Chapter 2
Review of Literature
CHAPTER TWO

REVIEW OF LITERATURE

Review of relevant literature is important in research process as it provides a background and justification for the research undertaken. This chapter examines the existing literature related to perceived social support, meaning in life and mental adjustment among cancer patients. Firstly, relevant studies on perceived social support are described. Secondly, relevant studies on meaning in life are discussed. In the next part, studies pertaining to mental adjustment are explored. Finally, all the literature relevant to perceived social support and mental adjustment; and meaning in life and mental adjustment are discussed. The present chapter summarizes all the main findings from earlier studies and identifies areas requiring further investigation.

2.1 Relevant Studies on Perceived Social Support

Marine and Miller (1998) have made an attempt to evaluate the support and conflict in close relationships of adolescents in active medical treatment for cancer. Family and friend perceptions of supportive and conflictual behaviors were examined in relation to psychological distress, taking into account the impact of functional impairment induced by the illness. The sample of the study consisted of 50 adolescent cancer patients between the ages 12 and 20. The results revealed that perceived maternal conflict was associated with psychological distress. Conflict with fathers, siblings, and best friends was not associated with distress. Supportive aspects of close relationships did not predict psychological distress.

Katapodi, Facione, Miaskowski, Dodd, and Waters (2002) examined the relationship between women's reported social support and their adherence to recommended breast cancer screening guidelines. The sample of the study consisted
of 833 mostly low-income women. The results of the study revealed that higher levels of perceived social support were related to the higher income and education. Moreover, it was also reported that those women who did not adhere to screening guidelines (for BSE or CBE) reported less social support.

Brown, Sheffield, Leary, and Robinson (2003) carried out a study entitled social support and experimental pain. The aim of the study was to indicate that the provision of social support is associated with lower levels of acute pain. The sample of the study consisted of 52 men and 49 women. The participants performed the cold pressure task either alone or accompanied by a friend or stranger who provided active support, passive support, or interaction. The results revealed active support and passive support conditions were associated with less pain. The results clearly indicate that social support in any form reduces the pain in a human being.

Krohne and Slangen (2005) explored influence of social support on adaptation to surgery. The aim of the study was to examine the effect of patients' social support on subjective and objective stress indicators before, during, and after surgery. 42 male and 42 female were taken as the sample of the study. The researchers found that higher levels of social support were associated with less anxiety, lesser doses of narcotics, and shorter hospital stay. However, social support was found more in women than in men.

Clarke, Booth, Velikova, and Hewison (2006) conducted a qualitative study the aim of which was to explore how patients perceive the support they receive and to examine patient preferences and satisfaction with information and emotional support provided by staff. Eleven melanoma patients (6 men and 5 women) and 5 breast cancer patients consisted as the sample of the study. The results of the study revealed that gender was central to patients' satisfaction and preference for support. The
women participants anticipated staff to offer information and emotional support and men felt that emotional support from staff was inapt and perceived information as supportive in helping them deal with their emotions. Breast cancer patients were more satisfied with access to and the nature of support available to them. Results suggest that female melanoma patients would benefit from similar services.

Ozkan and Ogce (2008) explored the role of social support in functional status to a diagnosis of cancer. The sample of the study consisted of 84 patients with breast cancer. Multidimensional Scale of Perceived Social Support (MSPSS), and functional status, assessed with the Inventory of the Functional Status Cancer (IFSA-CA) were used in the current study. The results revealed that support from friends significantly affected general functional state. Moreover, occupational activities were also improved by general social support.

Sammarco and Konecny (2008) conducted a study to explore the connection between perceived social support, uncertainty, and their individual and combined effects on quality of life among Latina breast cancer survivors. The sample of the present study consisted of 89 Latina breast cancer survivors in the age range of 30-86 years. The sample of the study completed a personal data sheet, the Social Support Questionnaire, the Mishel Uncertainty in Illness Scale-Community form, and the Ferrans and Powers Quality of Life Index-Cancer Version III at home and returned the questionnaires to the investigators via postage-paid envelope. The results of the study revealed a significant positive correlation between perceived social support and total quality of life and a significant negative correlation was found between uncertainty and quality of life. Social support predicted 15.1% of quality of life variance, and uncertainty predicted 10.4% of additional quality of life variance. Together, these two variables predicted 20.5% of QOL variance.
Matthews and Cook (2009) investigate the relationship between optimism and emotional well-being and the individual and combined mediation of this relationship by perceived social support, problem focused coping, and self-transcendence in women with breast cancer during radiation therapy. The sample of the study consisted of 93 breast cancer patients. The researchers found that that optimism was positively related to emotional well-being. Of the three mediators, only self-transcendence was found to partially mediate the relationship between optimism and emotional well-being. Moreover, optimism was found to be related with social support, but its indirect effect on emotional well-being through social support did not reach significance.

Sammarco (2009) examined the differences between older and younger breast cancer survivors in perceived social support, uncertainty, and quality of life. A sample of 163 older and 129 younger breast cancer survivors was recruited from the New York metropolitan area. Participants completed the Social Support Questionnaire, Mishel Uncertainty in Illness Scale Community Form, and the Quality of Life Index-Cancer Version III. Significant differences between younger and older cohorts were found in total social support, spouse and nurse social support subscales, and socioeconomic and psychological/spiritual quality of life subscales. Uncertainty, additional illnesses, social support, older age, surgical treatment, and mastectomy were significant predictors of quality of life.

Deno et al. (2012) conducted a study on 225 head and neck cancer patients the aim of which was to examine how social support and self-efficacy mediate the relationship between social distress and emotional distress. The results of the present study revealed that self-efficacy strongly buffered the negative influence of social distress on emotional distress. Social support from family members did not have a
direct or indirect influence on emotional distress. However, social support from friends was related to lower social distress and higher emotional distress.

Naseri and Taleghani (2012) carried out a research study the purpose of which was to assess the received social support and its correlation with demographic and medical variables. The sample of the study consisted of 200 cancer patients who were selected on convenient basis from Sayed Al-Shohada Medical Center in Isfahan, Iran. The researchers found that perceived social support from their families, friends and relatives was experienced by 94.5% of cancer patients. Number of children was found to have significant effect on the perception of the social support. Moreover, medical and demographic variables were found to have no relationship with perceived social support.

Stefaniak et al. (2012) in their study examined psychosocial correlates of pain among the pancreatic cancer patients, with a special emphasis on social support. The sample of the study consisted of one hundred and thirty one patients (52 women and 79 men) diagnosed with pancreatic cancer. The researchers found that there was a strong positive correlation between pain intensity and the social support in the opioid-using group. On the other hand, in the opioid-naïve group, there was no relationship between pain and perceived social support level. Pain and social support were found strongly correlated in women.

Awasthi and Mishra (2013) examined the relationship of social support and illness control agency with illness consequences and health outcome beliefs among cervix cancer patients. The sample of the study consisted of 100 women patients suffering from cervix cancer who were selected from the outpatient departments (OPD) of medical centers and hospitals located in Varanasi city. Illness Consequences Belief Measure, Illness Controllability Belief Measure, Illness Outcome Belief
Measure, and Social Support Measure were used as tools for the collection of the data for the present study. The results revealed that emotional, informational, social companionship and practical supports were found to be negatively correlated with the severity of interpersonal, physiological and psychological consequences of illness. Belief in self-control of the patient and control of doctor were related to strong hope for better health outcomes and less pain of illness.

Eom et al. (2013) carried out a study on 1930 cancer patients treated at the National Cancer Center and nine regional cancer centers across Korea, the aim of which was to investigate the impact of perceived social support on the mental health and health-related quality of life in cancer patients. The results of the present study revealed that the subjects with low perceived social support reported significantly higher levels of depression and lower global health/quality of life scale scores. Perceived social support was associated with mental health and quality of life in cancer patients, through direct effect rather than stress-buffering effect.

Loona et al. (2013) investigated the effects of perceived social support on depression among cancer patients. The sample of the study consisted of 100 male and 100 female cancer patients whose age ranged from 20-80 years were selected on purposive basis. Significant negative correlation was found between perceived social support and depression. More depression and less social support were found in unmarried and married female patients than the unmarried and married men. These results suggest that female cancer patients suffer more than males.

