. The findings lead to the conclusion that coping mechanisms and quality of life were significant intervening variables and quality of life was significantly affected after MI in areas of general psychological and emotional spheres.

According to Dombeck (2006) exercise promotes happiness and can have an antidepressant effect. It works because the mind and the body are one interconnected thing and not separate things. When we exercise regularly, we tone our body and metabolism; it regulates stress hormones like cortisol, and promotes the release of endorphins. This in turn leads to lowering the risk of heart diseases.

Ostir, Markides, and Ottenbacher (2006) found in a sample of Mexican-Americans aged 65 and older who were not on hypertensive medication, that positive affect was associated with lower blood pressure. After adjusting for relevant risk factors, positive affect continued to be significantly associated with lower diastolic blood pressure and hence lower risk of heart disease.

Iqbal and Bhatnagar (2007) investigated role of stress in two forms of heart diseases, that is, angina pectoris and myocardial infarction group. The results revealed that myocardial infarction group scored higher than the angina pectoris group on stress it shows that stress plays an important role in the development of myocardial infarctions group. That is why stress was experienced more by this group.

Sokhey and Jaspal (2007) conducted a study on 150 CAD patients to find out the relationship between family environment and mental health of cardiac patients and
normal controls. The results revealed that all areas of family environments except for control and conflict are positively correlated with general well-being and negatively with neuroticism. Thus it can be concluded that because of their illness CAD patients seek more support, cohesion from their families and supportive family environment enhances mental health and less behavioral problems whereas high conflicts in family are related to depression anxiety and hopelessness among cardiac patients.

Dubey and Agarwal (2008) studied quality of life in patients with chronic illnesses like Cancer, Heart diseases and Diabetes. The study led to the conclusion that perception of control and optimistic outlook in chronically ill patients make them perceive better psychological quality of life in their lives. A strong sense of control and social positive thoughts and plans for future projects, provide meaning to life even under most adverse circumstances, such as facing life threatening diseases.

Tang et al. (2008) found that an induction of depressed mood resulted in higher pain ratings at rest and lower pain tolerance, whereas induced happy mood resulted in the opposite pattern.

Chida and Steptoe (2008) conducted a meta-analysis of the prospective studies examining the association between positive well-being and mortality in both healthy and diseased populations. Positive psychological well-being was related to lower mortality in both healthy and diseased populations, independently of negative effect. Positive moods such as joy, happiness, and energy, as well as characteristics such as life satisfaction, hopefulness, optimism, and sense of humor were associated with reduced risk of mortality in healthy populations, and predicted longevity, controlling for negative states. Positive states were associated with reduced death rates in patients with HIV and renal
failure. In the healthy population studies, higher quality studies yielded evidence of
greater protective effects. In the disease population studies the protective effects were
greater when baseline disease and treatment were controlled.

Siahpush, Spittal, and Singh (2008) found that happiness and satisfaction
might lead to better health. The researchers looked at data from an Australian Survey
conducted in 2001 and 2004. Nearly 10,000 adults responded to items about health
indicators including the presence of long-term limiting health conditions and physical
health. The results found out that happiness and life satisfaction at the baseline survey
were both associated with (1) excellent good or very good health, (2) absence of long
term limiting health concerns, (3) higher levels of physical health 3 years later.

Happiness and optimism may play a role against breast cancer while adverse
life events can increase the risk of developing the risk, according to a study by Peled
Carmil, Siboni-Samocha and Shoham-Wardi (2008) at Ben-Gurion University in
Israel. In the study, the researchers questioned women about their life experiences and
evaluated their levels of happiness, optimism, anxiety, and depression prior to
diagnosis. Researchers used this information to examine the relationship between life
events, psychological distress and breast cancer among young women. A total of 622
women between the ages of 25 and 45 were interviewed. 255 breast cancer patients
and 367 healthy women. The results showed a clear link between outlook and risk of
breast cancer with optimists 25% less likely to have developed the disease; conversely
women who suffered two or more traumatic events had a 62 per cent greater risk.

Steptoe, O'Donnell, Badrick, Kumari and Marmot (2008) of University
College London, conducted a study on 2873 healthy men and women between the age
of 50 and 74. It was found that those who reported upbeat moods had lower levels of
Cortisol - a stress hormone. Over the course of one day the participants collected six
samples of their saliva so that the researchers could measure their cortisol levels, after
taking each sample participants recorded their current mood – the extent to which
they felt “happy, excited or content”. The researchers also measured participant’s
level of C-reactive protein and Interleukin b, two markers of inflammation in the
body. They found that the subjects who reported happier moods had lower average
cortisol level and Interleukin b – even when factors such as age, weight, smoking and
income were taken into account. These findings suggest another biological process
linking happiness with reduced cardiac and cancer vulnerability.

Tindle, et al. (2009) conducted a study on optimism, cynical hostility and incident
coronary heart disease and mortality in women. The researchers looked at rates of death
and chronic health conditions among participants of the women’s health initiative study,
which has followed more than 100,000 women ages 50 and over since 1994. The
researchers found that those with an optimistic outlook had a 90% lower risk of suffering
heart disease and were 14% less likely to die over the 9 years the study took place than
their pessimistic peers. Optimists also were less likely to have high blood pressure,
diabetes or smoke cigarettes. The most cynical hostile women had higher rates of CHD
than optimistic women (56 versus 44) and total mortality (66 versus 46), these women
also had a higher hazard of cancer related mortality.

Shirai, et al. (2009) conducted a study on perceived level of life enjoyment
and risks of cardiovascular disease incidence and mortality. Subjects were 88175
Japanese men and women 40 to 69 years of age who were free of cardiovascular
disease at baseline and followed up for a median of 12 years. Data was obtained through self administered questionnaires. The results revealed that a lower perceived level of life enjoyment was found to be associated with higher risks of cardiovascular disease incidence and mortality suggesting a protective role of positive psychological conditions and happiness on cardiovascular disease.

Stewart, Rand, Muldoon and Kamarck (2009) conducted a study on 331 healthy adults over 3 years. He found that initial levels of depression, anxiety and hostility led to higher levels of Interleukin B (harmful protein responsible for diseases like cancer and CAD) in 3 years. Whereas happier, more purposeful people were at a lower risk for CAD and cancer because their blood had fewer receptors for the damaging protein.

Henry and Smith (2009) conducted a study on unhappy marriages and women’s heart disease risk. The researchers looked at 276 couples, married an average of 20 years ranging from 40 to 70 years. The couples filled out questionnaires reflecting quality of marriage, emotional support, happiness and communication among patients. The researchers found that women in unhappy marriages were more likely to feel depressed and had more risk factors for metabolic syndrome that can lead to heart disease.

Lane, Reiss, Peterson, Zareba and Moss (2009) conducted a study to determine whether the circumstances preceding an arrhythmic event differed from those preceding a prior control occasion in patients with Long QT Syndrome (LQTS), a well characterized genetic disorder that puts affected individuals at risk for sudden cardiac death.
38 patients with LQTS completed a “care cross over interview” in which each patient served as his/her own control by reporting on circumstances preceding an arrhythmic event and preceding a control occasion. The interview was conducted 17 months after the cardiac event and control occasion. The results revealed that during the 24 hour period preceding the cardiac event compared to the day before the control occasion, psychological stress was elevated, peak happiness was reduced and peak exertion was not significantly different. It was thus concluded that happiness is associated with a reduction in the 24 hour risk of cardiac events in patients with LQTS, with stress having an opposite effect.

Davidson, Mostofsky and Whang (2010) conducted a study on happiness and its impact on CAD. Over a period of 10 years Dr. Davidson and her colleagues followed 1,739 healthy adults (862 men and 877 women) who were participating in the 1995 Nova Scotia health Survey. At the start of the study in 1995, trained nurses assessed the participants’ risk of heart disease and with both self reporting and clinical assessment, they measured symptoms of depression, hostility, anxiety and the degree of expression of positive emotions which is known as ‘positive affect’ and then again the dispositions of 1739 volunteers were evaluated in 2005. The researchers found that over the 10 year period, increased positive affect predicted less risk of heart disease by 22% per point on a 5 point scale. Participants with no positive affect were at a 22% higher risk of Ischemic heart disease (heart disease or angina) than those with a little positive affect, who were themselves at 22% higher risk than those with moderate positive affect. The findings led to the conclusion that people
who are naturally happy appear to have a lower risk of developing heart disease or
dying from heart attacks.