Kavitha and Jayan (2014) have conducted an investigation to assess the role of social support on cancer distress among 235 breast cancer patients who were taken from Calicut Medical College, Kerala. Instruments used were Berlin’s social support scale and Distress Inventory-Cancer (DIC) version-2. The results revealed that there is
a significant negative correlation between perceived social support and cancer distress. These results propose the importance of social support for dealing with the cancer distress.

Rajeev and Mohan (2014) carried out a study on 46 cancer patients in institutional settings of six palliative care clinics in Wayanad district, Kerala. The aim of the study was to identify the social support persons or groups who extend social support to the cancer patients. The researchers found that majority of the cancer patients came out from the nuclear family and belonged to poor socio-economic status. The results of the study clearly point out the importance of psycho education among the family members of the cancer patients and the public. This endeavor will be supportive to the patient to ensure different kinds of social support towards the improvement from the disease.

Zaidi (2014) examined depressed patients in order to understand the gender differences in perceived social support and clinical Anger. The sample of the study consisted of seventy diagnosed patients who were selected from different psychiatry departments of hospitals of Lahore. Multidimensional perceived social support scale and Clinical Anger Scale were used to assess perceived social support and clinical anger in depressed patients. The results of the study revealed that there are no significant differences in perceived social support and clinical anger among depressed patients. Moreover, a significant negative correlation was found between perceived social support and clinical anger among depressed patients. The result can helpful for psychologist and other professionals to plan the therapeutic interventions for depressed patients.

Thompson et al. (2016) carried out a study on perceived social support change in patients with early stage breast cancer and controls. The sample of the study
consisted of 542 controls and 541 patients. Telephone interviews were conducted 4 to 6 weeks and 6, 12, and 24 months after surgery (patients) or a normal/benign screening mammogram (controls) in order to collect information regarding the perceived social support and other demographic and psychosocial variables. The results revealed that most participants reported high social support. Patients reported significantly higher levels of social support at baseline than controls. As compared to controls the social support of the patients declined with the passage of time.

Li, Yang, Liu, and Wang (2016) assessed quality of life as well as the integrative effects of social support, hope and resilience on quality of life among 365 bladder cancer patients who completed questionnaires on demographic variables, FACT-BL, Perceived Social Support Scale, Adult Hope Scale, and Resilience Scale-14 during July 2013 to July 2014. The results of the study revealed that social support, hope and resilience as a whole accounted for 30.3 % variance of quality of life. Under standardized estimate (β) sequence, social support, hope and resilience significantly and positively associated with quality of life, respectively.

Thompson et al. (2017) conducted a study the aim of which was to examine changes in perceived social support in African American women during the two years following a new breast cancer diagnosis. The sample of the study consisted of 227 African American women with breast cancer. The researchers found that the married patients reported more spirituality and at the baseline, perceived social support was found negatively correlated with depression. The women whose level of social support declined during first two years, reported higher levels of depression and worse general health perceptions.

Oven, Acar, and Caliskan (2017) explored the predictive factors for the perceived family social support among cancer patients and caregiver burden of their
family caregivers. The sample of the study consisted of 302 cancer patients and their family caregivers. The results revealed that depression was found more in cancer patients than their family members. Family caregiver role was negatively correlated and presence of depression was positively correlated with caregiver burden. Moreover, depression was found as a significant predictor for lower perceived social support for patients and higher burden for caregivers.

2.2 Relevant Studies on Meaning in Life

Taylor (1993) carried out a study the purpose of which was to determine what factors were associated with the sense of meaning in life among people with recurrent cancer. A convenience sample of 74 subjects completed six survey instruments, including the Purpose in Life (PIL) Test, Symptom Distress Scale, Enforced Social Dependency Scale, and Psychosocial Adjustment to Illness Scale, as well as two surveys developed by the author to assess aspects of the search for meaning, and demographic and illness variables. The results of the study revealed significant negative correlations of sense of meaning with symptom distress, social dependency, and length of time since diagnosis of recurrence. A significant positive correlation was found between sense of meaning and adjustment to illness. These findings empirically demonstrate that the sense of meaning is integrally associated with the physical and psychosocial effects of illness and suggest that professionals must understand how to care for those who search for meaning.

Lee, Cohen, Edgar, Laizner, and Gagnon (2006) examined the effectiveness of a new psychological intervention specifically designed to address existential issues through the use of meaning-making coping strategies on psychological adjustment to cancer. Eighty-two breast or colorectal cancer patients were randomly chosen to receive routine care (control group) and another group (experimental group), was
administered up to four sessions that explored the meaning of the emotional responses and cognitive appraisals of each individual's cancer experience within the context of past life events and future goals. The researchers found that after controlling for baseline scores, the experimental group participants demonstrated significantly higher levels of self-esteem, optimism, and self-efficacy compared to the experimental group.

Breitbart et al. (2010) carried out a study in order to find out the effectiveness of Meaning Centered Group Psychotherapy (MCGP) for cancer patients. The sample of the study consisted of patients with advanced (stage III or IV) solid tumor cancers (N=90) who were randomly assigned to either MCGP or a supportive group psychotherapy (SGP). Patients were assessed before and after completing the 8-week intervention, and again 2 months after completion. Outcome assessment included measures of spiritual well-being, meaning, and hopelessness, desire for death, optimism/pessimism, anxiety, depression and overall quality of life. The researchers found that MCGP resulted in significantly greater improvements in spiritual well-being and a sense of meaning. Treatment gains were even more substantial at the second follow-up assessment. Moreover, improvements in anxiety and desire for death were also significant.

Sato, Beppu, Iba, and Sawada (2012) carried out a study the aim of which was to understand the reasons for wanting or not wanting to know life prognosis and how the information was interpreted and utilized by the patients. This research endeavor was based on narrative interviews with 42 women with breast cancer and 49 men with prostate cancer, in varying stages. The researchers found some of the participants voluntarily asked for prognosis to prepare themselves for the end of life, while as others were shocked by unexpected and unilateral disclosure. On the other hand, some
preferred to remain unaware of life prognosis, partly because they feared it would become a self-fulfilling prophecy. These results indicate that it should be used to empower patients to participate in the decision-making process.

Wnuk, Marcinkowski, and Fobair (2012) explored the relationship of purpose of life and hope with happiness and life satisfaction in cancer patients during or following cancer treatment. The sample of the study consisted of 50 cancer patients who were interviewed during recovery in two Warsaw medical centers. The results revealed that purpose in life was positively correlated with measures of happiness, and satisfaction with life; and hope had a significant positive correlation with current happiness, and four measures of satisfaction with life. The researchers further proposed that participants’ long duration of disease showed lower scores for purpose in life, and number of friends. The longer the time of cancer treatment, the lower were patients’ scores for desire for life.

Erci (2013) carried out a study the purpose of which was to evaluate meaning in life and its predictors in Turkish patients with 182 cancer patients. The results of the present study revealed that the mean score of the total meaning in life showed that the patients tended to be undecided concerning meaning in life. Education level, age, and diagnosis duration of the independent variables were effective predictors of meaning in life. Together the independent variables explained 24.3% of the variance of the purpose subscale, 26.2% of the variance of the coherence subscale, and 14% of the variance of the choice / irresponsibleness subscale, and 44.1% of the total variance of the goal seeking subscale. Overall the independent variables explained 19.8% of the total variance of the total meaning in life.

Saraf, Singh, and Khurana (2013) conducted a study the purpose of which was to understand the meaning in life of cervical cancer survivors in India using
narrative analysis. The participants were interviewed to obtain a holistic view of their experiences in their own words, which was followed by administration of Thematic Apperception Test. Interview data was analyzed using Narrative Analysis. The narratives indicated that the participants viewed life being predestined and guided by fate. In some cases the realization of immortality resulted in peace and satisfaction. This renewed meaning was strongly mediated by faith in God and increased religiosity which facilitated hope and resilience. Strong support systems further enhanced meaning in their lives. However, underlying factors like fatigue, fear of recurrence of the disease and perceived burden continue to be distressing factors. On the other hand, some participants who experienced a preoccupation with somatic complaints and ambivalent feelings toward God experienced a sense of meaninglessness, lack of purpose and diminished hope. The most frequently used defense mechanisms were sublimation, reaction formation, undoing, displacement and projection.