2.2. HOPE

The increase of chronic illnesses and life expectancy creates an enormous need
to provide palliative care to people who are terminally ill. An integral component to
such palliative care is the manner in which such individuals are coping with what is
often, though not always a distressing process. In this regard researchers have
examined numerous ways in which people can cope with the stress of dying. One such
human strength that is implicated in coping is hope. When hope is present people can
identify meaningful and realistic desired outcomes, and harness the resources for
pursuing those outcomes. Dying patients are likely to use such active coping if they
are hopeful that their strategies will be effective in reaching their desired goals.

Schmale and Iker (1970) conducted a study on hopelessness as a predictor of
cervical cancer. The researchers selected a group of healthy women considered
biologically predisposed to cancer of the cervix. Criteria for hopelessness prone
personality and feelings of hopelessness were applied to interview data and the
predictions were matched with the pathological reports of cone biopsies and were
found to be statistically predictive of cancer and no cancer.

A controlled study conducted by Doongaji et al., (1985) examined probable
association between malignancy and psychosocial stress. Information about life change
events was elicited over a period of three years rather than during the year just preceding
the illness. The life change stress scores were high in the third year and in the year preceding the illness in the index group vs. the control group.

Rideout and Montemuro (1986) conducted a study to investigate the relationship among the psychosocial variables of hope and morale, the level of function and physiological status of patients with chronic heart failure. The participants were 23 patients with chronic heart failure. The findings suggested that patients who are more hopeful maintain their involvement in life regardless of physical limitations imposed by their heart failure.

Herth (1989) investigated the relationship between hope and coping in 120 adult patients undergoing chemotherapy in hospital, outpatient and home settings. The study found a significant relationship between level of hope and level of coping among subjects in all 3 settings.

McGill and Paul (1993) investigated the relationships and differences in hope and functional status in elderly people with and without cancer. The within cancer group was a sample of 86 patients and without cancer group was a sample of 88 people who had never been diagnosed with cancer. The results of this study indicated that declining physical health is a threat to hope however age, gender or a diagnosis of cancer are not.

Hirth and Stewart (1994) carried out a study to explore whether social support and hope contributed to effective coping in adults waiting for cardiac transplantation. 31 Individuals in 4 Canadian transplant centers completed questionnaires regarding social support, hope and coping. Findings suggested that hope was the only variable that contributed to coping effectiveness.
Everson, et al. (1996) examined the relationship among low, moderate and high levels of hopelessness, all cause and cause-specific mortality and incidence of Myocardial Infarction (MI) and cancer in a population based sample of middle-aged men. Participants were 2428 men. The participants were followed up for a period of 6 years. The results revealed that moderately and highly hopeless men were at significantly increased risk of all-cause and cause-specific mortality relative to men with low-hopelessness scores. High hopelessness also predicted incident MI and moderate hopelessness was associated with incident cancer. It was thus concluded that hopelessness is a strong predictor of adverse health outcomes independent of depression and traditional risk factors.

Ballard, Green, Mcaaa and Logsdon (1997) carried out a study to compare levels of hope in patients with newly diagnosed and recurrent cancer. 20 newly diagnosed patients with cancer and 16 patients with recurrent cancer (mean age = 56 years) were taken. Majorities of the patients were married and had a religious affiliation. Contrary to expectations patients with newly diagnosed and recurrent cancer died not differ in regard to their level of hope. However, significant differences were found related to the type of hope utilized. Married patients and male patients experienced higher levels of hope. It was concluded that patients with newly diagnosed cancer use their treatment and nurses, physicians and other health care professionals as a source of hope and support. Patients with recurrent cancer reported drawing hope from faith.

Fehring, Miller and Shaw (1997) conducted a study to determine the relationships among hope, spiritual well-being, religiosity, depression and other mood
states in elderly people coping with cancer. The sample consisted of 100 elderly people with diagnosis of cancer. The results revealed a consistent positive correlation among hope, religiosity and other positive mood states. A consistent negative correlation among depression, religiosity and other mood states existed. It was thus concluded that religiosity and spiritual well-being are associated with hope in elderly people coping with cancer.

Chandra, Chaturvedi and Channabasvanna (1998) investigated the role of psychological well-being (e.g. Family support, positive feelings of hope, optimism and coping) among cancer patients receiving radiotherapy. The impact of cancer on the psychological well-being of newly diagnosed cancer patients before and during the course of radiotherapy was assessed in 70 consecutive cancer patients. Most of the patients were illiterate and from a lower socio-economic group. The results revealed that during the course of treatment there was a decrease in the well-being scores on some dimensions such as perceived family and primary support group. Improvements were seen in the dimensions of positive feelings like hope, optimism, coping, social support other than the family and spiritual well-being.

Irvin, Snyder and Crowson (1998) conducted a study to examine the effect of hope on coping with cancer by college women. The relations of dispositional hope to various self reported cancer-related coping activities were examined in 115 college women. The results revealed that dispositionally high V/s low hope subjects were more knowledgeable about cancer. Additionally high v/s low hope women reported more hope related coping responses in 4 separate phases of cancer (prevention/risk, detection, temporal course and impact) and these relationships remained when shared
variances related to previous academic achievement, knowledge about cancer, experience with cancer and negative affectivity were removed.

Heszen-Niejodec, Gottschalk and Januszek (1999) investigated the role of anxiety and hope during the course of three different medical illnesses: hypertension, myocardial infarction and cancer. The purpose of the study was to explore emotional reactions to different kinds of illnesses and changes of these emotions over time. 259 subjects were taken who were medical patients suffering from; primary hypertension, myocardial infarction and cancer of the lungs or pharynx. The study was longitudinal and consisted of 3 phases. The first was performed immediately after the patient was diagnosed; the second was done 5 weeks later and the third about half a year after the onset of illness. The patient’s emotional state was evaluated with the Anxiety and the Hope scales. The results revealed that in the hypertension group, both anxiety and hope were slightly elevated immediately after diagnosis, and then slightly lowered. The Myocardial group exhibited a low level of these emotions in the first phase, an increase in the second and then a little decrease, cancer patients manifested high anxiety and relatively low hope in the initial phase, then a decrease in anxiety and an increase in hope later.

Rustoen and Wilklund (2000) investigated the role of hope in newly diagnosed patients with cancer. 131 Norwegian patients with newly diagnosed cancer were studied. Most of the patients were found to be hopeful or moderately hopeful. The variable with the single most contribution to hope was whether the patient lived alone. The results revealed that younger people in particular experienced less hope when living alone.
Stanton, Danoff-Burg and Huggins (2001) conducted a study on hope and coping strategies as predictors of adjustment in breast cancer. The participants were 70 women with stage I or II breast cancer. Consonant with previous studies the results revealed that coping through active acceptance /hope at diagnosis predicted more positive adjustment across time and avoidance oriented coping predicted greater fear of cancer reoccurrence over and above participant age. It was also found that coping through turning to religion would be more effective for less hopeful women.

Rustoen, et al. (2003) conducted a study to find out how sociodemographic and health-related variables were related to hope. The level of hope among 4000 Norwegian adult citizens, randomly drawn from the national register was assessed via questionnaires. The results showed that participants who were satisfied with their health reported higher levels of hope. Participants who had a chronic disease (eg. CAD, AIDS, CANCER) reported significantly higher hope scores compared to those without a chronic disease. In this study, an individual’s subjective evaluation of his/her health was the most important health related predictor of hope.

Evangelista, Doering, Dracup, Vassilakis and Kobashigawa (2003) conducted a study to investigate the role of hope on mood states and quality of life in heart transplant recipients. The participants were 50 women from single heart transplant clinic. The patients had undergone heart transplantation prior to study participation. Patients reported experiencing moderately low hope, high anxiety and hostility. The study supports the strong association between hope, mood states and Quality of life. The finding suggests that interventions directed at fostering hope among heart transplant recipients may be the key to improving their Quality of life.
Felder and Barbara (2004) conducted a study on hope and coping in patients with various cancer diagnoses. Four groups of patients with gastrointestinal, head/neck, breast or hematological malignancies were taken for study (total = 183 patients). The findings demonstrated that the level of hope was high and was positively related to coping in patients with cancer, regardless of gender, age, marital status, education or site of malignancy.