Tomas-Sabado et al. (2015) conducted a study the aim of which was to examine meaning in life in 101 in patients with advanced cancer from Barcelona, Spain, and to compare the findings with those obtained in German and Swiss samples. The Schedule for Meaning in Life Evaluation (SMILE) was administered to the participants in which they were asked to list individual areas that give meaning in their lives and then to rate their current level of importance and satisfaction with the listed areas. The researchers found family, partnership, well-being, and friends were the four areas listed by the largest proportion of Spanish patients. Compared with the German sample, Spanish patients were more likely to list well-being and pleasure and less likely to list animals/nature, leisure time, and finances. Compared with their German and Swiss counterparts, the Spanish patients listed more areas involving
interpersonal relationships. Interpersonal relationships, at both the family and wider social level, are reported to be the areas that give the greatest meaning in life to these patients.

2.3 Studies Pertaining to Mental Adjustment

Watson et al. (1991) attempted to find out the relationships between emotional control, adjustment to cancer and depression and anxiety in breast cancer patients. The sample of the study consisted of women (N = 359) with early stage breast cancer, who were seen one to three months after diagnosis. The results revealed that higher scores for the tendency to control emotional reactions were related a fatalistic attitude toward cancer. The results proved that emotional control (an important component of the Type C behavior pattern) fatalism, helplessness and psychological morbidity are linked with each other.

Dunkel-Schetter et al. (1992) in their study investigate the patterns of coping with cancer among 603 cancer patients. The results revealed that cancer patients use five patterns of coping, i.e. seeking or using social support, focusing on the positive, distancing, cognitive escape-avoidance, and behavioral escape-avoidance. Emotional distress was found less among those patients who coped through social support and focused on positive. However, cognitive and behavioral escape-avoidance was related with more emotional distress.

Classen, Koopman, Angell, and Spiegel (1996) undertook a study to examine whether psychological adjustment to advanced breast cancer was positively associated with expressing emotion and adopting a fighting spirit and negatively associated with denial and fatalism. Total mood disturbance on the Profile of Mood States, The Courtauld Emotional Control Scale and the Mental Adjustment to Cancer were administered to the participants. The sample of the present study consisted of 101
women with a diagnosis of metastatic or recurrent breast cancer. The researchers found that fighting spirit and emotional expressiveness were found to be associated with better adjustment. However, no association was found between mood disturbance and denial or fatalism.

Beckham, Burker, Lytle, Feldman, and Costakis (1997) conducted a study in order to examine the association between cancer self-efficacy and patient cancer adjustment, depression, psychological distress, and behavioral dysfunction. The sample of the study consisted of 42 cancer patients who were studied in a preliminary investigation. Cancer Self-Efficacy Scale, the Center for Epidemiological Studies-Depression Scale, the Affect Balance Scale, and the Sickness Impact Profile were administered to participants. Results of the study revealed that self-efficacy was related to all adjustment measures. Regression analyses revealed that when age, education, time since initial diagnosis, and current disease status were controlled, the relationships between patient self-efficacy expectations and cancer adjustment, psychological distress, negative affect, positive affect, and behavioral dysfunction remained statistically significant.

Nordin and Glimelius (1998) carried out a study on 139 cancer patients to find out the relationship between mental adjustment, and emotional well-being. Among the sample of 139 patients, sixty-six patients were potentially cured since all known disease could be removed by surgery, whereas in 73 patients, this was not possible. The results of the present study revealed that fighting spirit was associated with better emotional well-being whereas hopelessness/helplessness and anxious preoccupation were associated with worse emotional well-being. It is evident from these findings that a more confronting reaction to the diagnosis was associated with better emotional
well-being whereas avoidance of reminders of, and intrusive thoughts about the
disease were associated with more distress.

Bjorck, Hopp, and Jones (1999) examined the interrelationships between
mental adjustment to cancer (i.e., fighting spirit, helplessness, anxious preoccupation,
and fatalism), optimism, appraisals (i.e., harm/loss, threat, and challenge), and
emotional functioning (i.e., depression, anxiety, and self-esteem) in a prostate cancer
patients. Mental Adjustment to Cancer scale, the Life Orientation Test, and the Beck
Depression Inventory were used as measures of research for this study. The results of
the present study revealed that increased helplessness was related to decreased self-
esteem and that increased anxious preoccupation was related to increased depression.
Moreover, loss appraisals were related to increased depression and threat appraisals
were related to increased anxiety. Finally, optimism was negatively related to
increases in both depression and anxiety.

Sherman, Simonton, Adams, Vural, and Hanna (2000) conducted a study in
order to understand coping patterns of patients with head and neck cancer during
different phases of treatment. The sample of the study consisted of 120 patients with
advanced disease. All the participants were grouped according to (1) pre-treatment,
(2) on treatment, (3) <6 months after treatment and (4) >6 months after treatment
phases of illness. COPE questionnaire, profile of mood states and impact of events
scale were used in the present study. The patients who were receiving or had recently
completed treatment mostly used denial, behavioral disengagement, i.e., giving up or
withdrawing, suppression of competing activities, i.e., focusing exclusively on the
illness and emotional ventilation as coping strategies. Moreover, denial, behavioral
disengagement, and emotional ventilation were associated with greater distress among
cancer patients.
Okano et al. (2001) investigated the factors correlated with mental adjustment styles of fighting spirit or helplessness/hopelessness in women with breast cancer with a first recurrence. The sample of the study consisted of 55 cancer patients. Results revealed that performance status and history of major depression were correlated with fighting spirit and age, pain, and history of major depression were correlated with helplessness/hopelessness.

Petticrew, Bell, and Hunter (2002) carried out a systematic review in order to understand the influence of fighting spirit, helplessness/hopelessness, denial, and avoidance on survival and recurrence in patients with cancer. The researchers found that 26 studies investigated the relationship between psychological coping styles and survival from cancer, and 11 studies examined recurrence. No significant relationship of fighting spirit and helplessness/hopelessness was found with survival or recurrence.

Cordova et al. (2003) carried out a study to examine whether the coping styles of emotional suppression and fighting spirit were associated with mood disturbance in cancer patients participating in professionally led community-based support groups. The sample of the study consisted of 121 cancer patients who were administered the Courtauld Emotional Control Scale (CECS), the Mini-Mental Adjustment to Cancer Scale (Mini-MAC), a measure of perceived group support, and the Profile of Mood States (POMS). The results of the present study revealed that lower emotional suppression and greater adoption of a fighting spirit, in addition to older age and higher income, were associated with lower mood disturbance. Gender, time since diagnosis, presence of metastatic disease, time in the support group, perceived group support, cognitive avoidance, and fatalism were unrelated to mood disturbance.

Inoue, Saeki, Mantani, Okamura, and Yamawaki (2003) explored the relationship between breast cancer patients' coping response to the diagnosis of cancer
and family functioning. A total of 46 postoperative ambulatory female breast cancer patients and their husbands participated in this study. Patients and husbands completed the Family Assessment Device (FAD), and patients also completed the Mental Adjustment to Cancer (MAC) scale. They filled in these self-report questionnaires at home. The findings of the present study showed that patients' perception of poor family functioning in the area of Communication measured by the FAD was correlated with high helplessness/hopelessness score of the MAC, whereas high education in the patients was correlated with low fighting spirit score on the MAC.

Hack and Degner (2004) carried out a study on 55 female cancer patients, the aim of this study was to explore long term relationship between coping responses and psychological adjustment. The measures of coping response, decisional control, frustration expression, and psychological adjustment were administered within six months of receiving breast cancer diagnosis to the participants. The participants were contacted three years later and their psychological adjustment as measured by the profile of mood states (POMS) was reassessed. The findings revealed that women who were depressed at time of treatment planning, and who responded to their cancer diagnosis with cognitive avoidance, i.e. acceptance/resignation, had significantly worse psychological adjustment three years later. Poor adjustment was significantly associated with cognitive avoidance and minimal use of approach-based coping responses. The findings suggest that women who respond to their breast cancer diagnosis with passive acceptance and resignation are at significant risk for poor long term psychological adjustment. Psychological interventions for these women should address cognitive avoidance, with the aim of fostering approach-based coping and positive well-being.
Gilbar, Han, and Plivazky (2005) carried out a study in order to investigate the association between mental adjustment, coping strategies [emotion (EF) and problem focused (PF)], and psychological distress. The sample of the study consisted of sixty end-stage renal disease (ESRD) patients who were interviewed a year or more after they began dialysis, and the measures of COPE, Mental Adjustment to Cancer (MAC), and Brief Symptom Inventory (BSI) scales were administered to them. The researchers found that patients with a strong fighting spirit were having less psychological distress. Moreover, patients who tend to use problem focused strategies rely on a fighting spirit as an adjustment coping style.