Pahwa, Babu and Bhatnagar (2005) qualitatively explored emergent themes in a sample of terminally ill cancer patients. The following seven themes emerged: concerns about physical pain, anxiety and depression (related to unfulfilled dreams and concerns about the welfare of the family), body-image issues, social withdrawal, disease viewed as bad karma, desire for hastened death and hope.

Rustoen, Howie, Eidsmo and Moum (2005) investigated the role of hope in patients with heart failure and the influences of demographic and health-related variable on hope. 93 patients with heart failure and 441 healthy control subjects were studied, mean age was 75 years. The findings suggested that after controlling for demographic variables patients with heart failure had significantly higher global hope scores than control subjects. It was concluded that adaptation to a life-threatening illness may induce a “response shift” that causes such patients to have more hope than the general population.

Argaman, Gidron and Ariad (2005) carried out a study on hopelessness and cancer progression. The researchers proposed a psychoneuroimmunological (PNI) model that links helplessness – hopelessness (HH) with cancer progression via brain and systemic components (Interleukin IB). The study led to the conclusion that
feelings of hopelessness leads to elevated Interleukin IB (harmful protein responsible for diseases like CAD and cancer) which leads to cancer progression whereas positive feelings of hope/optimism minimizes the activity of Interleukin IB and thus have an positive influence on cancer.

Singh (2006) studied psychological aspects of pain in cancer patients and found that people suffering from life threatening disease like cancer come across different physical and psychological stressful experiences. More so cancer pain patients are the most vulnerable group to psychopathological complications. The study lead to the conclusion that psychological variables which are a consequence of pain often propose to be the sole cause of pain without addressing to medical factors, and psychological interventions such as psychotherapy and cognitive behavioral therapy play an important role in managing cancer pain.

Jones, Rodin, Huggins and Rydall (2007) conducted a study on symptomatic distress, Hopelessness and the desire for hastened death (DHD) in hospitalized cancer patients at varying stages of disease. 224 cancer patients completed questionnaires assessing pain, physical symptoms, depression, hopelessness and DHD. There was significant physical and psychological distress in this sample with a mean of 9 physical symptoms reported by each patient. Hopelessness and the stage of disease were the only significant Independent predictors of DHD and their interaction was associated with increased DHD.

Schreirer, Sanatani and Stitt (2007) conducted a study on hope among cancer patients. 50 cancer patients (29 curative Intent; 21 palliative) were surveyed before consultation. The patient’s level of hope was assessed and they were asked to indicate
their highest priority hopes. This survey was reported 4 months after initial assessment. The results revealed that highest priority initial hopes were: Cure, other positive health outcomes, emotional well-being, return to normalcy and interpersonal goals. There was a significant increase in the level of hope over time in curatively treated patients, but none in the combined analysis.

Ratajska (2008) conducted a study on Hope in patients with congestive heart failure. The subjects were 18 people with congestive heart failure, 60 cardiological patients without heart failure, and 60 healthy persons. The results revealed that the level of hope in patients with congestive heart failure is much higher than the level in cardiological patients without heart failure, healthy persons come is the middle.

Hendricks-Ferguson (2008) conducted a study to examine hope and spiritual well being, with its 2 dimensions of religious well-being and existential well-being, as they relate to age and gender among adolescents with cancer. A total of 78 adolescents with a diagnosis of cancer were enrolled from 2 pediatric oncology clinics. Results revealed that middle adolescents (15-17 years of age) reported higher religious well-being than late adolescents (18-20 years of age) Middle adolescent girls were more hopeful and reported higher spiritual well-being than boys.