Watson, Homewood, Haviland, and Bliss (2005) conducted a study to understand the influence of psychological response on breast cancer survival. This study was conducted in 10-year follow-up of a population based cohort. Psychological response, including helplessness/hopelessness, fighting spirit and depression were assessed in early-stage breast cancer patients between 1 and 3 months post-diagnosis, in order to ascertain effect on cancer prognosis. The participants were followed up for a period of 10 years in order to clarify the effect of psychological response on disease outcome. The results revealed that helplessness/hopelessness continuously effected the disease-free survival beyond 5 years. However, high fighting spirit was not found effective for survival advantages.

Giraldi et al. (2007) investigated the role of Monoamine oxidase (MAO) in mental adaptation to cancer. MAO activity in platelets was determined in a group of newly diagnosed breast cancer patients, after the communication of diagnosis and surgery, using the Mental Adjustment to Cancer (MAC) and Hospital Anxiety and Depression scales (HADS). The researchers found that hopelessness-helplessness positively correlated with depression, anxiety and anxious preoccupation. Monoamine
oxidase (MAO) activity displayed a positive regression coefficient with depression score. These results suggest that MAO activity is a biological marker of difficulties in mental adaptation to cancer and is a risk factor for survival.

Schnoll, Mackinnon, Stolbach, and Lorman (2007) carried out a study on 58 cancer patients in order to know the relationship between mental attitude and emotional adjustment. The results of the study revealed that fighting spirit was associated with better emotional adjustment, whereas hopelessness/helplessness and anxious preoccupation were associated with poor emotional adjustment. Moreover, subjects with low fighting spirit, high hopelessness/helplessness and moderate anxious preoccupation also had high levels of emotional distress. The researchers also found that positive reappraisal was associated with better emotional adjustment, whereas hopelessness was associated with poor emotional adjustment and subjects with low hopelessness, high positive reappraisal, high positive attitude and high vigilant participation also had lower levels of emotional distress.

Rottmann, Dalton, Christensen, Frederiksen, and Johansen (2010) explored a study in order to examine the relationship among self-efficacy, adjustment style and well-being in breast cancer patients. The sample of the study consisted of 684 women with breast cancer who completed a questionnaire including the general self-efficacy scale at baseline, the Mini-MAC at 1-month follow-up and the EORTC QLQ-C30 at 12-month follow-up. The results of the study revealed that greater self-efficacy at baseline was associated with emotional well-being after 12 months. Fighting spirit, anxious preoccupation and helplessness-hopelessness partly mediated the effect of self-efficacy, but self-efficacy also had a direct effect on emotional functioning. However, no association was found between self-efficacy and physical and social well-being.
Mulcare et al. (2011) conducted a study to investigate the influence of different styles of adjustment to cancer on information needs. The sample of the study consisted of 73 lung cancer patients who were recruited at their first appointment with their radiation oncologist. The Patient Information Needs Questionnaire measuring Disease Orientated (DO) information and Action Orientated (AO) information, the Mini-Mental Adjustment to Cancer Scale, and a purpose-built measure of cancer-related personal goals were completed by the patients. Results revealed that high levels of the adjustment styles, fighting spirit and anxious preoccupation, were related to a high need for disease orientated information. Conversely, high levels of the adjustment style Cognitive Avoidance was related to a low need for Disease Orientated information. On the other hand, high levels of anxious preoccupation were also positively related to a high need for action orientated information.

Costanzo, Lutgendorf, Rothrock, and Anderson (2012) explored the coping strategies among women extensively treated for gynecologic cancer. The patients were compared to reference group of early-stage patients who had received more limited treatment. The results revealed that extensively-treated women more frequently utilized both engagement and avoidant strategies including active coping, seeking social support, and mental disengagement than the reference group. No significant correlation of active coping and seeking social support with the quality of life or mood was revealed. A significant positive correlation was found between avoidant coping strategies (including disengagement and cognitive avoidance) and poorer well-being and more distressed mood. However, among extensively-treated patients, the use of avoidance and seeking instrumental support were associated with poorer outcomes among extensively-treated patients than the reference group.
Costanzo, Stawski, Ryff, Coe, and Almeida (2012) in their study examined whether cancer survivors showed impairment, resilience, or growth responses relative to a socio-demographically matched sample in four domains: mental health and mood, psychological well-being, social well-being, and spirituality. The impact of aging on psychosocial adjustment was also investigated. The sample of the present study was 398 cancer survivors who were participants in the MIDUS survey (Midlife in the United States) and 796 matched respondents with no cancer history. Psychosocial assessments were completed in 1995–1996 and 2004–2006. The results of the study revealed that cancer survivors demonstrated impairment relative to the comparison group in mental health, mood, and some aspects of psychological well-being. Longitudinal analyses spanning pre- and post-diagnosis clarified that while mental health declined after a cancer diagnosis, poorer functioning in other domains existed prior to diagnosis. However, survivors exhibited resilient social well-being, spirituality, and personal growth. Moreover, age appeared to confer resiliency; older survivors were more likely than younger adults to show psychosocial functioning equivalent to their peers.

Cheng, Sit, Twinn, Cheng, and Thorne (2013) carried out a study to explore the role of fatalism in coping with breast cancer survivorship in Chinese women. The sample of the study consisted of 29 cancer patients who attended a local cancer self-help organization in China. In-depth interviews were conducted for collection of the data for the present study. The results of the present study revealed that despite actively engaged in emotional regulation and self-care management to cope with survivorship, participants believed in fatalism and accepted their inability to change the final outcome of cancer.
De Fazio et al. (2013) estimated the course of mental adjustment to illness of cancer patients with anxious-depressive symptoms who receive antidepressant therapy (ADT). The sample of the study consisted of 80 participants who were divided into 3 groups. Group 1: 30 depressed cancer patients who underwent ADT with SSRI; Group 2: 30 depressed cancer patients who refused ADT; Group 3: 20 non-depressed cancer patients. Hamilton Depression Rating Scale (HDRS), Hamilton Anxiety Rating Scale (HARS), Hospital Anxiety Depression Scale (HADS), and MINI-MAC were used as tools of assessment. The results of the present study revealed that the improvements in anxiety and depression scores were associated with ADT. Moreover, the improvement of mental adjustment to illness was directly related to the decrease of anxious-depressive symptoms among depressed cancer patients under antidepressant therapy.

Seok et al. (2013) conducted a study to investigate the relationship between mental adjustment and distress in patients with thyroid among 152 cancer prior to thyroidectomy. The results of the present study revealed that anxious-preoccupation and helpless-hopeless factors on the mental adjustment to cancer scale were significantly associated with distress in thyroid cancer patients. It is clear from these results that negative emotional responses to cancer diagnosis are associated with distress in thyroid cancer patients awaiting thyroidectomy.

Wang, Tu, Liu, Yeh, and Hsu (2013) conducted a study to examine the difference in the correlations of coping strategies and the outcome measures between two populations: one-month newly diagnosed and five-year long-term survival patients. The sample of the study consisted of 142 newly diagnosed and 198 long-term survival breast cancer patients. Cancer-specific coping and distress were assessed via the Mini-MAC Scale and the Hospital Anxiety and Depression Scale.
(HADS), respectively. The researchers found correlation difference between the two samples lies in the fighting spirit (FS). The fighting spirit correlated negatively with distress among the newly diagnosed sample but had no correlation among the long-term survivors. However, fatalism (FA) was found to correlate positively with distress.

Religioni, Czerw, and Deptala (2015) assessed the degree of mental adjustment of patients diagnosed with breast, lung, colorectal and prostate cancer. The sample of the present study consisted of 902 patients treated on an outpatient basis who were diagnosed with breast, lung, colorectal and prostate carcinoma. The researchers found that highest scores in the anxious preoccupation and helplessness-hopelessness subclasses were those of the lung, colorectal, breast and prostate cancer patients.