Awasthi and Mishra (2008) conducted a study on chronic illness beliefs of cancer women (n=100) regarding causation, consequences, Controllability, and outcomes of their health problems. The results revealed that uneducated and rural patients tended to hold a strong belief in supernatural causes than educated and urban subjects. Belief in individual causation was found to be positively related with interpersonal, physiological and psychological consequences of the disease. Perhaps this finding was found due to the
psychological impact of cancer, which is obviously devastating. Some patients cope with the challenges of the disease relatively calmly and constructively, whereas others particularly those with pre-existing psychological difficulties, often go into an emotional tailspin. In the present study, cancer patients held a strong belief in doctors' control. They believed that doctors can control their illness. This belief tended to reduce the interpersonal and psychological consequences as well as feeling of pain and severity of the disease. The belief in such controls led to a strong hope for a better health status and life. Even patients at the advanced stage of cancer are found to be hopeful of complete cure.

Hassan-Ohayon, Kravetz, Levy, Yaniv and Roe (2009) investigated the mediating role of hope between religiosity and coping for women diagnosed with breast cancer. Israeli Jewish women with breast cancer (n=233) completed the Mental adjustment to cancer scale, the systems of Belief inventory, and the Hope scale. The results found hope to be a mediator between religiosity and coping. It can be concluded that special attention should be given to the role of hope for religious patients because it increases the positive effects of religion in coping with cancer.

Eliott and Olver (2009) conducted a qualitative study on hope, life and death. 28 patients with cancer believed to be within weeks of their death were asked to talk, about hope. Responses were transcribed and discursively analyzed, with 3 versions of hope each of which connected hope and life, Identified hope as essential for life, and hope(s) changing during (or in)life. Hope for cure was common. Rather than death denying, patient’s hope appeared life affirming, functioning to value patients, their lives and connection with others.
Rustoen, et al. (2010) conducted a study in a community based sample of cancer patients, to evaluate the relationships between demographic and clinical characteristics, health status, hope, psychological distress and life satisfaction and evaluate whether hope mediated the relationship between psychological distress and life satisfaction. The participants were primarily women with breast cancer (N=194). The results revealed that 60% of the variance in life satisfaction, poorer health status, lower hope and higher psychological distress were significantly related to lower satisfaction with life. Hope was found to mediate the relationship between psychological distress and health status such that the direct association between distress and health status was no longer significant with hope in the model. These data suggest that hope is an important resource for oncology patients that impact their quality of life.

From the studies cited above it may be concluded that hope may be an important coping mechanism that clinicians need to consider when they try to help patients reduce the psychological distress associated with cancer and CAD.

2.3. Health Behaviour

It is well known that a patient's health behaviour will affect the survival outcome of disease. Behaviours such as stopping smoking, moderation of alcohol intake, healthy eating and physical activity can increase survival rates of patients with serious illnesses such as cancer, heart disease and Type 2 diabetes.

Mulhern et al. (1995) studied the health behaviors among survivors of childhood cancer. The researchers surveyed 110 parents of long-term survivors ranging in age from 11 years to 17 years and 40 adult long-term survivors of childhood cancer ranging in age from 18-29 years. The results revealed that the young adult survivors appeared to practice
more healthy lifestyles when compared with age peers in the general population. Surprisingly demographic factors were not associated with healthy behaviors. A majority of both patients and adult survivors believed that it was important for the young survivors to remain healthy compared with most other people, suggesting that this group may be receptive to adopting maintaining healthy behaviors.

Nord and Brorsson (1995) conducted a study to see the Health Related Quality of Life (HRQL) among patients with coronary artery disease (CAD). The subjects were 800 CAD patients and 2500 normal subjects from the general Swedish population. The results showed that HRQOL among CAD patients is generally lower than in the general population. Female CAD patients scored lower than male CAD patients. The size of the difference in HRQOL was approximately the same irrespective of age among female CAD patients compared to the general population sample whereas the difference was much greater among men with CAD aged 55-64 and 65-74 than it was among males with CAD aged 75-84.