Venetis, Robinson, and Kearney (2015) investigated the association between communication-based participation behaviors and pre-post consultation changes in aspects of patients' mental adjustment to cancer. The sample of the study consisted of 51 women newly diagnosed with breast cancer. The researchers found that patients who more frequently asserted their treatment preferences experienced increases in their fighting spirit (p = .01) and decreases in their anxious preoccupation (p = .02).

Dieperink et al. (2017) conducted a study to examine if rehabilitation influenced self-reported male coping styles during and up to three years after treatment with radiotherapy for prostate cancer. The sample of the study consisted of 161 prostate cancer patients treated with radiotherapy and androgen deprivation therapy in a randomized controlled trial from 2010 to 2012. The trial examined the effect of a multidisciplinary rehabilitation program within six months of treatment consisting of two nursing counseling sessions and two instructive sessions with a
physical therapist, or standard care. The coping responses of the participants were measured before radiotherapy, one month after radiotherapy (baseline), six month post intervention (assessment) and three years after radiotherapy (follow-up) by the Mini-mental adjustment to cancer scale (Mini-MAC). The male coping styles towards the illness were expressed in five mental adjustment styles, i.e., fighting spirit, helplessness-hopelessness, anxious preoccupation, fatalism and cognitive avoidance. The results of the study revealed that most coping styles remained stable during the patient course but anxious preoccupation declined from before radiotherapy to follow-up in both intervention and control groups. After six months the intervention group retained fighting spirit significantly as compared to the controls, but after three years this difference evened out. These results clearly indicate that the rehabilitation program supported the patient’s active coping style and played down the passive coping style.

2.4 Relevant studies pertaining to Perceived Social Support and Mental Adjustment

Akechil et al. (1998) investigated cancer patients' characteristics and social support factors as predictors of the patients' responses to having cancer. The sample of the study consisted of 455 ambulatory cancer patients on whom Mental Adjustment to Cancer (MAC) scale was administered and an interview was conducted to know about their characteristics and social support. The researchers found that support from physicians were significantly related to fighting spirit. However, older patients, less educated patients and patients living alone adopted the helplessness/hopelessness adjustment techniques.

Goodwin et al. (2002) studied relationship between fatalism and perceived support among 2,672 respondents who were drawn from groups of manual workers,
managers, civil servants, students, and the retired in these four countries. Results indicate that a small but significant moderator effect for fatalism on the relationship between social support and mental health.

Hann et al. (2002) investigated whether the relationship of social support to the severity of depressive symptoms varies by patient age and gender. The sample of the study consisted of 342 cancer outpatients. Self-report measures of depressive symptoms, perceived adequacy of social support, satisfaction with family functioning, and the size of the social support network were assessed from the participants. Results revealed no significant differences by gender or age in the relationship of the social support variables to depressive symptoms. Moreover, a larger social support network was associated with less severe depression for female patients and for younger patients but not for male patients or older patients. The researchers also found that greater perceived adequacy of support and more satisfaction with family functioning were related to less severe depression.

Heckman et al. (2004) carried out a study to examine women's coexisting and succeeding levels of emotional distress associated with a questionable mammogram screening and relationships between women's coping and psychosocial adjustment. The sample of the study consisted of 98 women whose state anxiety was assessed 1 day after receiving a mammogram screening (Time 1), after notification of a questionable screening result that necessitated additional testing (Time 2), and after being informed of their breast-cancer-free status (Time 3). The results of the study revealed that (a) women reported a significant increase in anxiety following notification of the need to return for follow-up testing; (b) significant and positive associations were found between anxiety and behavioral approach, behavioral avoidance, cognitive approach, and cognitive avoidance coping in cross-sectional
analyses; and (c) cognitive avoidance coping was a strong predictor of final levels of state anxiety in women. These results suggest that cognitive avoidance coping plays an important role in reducing anxiety in women recalled to clarify an initially ambiguous screening procedure.

Holtzman, Newth, and Delongis (2004) undertook a study to demonstrate the role of social support in coping with daily pain among 73 adults with rheumatoid arthritis. The respondents finished a structured record two times every day for one week on pain severity, pain coping, satisfaction with support and disappointment in support. The results reveal that social support encouraged the participants to use precise coping strategies in an effective way in order to deal with pain. Moreover, Satisfaction with support was positively correlated with adaptive and negatively correlated maladaptive coping strategies. On the other hand disappointment was positively correlated with maladaptive coping. These findings clearly indicate the significance of others in life in promoting adaptive coping strategies.

Friedman et al. (2005) carried out a study on optimism, social support and psychosocial functioning among 81 female cancer patients. The results of the present study revealed that older age, receipt of treatment and greater optimism accounted for 41% of the variance in emotional well-being of the participants. Absence of family history of breast cancer, receipt of treatment and optimism accounted for 43% of the variance in functional well-being of participants. Optimism and satisfaction with social support accounted for 43% of the variance in social/family well-being. Moreover, absence of treatment and pessimism accounted for 31% of the variance in cancer-specific distress. Family history of breast cancer and pessimism accounted for 48% of the variance in mood disturbance.
Wimberly, Carver, and Antoni (2006) examined the relationships between optimism, social support, and distress as correlates of psychosexual well-being among 136 women with Stage 0, I, and II breast cancer. Women were assessed immediately post-surgery and 3, 6, and 12 months post-surgery. The results of the study revealed that patients who were more optimistic experience greater psychosexual well-being (i.e., feel more feminine, attractive, and sexually desirable) partly because they perceive themselves as having more social support available. Moreover, patients who were more optimistic experience greater psychosexual well-being partly because they experience less emotional distress related to the disease.

Arora, Finney Rutten, Gustafson, Moser, and Hawkins (2007) in their study evaluated the helpfulness of informational, emotional, and decision-making support received by women newly diagnosed with breast cancer from their family, friends, and health care providers. The research data for the present study was collected 2 months after the diagnosis and 5 months post-baseline. Results revealed that at the baseline, majority of the women received helpful informational support from health care providers (84.0%); helpful emotional support from family (85%), friends (80.4%), and providers (67.1%); and helpful decision-making support from providers (75.2%) and family (71.0%). Emotional support at baseline and emotional and informational support at 5-month follow-up were significantly associated with patients’ health-related quality of life and self-efficacy outcomes. The researchers found perceived helpfulness of informational, emotional, and decision-making support provided by family, friends, and providers decreased significantly over time. These results clearly show that while patients receive a lot of support during the period closer to diagnosis, receipt of helpful support drops significantly within the first year itself. In order to facilitate cancer patients' adjustment to their illness, efforts
need to be made to understand and address their support needs throughout the cancer experience.

Lethborg, Aranda, Cox, and Kissane (2007) explored the associations of suffering (physical and existential distress) and coping (via social support) with psychological distress and global meaning among adults attending an Australian metropolitan cancer service (n=100). The results of the study revealed that physical and existential distress were found to be positively associated with psychological distress whereas high social support and personal meaning are related to lower levels of psychological distress. Social support was the strongest correlate of global meaning whereas high levels of existential distress were related to lower levels of global meaning.

Filazoglu and Griva (2008) carried out a study the aim of which was to investigate the role of social support and coping in explaining health related quality of life among Turkish breast cancer patients. The sample of the present study consisted of 188 women who were taken from three hospitals in Turkey. Multidimensional Scale of Perceived Social Support, the Ways of Coping Inventory, and the Short Form 36 Health Survey. Socio-demographic and medical information were used in the present study. The results of the present study revealed that helplessness coping was inversely related with health related quality of life whereas social support, religious coping, optimistic coping and problem focused coping were positively associated with health related quality of life. Multiple regressions indicated that time since diagnosis, time since operation, stage of cancer, post-operative treatment, social support and problem solving coping were significant predictors of health related quality of life accounting for 54.7% to 46.4% of the variance in physical and emotional health related quality of life.
Shelb et al. (2008) conducted a study on 77 African American women treated for no metastatic breast cancer the purpose of which was to examine the relationship between optimism, social support and adjustment. The measures of optimism, social support, and Adjustment were completed by the participants within 10-months of surgical treatment. The results revealed that social support did not acted as a mediator of relationship between optimism and adjustment in this sample. Instead, social support was a moderator of the optimism-adjustment relationship, as it buffered the negative impact of low optimism on psychological distress, well-being, and psychosocial functioning. Women with high levels of social support experienced better adjustment even when optimism was low. In contrast, among women with high levels of optimism, increasing social support did not provide an added benefit. These results suggest that perceived social support is an important resource for women with low optimism.

Cicero et al. (2009) examined the role of attachment dimensions and perceived social support in predicting adjustment to cancer. The sample of the study consisted of 96 cancer patients who were administered a demographic questionnaire, the Relationship Scale Questionnaire (RSQ), the Multidimensional Scale of Perceived Social Support (MSPSS), and the Mental Adjustment to Cancer (MAC). The results of the present study revealed that anxious attachment predicted psychological adjustment, i.e., patients with high levels of anxious attachment showed high levels of helplessness/hopelessness and anxious preoccupation. The patient's perception of social support from friends was predictive of both fighting spirit and stoic acceptance. Conversely, the patient's perception of support from family members was not predictive of adjustment to cancer. Moreover, the patients in the advanced stages of the illness showed higher levels of helplessness/hopelessness.
Ozkan and Kutlu (2010) conducted a study the aim of which was the evaluation of coping strategies, social support, and depressive symptoms in spouses of patients with hematological cancer. The sample of the study consisted of 150 spouses of patients who had hematological cancer, who were contacted at the hematology clinic of 2 university hospitals located in İstanbul. The data were collected through structured face-to-face interviews using a questionnaire form, the Ways of Coping Questionnaire, the Multidimensional Perceived Social Support Scale, and Beck Depression Inventory. The researchers found that the most common strategies of coping used by participants were positive reappraisal, distancing, and seeking social support. Perceived social support from family was high and the depressive symptom mean scores of spouses were at a low level. However, there was a low negative correlation between coping strategies, perceived social support, and depressive symptoms.

Zhou et al. (2010) investigated the role of social support and coping in emotional well-being 2 years after treatment in survivors of localized prostate cancer who have received either radical prostatectomy or radiotherapy. The sample of the study consisted of 180 men treated for localized prostate cancer. Psychosocial and disease-specific measures were administered to the participants at the baseline and 2-year follow-up. The results revealed perceived social support at the baseline predicted better emotional well-being 2 years later. Social support has been found as an important factor for enhancing positive coping strategies among cancer patients.

List et al. (2011) carried out a study in which they explored the pre-treatment coping strategies of patients with carcinoma of the head and neck. The sample of the study consisted of seventy-nine patients with head and neck cancer. The results revealed that the participants used a wide range of coping strategies. They found that
social support seeking behaviors represented the greatest proportion of total coping effort. However, avoidant coping strategies (both cognitive and behavioral escape) was related with poorer overall quality of life.

Zabalegui, Cabrera, Navarro, and Cebria (2011) analyzed the relationships among demographic and medical variables, perceived social support, and coping strategies in patients with advanced cancer. The sample of the present study consisted of 132 advanced cancer patients who were under chemotherapy treatment. The researchers found that a positive relationship between perceived social support and seeking and using social support, and focusing on the positive. Moreover, perceived social support, income and health perception were positively correlated with each other.

Boinon et al. (2012) carried out a study to examine the relationship between social sharing, perceived social support, and emotional adjustment in non-metastatic breast cancer patients and how alexithymia may impact these associations. The sample of the study consisted of 113 women who were selected from a cancer care center in Villejuif (France). The researchers found that higher levels of depression and negative affect were related to a high level of emotional sharing, a low satisfaction with confidant's reactions, and a high perceived negative support. In patients with high alexithymia positive associations were found negative emotional outcomes and negative social support and emotional sharing.

Hodges and Winstanley (2012) conducted a study to investigate the effects of optimism, social support, fighting spirit, cancer worry and internal health locus of control on positive affect in 102 cancer survivors. Results revealed that optimism had a direct effect on positive affect in cancer survivors. Social support and fighting spirit were also shown to be significant mediators of this relationship, accounting
collectively for 50% of the variance in positive affect. At the same time as cancer worry and internal health locus of control could be predicted from levels of optimism, they did not mediate the optimism-positive affect relationship.

Pehlivan, Ovayolu, Ovayolu, Sevinc, and Camci (2012) studied the relationship between hopelessness, loneliness, and perceived social support from family in Turkish cancer patients. The sample of the study consisted of 188 cancer patients who were administered Beck Hopelessness Scale, the UCLA Loneliness Scale, and Perceived Social Support from Family Scale in order to get data for the research purpose. The results of the study revealed a significant positive correlation between hopelessness and loneliness. Moreover, a significant negative correlation was found between loneliness, hopelessness, and perceived social support from family. Social support from family was found low among the patients who had family history of cancer and long disease duration. Female, older, illiterate, and village-dwelling cancer patients scored high on hopelessness.

Lutgendorf et al. (2012) carried out a study to examine how social support relates to long-term survival among consecutive patients with ovarian cancer. The two types of social support, i.e. social attachment, a type of emotional social support reflecting connections with others, and instrumental social support reflecting the availability of tangible assistance, were focus of the present study. The sample of the study consisted of 168 patients with histologically confirmed epithelial ovarian cancer were observed from the date of surgery until death or December 2010. The results of the study revealed that greater social attachment was associated with a lower likelihood of death. However, no significant association was found between instrumental social support and survival, even after adjustment for covariates.
Stefaniak et al. (2012) investigated the correlates of pain among the pancreatic cancer patients, with a special emphasis on social support. The sample of the study consisted of 132 patients (52 women and 79 men; 88 patients suffered pain and 42 did not suffer from any pain) diagnosed with pancreatic cancer. The results revealed extra intensive pain was connected with higher level of perceived social support in the group using opioids. No significant correlation was found between pain and perceived social support among patients who were not opioids users. Moreover, lower perceived social support was associated with higher level of pain among women. Significant negative correlation was found between age and social support which clearly specify that older women received less social support.

Oztunc, Yesil, Paydas, and Erdogan (2013) assessed the levels of perceived social support and hopelessness. The sample of the study consisted of 85 breast cancer patients who were on treatment in the oncology department of a university hospital located in Adana/Turkey. Personal Information Form, Beck Hopelessness Scale (BHS) and Multidimensional Scale of Perceived Social Support (MSPSS) were used as the tools of assessment. The researchers found the score of perceived social support high and score of hopelessness was found very low. A significant negative correlation was found between perceived social support and hopelessness among cancer patients. Moreover, No statistically significant difference was found between age of the participants and their hopelessness and social support scores. The results clearly stress the importance of perceived social support in diminishing hopelessness in the lives of cancer patients.

Applebaum et al. (2014) investigated the role of optimism as a moderator of the relationship between social support and anxiety, depression, hopelessness, and QOL among patients with advanced cancer. Self-report assessments of psychosocial,
spiritual, and physical well-being, including social support, optimism, hopelessness, depressive and anxious symptoms, and QOL were administered to 168 advanced cancer patients. The statistical technique hierarchical multiple regression analyses were conducted to determine the extent to which social support and optimism were associated with depressive and anxious symptomatology, hopelessness and QOL, and the potential role of optimism as a moderator of the relationship between social support and these variables. The results of the study revealed that higher levels of optimism were significantly associated with fewer anxious and depressive symptoms, less hopelessness, and better QOL. Moreover, higher levels of perceived social support were also significantly associated with better QOL. Additionally, optimism moderated the relationship between social support and anxiety, such that there was a strong negative association between social support and anxiety for participants with low optimism.

Ozpolat, Ayaz, Konag, and Ozkan (2014) examined the role of attachment dimensions on social and psychological adjustment to cancer and to explore the social and psychological adjustments, and medical adherence, among 68 cancer patients, between 18 and 74 years of age. The measures taken were the Demographic Information Form, Multidimensional Scale of Perceived Social Support (MSPSS), Experiences in Close Relationships-Revised (ECR-R), and Psychosocial Adjustment to Illness Scale (PAIS-SR). The researchers found that avoidant attachment style was related to difficulties in social relationships and an increase in psychological distress following cancer diagnosis. People who perceive more social support orient to health care more easily than people who perceive less social availability. Moreover, they also found a higher level of perceived social support has a positive impact in
adjustment to family relationships and leads to experiencing less psychological distress than in people who perceived less social support.