Jarsma et al. (1998) conducted a study on self care behaviour of patients with heart failure. Data were collected from 128 heart failure patients (mean age 72 years) during a hospital stay and at 1, 3 and 9 months follow up. Results showed that education enhanced self-care behavior significantly at 1 and 3 months follow-up. Patients in both the intervention and control groups described limitations in knowledge, judgment/decision making skills. It can be concluded that supportive educative intervention is effective in enhancing heart-failure related self care behaviours early after discharge.
Hasuo, et al. (1998) conducted a study on smoking behavior and cognition for smoking cessation among Japanese men after the diagnosis of cancer. Subjects were 144 patients with head and neck cancer and 104 patients who were current or ex-smokers at time of diagnosis. The results revealed that among 164 patients who were smokers at the time of diagnosis, 59 reported that they continued to smoke after the diagnosis of cancer. Stomach cancer patients had significantly higher continuance rate of smoking than head and neck cancer patient and patients is fifties had the highest continuance rate of smoking in the study participants. Among 105 patients who were abstinent 79% had stopped smoking within 6 months after the diagnosis of cancer. Interest in smoking cessation among the current smokers was very high.

Campbell, et al. (2001) conducted a study on health behavior changes occurring after colon cancer. The researchers found that a cancer diagnosis leads to lifestyle (nutrition and exercise) changes and these patients used support groups more frequently.

Emmons, Whitten and Li (2002) found that the smoking rates of survivors of childhood cancer were lower than the general population and that once smoking was initiated survivors of cancer were more likely to quit.

Maunsell, Drolett, Brisson, Robert and Deschenes (2002) completed a follow up of 250 women with newly diagnosed non metastatic breast cancer. At 12 months, 41% reported dietary changes after diagnosis with a decrease in meat (77% and an increase in fruit and vegetable intake (72%). The study led to the conclusion that there is a high frequency of dietary changes after a breast cancer diagnosis and these dietary interventions lead to positive health outcomes.
Shen, Creary and Myers (2002) analyzed the independent and mediated contributions of personality, coping, social support and depressive symptoms to physical functioning/health outcomes among patients in cardiac rehabilitation. The results showed that after controlling for age, illness severity, baseline physical functioning and other psychosocial correlates, optimism and social support still significantly predicted better post treatment physical functioning.

Patterson et al. (2003) carried out a study to see whether a cancer diagnosis can lead to health related life style changes in diet, exercise and supplement use. The survey was based on telephone interviews with 356 adults who had been diagnosed with breast, prostate or colon cancer. These patients were interviewed up to 2 years after diagnosis. Overall, the researchers found that lifestyle changes were very common after a cancer diagnosis. 50% of those surveyed started taking new dietary supplements, 40% made dietary changes and 20% started a new physical activity. The vast majority of patients reported that these lifestyle changes improved their health and well being. Older patients (those over 60) were about half as likely to make dietary changes after a cancer diagnosis, female patients were twice as likely to take new dietary supplements, and those undergoing multiple treatments were two to three times more likely to make changes in diet. More educated patients were more likely to make dietary changes.

Blanchard et al. (2003) conducted a study to examine lifestyle behaviours after a cancer diagnosis and medical and demographic influences on such changes. The subjects were 352 adult cancer survivors who completed a survey including medical, demographic and lifestyle behavior change questions. The results showed that since cancer diagnosis 46% of smokers quit smoking, 47% improved their dietary habits, and 30% exercised
less. Adult cancer survivors who changed their lifestyle behaviors varied, depending on various demographic and medical variables and physician recommendation.

Collelea and Kathryn (2004) conducted a study to see the effect of peer support in cardiac recovery. The research findings suggest that peer support a form of social support, is a viable and potentially sustainable mechanism to put in place during transitional life events such as recovery from cardiac surgery. Peer support infuses feelings of optimism and hope in these patients and leads to improvement in their health behaviour.

Pinto and Trunzo (2004) conducted a study on health behaviours during and after a cancer diagnosis. The researchers searched MEDLINE and psychoinfo computerized databases for studies reporting prevalence and interventions targeting smoking, alcohol use, diet and exercise published in English since 1980. The researchers found that a cancer diagnosis causes cessation of smoking and alcohol it leads to healthy lifestyle behaviours, among cancer patients.

Martha et al. (2005) conducted a study to determine the effect of behavioural management on health related quality of life (HRQOL) in patients with heart failure. Participants (N=116) were randomly assigned to one of 2 groups: Usual care for heart failure (n = 58) and the 15 week behavioural management program (n=58). The participants at baseline and 10 and 16 months. The results revealed that intervention patients showed significantly improved self reported disease specific HRQOL overtime compared to control patients.