Yilmaz, Bal, Beji, and Arvas (2015) attempted to find out the ways of coping among gynecologic cancer patients. The sample of the study consisted of 221 women with gynecologic cancer who were selected from a university hospital in Istanbul, Turkey. The researchers found that higher education level, good employment and high income were associated with effective ways of coping. Moreover, perceived social support from family, friends, significant other, and total increases were also positively correlated with effective ways of coping.

Somasundaram and Devamani (2016) investigated the association between resilience, social support, and hopelessness among cancer patients treated with curative and palliative care. The sample of the study consisted of 60 cancer patients who were divided into two groups that is to say, curative care \((n = 30)\) and palliative care \((n = 30)\). Bharathiar University Resilience Scale, Multidimensional Scale of Perceived Social Support and Beck Hopelessness Scale were taken as tools for the collection of data for this research work. They found significant positive correlation between resilience and perceived social support while as resilience and perceived social support was found significantly negatively correlated with hopelessness.

Yagmur and Duman (2016) examined the relationship between the level of the social support perceived by patients with gynecologic cancer and their mental adjustment to cancer. The sample of the study consisted of 190 women with gynecologic cancer who were receiving care in the Diyarbakir province of Turkey between November 2013 and October 2014. Multidimensional Scale of Perceived Social Support questionnaire and the scale of Mental Adjustment to Cancer were used at tools for data collection. The results revealed that all subscales of perceived social
support, i.e., support from family, support from friends and support from friends had significant positive correlation with the subscales fighting spirit and a negative correlation with the subscales of helplessness/hopelessness and fatalism in the Mental Adjustment to Cancer scale.

2.5 Relevant Studies Pertaining to Meaning in Life and Mental Adjustment

Zika and Chaimberlain (1992) undertook a study to examine the relationship between meaning in life and psychological well-being by using several meaning measures and both positive and negative well-being dimensions. The researchers found a strong association between meaning in life and well-being, which is replicated in two different samples. Meaning in life was found to have a stronger association with positive than with negative well-being dimensions.

Ferrero et al. (1994) carried out a study on 68 newly diagnosed non-metastatic breast cancer patients the purpose of which was to explore the relationship between adjustment to cancer and quality of life. The results of the study revealed that older patients showed higher ‘Denial’ scores and lower scores for anxious preoccupation. However, Fighting spirit and denial were associated with better present and future quality of life. On the other hand, helplessness/hopelessness, anxious preoccupation and fatalism responses were negatively correlated with well-being.

Montgomery, Pocock, Titley, and Lloyd (2003) undertook a study to investigate the relationship between coping style, quality of life and psychological distress in a sample of patients with leukemia and lymphoma. The sample of the study consisted of 51 cancer patients. Hospital Anxiety and Depression Scale (HADS), the Mental Adjustment to Cancer Scale (MACS) and the Schedule for the Evaluation of Individual Quality of Life (SEIQOL) were used as tools of research in the present study. The results revealed that 51 percent of the patients reported moderate and 14
percent reported severe levels of distress. Moreover, 27 percent of the patients scored low on fighting spirit subscale of the MACS and high scores on the hopeless/helpless subscale and showed poor adjustment to the diagnosis of the cancer. The patients who used the helplessness/hopelessness and anxious preoccupation as coping strategies suffered from severe psychological distress.

Bauer-Wu and Farran (2005) examined the relationships among meaning in life, spirituality, perceived stress, and psychological distress in breast cancer survivors and healthy women. The results of the study revealed that breast cancer survivors without children had less meaningful lives and greater stress and distress than breast cancer survivors with children and participants without cancer. Moreover, a significant positive correlation was found between meaning in life and spirituality ($r = .43$). On the other hand meaning in life was negatively associated with stress ($r = -.39$) and distress ($r = -.41$) among cancer patients.

Bower et al. (2005) evaluated the prevalence and stability of positive meaning and vulnerability in 763 breast cancer survivors in order to identify their antecedents, and to determine their impact on long-term adjustment. The sample of the study was assessed longitudinally at 1 to 5 years and 5 to 10 years post diagnosis. The results revealed perceptions of positive meaning were associated with positive affect in cross-sectional and longitudinal analyses. However, vulnerability was strongly associated with negative affect.

Jim, Richardson, Golden-Kreutz, and Andersen (2006) carried out a study in order to examine the longitudinal relationship between women’s coping with a diagnosis of breast cancer and their self-reported meaning in life 2 years later. The results of the present study revealed that positive strategies for coping predicted significant variance in the sense of meaning in life-feelings of inner peace,
satisfaction with one’s current life and the future, and spirituality and faith. On the other hand the absence of positive strategies for coping predicted reports of loss of meaning and confusion.

In a 1-year longitudinal study, the authors tested pathways through which meaning making efforts led to 3 different meanings made (growth, life meaning, and restored just-world belief) in a sample of 172 young to middle-age adult cancer survivors, and they explored whether those meanings made mediated the effect of meaning making efforts on psychological adjustment. The researchers found that meaning making process indicate that meaning making efforts are related to better adjustment through the successful creation of adaptive meanings made from the cancer experience (Park, Edmondson, Fenster, & Blank, 2008).

Simonelli, Fowler, Maxwell, and Andersen (2008) examined the meaning in life as a mediator for the relationship between physical symptoms and depressive symptoms. The sample of the study consisted of 260 gynecologic cancer survivors. The results of the study revealed that meaning in life supported partial mediation. That is, survivors with more physical sequel reported lower levels of meaning in life, which was associated with higher levels of depressive symptoms.

DeRoon-Cassini, de St Aubin, Valvano, Hastings, and Horn (2009) investigated the influence of medical injury severity, perceived loss of physical functioning (conceptualized as physical resource loss), and global meaning making on psychological well-being. The sample of the present study consisted of 79 veterans living with a spinal cord injury. The results of the present study revealed no significant association between medical injury severity and psychological well-being, however a significant negative correlation was found between perceived loss of physical functioning and psychological well-being. Moreover, global meaning making
was significantly related to and accounted for a large portion of the variance in psychological well-being. The perceived loss of physical abilities and the generation of meaning and purpose in life are important variables that relate to positive adaptation following spinal cord injury.

Kernan and Lepore (2009) conducted a study to understand the prevalence and patterns of searching for meaning in the aftermath of breast cancer and to know how the search relates to made meaning and emotional adjustment. The sample of the study consisted of 72 women who reported their level of searching for meaning, made meaning and negative affect at multiple time points in the first 18 months after breast cancer treatment. The results revealed that a higher level of searching for meaning was unrelated to made meaning, but was associated with a higher level of negative affect. Women who engaged in an ongoing, unresolved search for meaning from baseline to follow-up also had a significantly higher level of negative affect at follow-up than women who infrequently or never engaged in a search for meaning over time. These findings clearly indicate that there is great variability in the prevalence and pattern of searching for meaning in the aftermath of breast cancer, and searching for meaning may be both futile and distressing.

Yanez et al. (2009) carried out 2 longitudinal studies (Study 1, n = 418 breast cancer patients; Study 2, n = 165 cancer survivors), in order to investigate 2 components of spiritual well-being (i.e., meaning/peace and faith) and their interaction, as well as change scores on those variables, as predictors of psychological adjustment among cancer patients. The results revealed that in Study 1, higher baseline meaning/peace, as well as an increase in meaning/peace over 6 months, predicted a decline in depressive symptoms and an increase in vitality across 12 months in breast cancer patients. Baseline faith predicted an increase in perceived
cancer-related growth. In Study 2 researchers found that an increase in meaning/peace was related to improved mental health and lower cancer-related distress. An increase in faith was related to increased cancer-related growth. Both studies revealed significant interactions between meaning/peace and faith in predicting adjustment. Findings suggest that the ability to find meaning and peace in life is the more influential contributor to favorable adjustment during cancer survivorship, although faith appears to be uniquely related to perceived cancer-related growth.

Park, Edmondson, Fenster, and Blank (2008) carried out a study to understand the mediating roles of growth, life meaning, and restored just-world beliefs in Meaning making and psychological adjustment following cancer. The researchers carried out a 1-year longitudinal study in which they distinguished the meaning making process from the outcomes of that process (meanings made), employing specific measures of both. The authors tested pathways through which meaning making efforts led to 3 different meanings made (growth, life meaning, and restored just-world belief) in a sample of 172 young to middle-age adult cancer survivors, and they explored whether those meanings made mediated the effect of meaning making efforts on psychological adjustment. Cross-sectional and longitudinal path models of the meaning making process indicate that meaning making efforts are related to better adjustment through the successful creation of adaptive meanings made from the cancer experience.