Franks, Rook and Franklin (2006) conducted a study to examine spouses’ provision of health related support and control as predictors of health behaviour and
mental health among patients participating in cardiac rehabilitation (N=94 couples). Cross-sectional analysis revealed that spouses' support was positively associated with patients' health care behaviour. Prospective analysis of change over 6 months (N=65 couples) revealed that spouses' support predicted increased patient mental health, whereas spouses' control predicted decreased patient healthcare behaviour and mental health.

Awasthi, Mishra and Shahi, (2006) examined illness beliefs and health seeking behavior of educated, uneducated, rural and urban women suffering from the cancer of cervix in northern India. The findings revealed that individual and psychosocial causes were more strongly represented in the belief system of patients than environmental or supernatural causes. The perceived consequence of illness was negatively correlated with the degree of social support available to patients.

Wofford, Croft, Greenlund and Labarthe (2007) investigated the changes in diet and physical activity of U.S. adults with heart disease following preventive advice. The researchers conducted a telephone based survey of 7392 people with coronary artery disease. The results revealed that patients who were advised by their physicians to make the required health care and lifestyle changes were somewhat more likely to engage in healthcare behaviours than those who were not advised. The results also revealed that these changes led to improved cardiac rehabilitation.

According to Colditz (2007) health care is the most important factor that can prevent cancer. Exercise and a healthy diet can reduce a person's chances of getting cancer. Basic behaviour changes (e.g. to quit smoking, lose excess weight etc.) would have a tremendous impact on the incidence of the most prevalent types of cancer — lung,
breast, prostate and colon cancer. According to him “50 percent of cancer incidence could be prevented if we act today on what we already know”.

Whooley et al. (2008) conducted a study on 1017 outpatients with stable coronary artery disease followed up for an average of 4.8 years. The researchers found that patients with depressive symptoms had a 50 percent greater risk of cardiovascular events than participants without depressive symptoms and higher levels of physical activity, exercise and change in health behaviours were associated with a reduction in the strength of association between depressive symptoms and cardiovascular events.

Pischke, Scherwitz, Weidner and Ornish (2008) conducted a study on long-term effects of lifestyle changes on cardiac variables among coronary heart disease patients. The subjects were 38 CAD patients who were studied at baseline, 1 year and then 5 years later. By the end of 5 years the results revealed that health behaviour and lifestyle changes led to beneficial effects on coronary factors (e.g. weight, blood pressure, cholesterol, clinical, events, low density lipoprotein).

Demark et al. (2008) conducted a survey of 1667 survivors of breast and prostate cancer (patient’s diagnosed up to 6 years previously) to study the prevalence of health behavior among adult patients with cancer. The results reflected a high prevalence of healthy behaviors among the respondents. 80% were interested in health education programs and 57% wanted such information at diagnosis or soon after. However younger survivors (age <65 years) were more interested in such programs that older respondents.

Costanzo, Ryff and Singer (2009) carried out a study to examine whether cancer survivors showed impairment, resilience or growth responses relative to a sociodemographically matched sample in 4 domains: mental health and mood,
psychological well-being and spirituality. Participants were 398 cancer survivors and 796 matched responses with no cancer history. Psychosocial assessments were completed in 1995-1996 and 2004-2006. Findings indicated that cancer survivors demonstrated impairment relative to the comparison group in mental health, moral and some aspects of psychological well-being. Longitudinal analysis spanning pre and post diagnosis clarified that mental health declined after a cancer diagnosis.

Hawkins et al. (2010) conducted a study on health related behaviors changes after cancer. The researchers analyzed from a cross-sectional survey of 7,903 cancer survivors at 3, 6 and 11 years after diagnosis. The results revealed that of the 15 behaviours assessed, survivors reported 4 positive and 1 or 0 negative behaviour changes. Positive changes correlated with younger age, fear of recurrence, greater education, breast cancer, longer time since diagnosis and spiritual well-being while negative changes correlated with younger age, being widowed, divorced or separated and lower physical and emotional health.