Sherman, Simonton, Latif, and Bracy (2010) evaluated global meaning and theoretically distinct aspects of illness-specific meaning (i.e., seeking sense, found sense, seeking benefits, found benefits) among breast cancer survivors who had completed primary treatment. The sample of the study consisted of 73 breast cancer patients. The health outcomes (i.e., emotional distress, health-related quality-of-life)
were assessed 4 months later. The results revealed that global meaning at baseline predicted more favorable functioning at follow-up with respect to each outcome: emotional distress, general quality-of-life, and breast cancer-specific problems.

Johansson et al. (2011) investigated the relationship between mental adjustment to cancer and anxiety, depression, health-related quality of life and survival in patients treated for laryngeal cancer. The researchers used longitudinal design and examined 95 patients with Tis-T4 laryngeal cancer who were evaluated one and 12 months after start of treatment. Mini-Mental Adjustment to Cancer Scale (Mini-MAC), the European Organization for Research and Treatment of Cancer (EORTC) Study Group on Quality of Life core questionnaire (EORTC QLQ-C30) supplemented with the Head and Neck cancer module (QLQ-H&N35) and the Hospital Anxiety and Depression (HAD) Scale were used as tools of assessment in the current study. The researchers found that fighting spirit was used at first as well as after 12 months by most of the patients. The patients who used Helpless-Hopeless and Anxious Preoccupation responses were found high on anxiety and depression, and their health-related quality of life decreased significantly. No effect of site of tumor and stage was found on the adjustment responses. Moreover, Helpless-Hopeless response was related to poorer survival.

Kleftaras and Psarra (2012) carried out a study in order to examine the relationship of meaning in life and its dimensions with depression and general psychological health, as well as the differences concerning the meaning of life among individuals with low, moderate and high depressive symptomatology. The sample of the present study consisted of 401 newly recruited young men for their national service in the navy, who completed four questionnaires on meaning in life, depressive symptomatology, psychological health and socio-demographic factors. The
researchers found that subjects with higher sense of meaning in life were found to have lower depressive symptomatology, while subjects with higher depression scores were found to have a lower sense of meaning in life. Furthermore, statistical significant correlations were found between meaning in life and the four dimensions of general health. Finally, being married or involved in a romantic relationship, as well as participation in social activities were found as significant sources of meaning.

Whitford and Olver (2012) explored relationship between the recently proposed three-factor of spiritual wellbeing i.e. peace, meaning, and faith and their associates with quality of life, and coping in of 999 newly diagnosed cancer patients. The researchers found that peace was positively correlated with the quality of life subscales of functional (r=0.64) and emotional wellbeing (r=0.61) and with the mental adjustment to cancer subscale of fighting spirit (r=0.47). However, peace was found negative correlated with subscales of mental adjustment to cancer scale, i.e., Helpless/Hopeless (r=0.53), and anxious Preoccupation (r=0.34). On the other hand meaning was also found positively correlated with Functional Wellbeing (r=0.56), Fighting Spirit (r=0.54), and Social Wellbeing (r=0.49), and negatively correlated with Helpless/Hopeless (r=0.53).

Dezutter et al. (2013) examined 2 dimensions of meaning in life-Presence of Meaning (i.e., the perception of your life as significant, purposeful, and valuable) and Search for Meaning (i.e., the strength, intensity, and activity of people's efforts to establish or increase their understanding of the meaning in their lives)-and their role for the well-being of chronically ill patients. The sample of the study consisted of 481 chronically ill patients who completed the measures on meaning in life, life satisfaction, optimism, and acceptance. Results revealed that presence of meaning in life showed significant positive correlation with well-being and acceptance. On the
other hand, absence of meaning in life or search for meaning in life was inversely related with well-being and acceptance.

Anand (2014) examined the impact of meaning in life on the intensity of pain among breast cancer patients. The sample for the study was 100 breast cancer patients of stage II and III undergoing treatment. The Indian adaptation of Meaning in Life scale and West Haven Yale Multidimensional Pain Inventory (Kerns, Turk and were used for the collection of the data. The researcher found a significant negative correlation between meaning in life and pain among cancer patients. These findings suggest that meaning in life can be an important mechanism in adjustment to higher level of pain caused by cancer.

Lexshimi et al. (2014) assessed spirituality and mental adjustment as coping strategies and its association with socio demographic data on 216 women with breast cancer. The Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp) and Mental Adjustment to Cancer (MAC) Scales were used to assess spirituality and mental adjustment. Researchers found significant negative correlation between spiritual well-being and helplessness/hopelessness ($r=-0.690; p=0.000$), anxious preoccupation ($r=-0.277; p=0.000$) and avoidance ($r=-0.235; p=0.000$) and positive correlation between spiritual well-being and fighting spirit ($r=0.668; p=0.000$) were identified.

Moreover, helplessness/hopelessness had a significant relationship with stage of disease ($p=0.017$) and type of surgery ($p=0.011$). Meanwhile, fatalistic and avoidance showed a strong relationship with age ($p=0.014, r=0.167$), occupation ($p=0.001$) and income ($p=0.006$), race ($p=0.007$) and academic qualification ($p=0.005$).
Yeung and Lu (2014) examined the link between mental adjustment styles and quality of life, and affect as a mediator among 238 Chinese cancer survivors. The results of the present investigation revealed that quality of life was positively associated with fighting spirit and negatively associated with fatalism. Path analysis showed that greater fighting spirit was associated with more positive affect, which in turn was associated with higher quality of life. Moreover, greater fatalism was associated with less positive affect and more negative affect, which in turn was associated with lower quality of life.

Dezutter, Luyckx, and Wachholtz (2015) conducted a study in which they explored the relationship between meaning in life and adjustment to chronic pain in a three-wave, 2 years longitudinal study of 273 Belgian chronic pain patients. Directionality of the relationships among the meaning in life dimensions (Presence of Meaning and Search for Meaning) and indicators of adjustment (depressive symptoms, life satisfaction, pain intensity, and pain medication use) was examined by the researchers. The results revealed that Presence of Meaning was an important predictor of well-being. Furthermore, they found the profiles that scored high on Presence of Meaning showed more optimal adjustment.

Scrignaro et al. (2015) investigated to explore the role of meaning in promoting mental adjustment and eudemonic well-being in cancer patients. The sample of the study consisted of 266 cancer patients. The results revealed that the presence of meaning totally or partially mediated the effect of the search for meaning on both mental adjustment and eudemonic well-being. Further correlation analyses showed a high negative correlation between eudemonic well-being and hopelessness.

Lee and Kim (2016) carried out a study to explore factors influencing quality of life among cancer patients. Results revealed that General health/quality of life and
functional quality of life had positive correlations with health promotion behavior, and resilience, but negative correlation with helplessness. However, symptom-related quality of life has negative correlations with health promotion behavior and resilience, and positive correlation with helplessness. These findings clearly indicate that more the health promotion behavior and resilience go up, and the more helplessness goes down, level of quality of life goes up.

Deko, Asagba, Agberotimi, and Wimberly (2016) in their study examined self-esteem, life satisfaction and hopelessness as predictors of meaning in life among people living with HIV/AIDS. The sample of the study consisted of 200 patients (126 females and 74 males), in the age range between 17 and 70 years. The researchers found that self-esteem, life satisfaction and hopelessness significantly predicted meaning in life and they were important constructs in assessing meaning in the lives of people living with HIV/AIDS. These results indicate that these constructs are related to finding meaning and can be important in improving the well-being among those people.

Winger, Adams, and Mosher (2016) conducted out a meta-analytic study in order to understand the relations of meaning in life and sense of coherence to distress in cancer patients. They conducted literature review by using electronic databases. Overall, 62 records met inclusion criteria. The average MiL-distress and SOC-distress associations were quantified as Pearson’s r correlation coefficients and compared using a one-way ANOVA. They found both MiL and SOC demonstrated significant, negative associations with distress. Moreover, the MiL-distress association was significantly smaller than the SOC-distress association. The strength of the SOC-distress association suggests that incorporating aspects of SOC (e.g., the perceived
manageability of life circumstances) into meaning-centered interventions may improve their effectiveness for distressed cancer patients.