Chapter Five
Discussion of results, conclusion, limitation and further research suggestions
5-1-Discussion of the Results

Cancer-specific distress is defined in the literature as an index of how upsetting or psychologically debilitating the disease (or risk) may be, and it is often operationalized as the amount of intrusive and avoidant thoughts in response to cancer-related cues (van Dooren et al., 2005). Distress related to cancer may be viewed as a normative response to increased risk and salient experiences with the disease (Hay et al., 2004). However, typical cancer-specific distress may be augmented by factors such as maladaptive coping, incorrect perceptions of future risk and vulnerability, negative body image, and feelings of fear and uncertainty (e.g. Brain et al., 2006). Having an external locus of control has been associated with depression (Naditch et al., 1975). Krantz & Hedges (1987) suggests that individuals with certain personality dispositions may have tendencies towards using particular coping strategies when stressed. (Antonovsky, 1974; Caplan, 1974; Cassel, 1976 & Cobb, 1976) proposed that support can buffer the effect of stress.

This research provided substantial evidence that locus of control, personality type and social support are strong predictors of stress, and they play important role as mediator of stress, therefore adding to the existing empirical knowledge in research literature of stress, and in particular stress among cancer patient.

The purpose of the present research was to examine stress among cancer patients as related to locus of control, personality type and social support. The study assessed the relationship between stress and locus of control, personality type and social support. Also this research has examined the difference of cancer patients in terms of stress, locus of control, personality type and social support and finding out the difference of locus of control, personality type and social support, and demographic variables.
The results of the study will be discussed in the light of the research questions as listed below:

**Research Question 1**

What is the equation of the regression of stress from social support, locus of control, and personality type?

To ascertain the answer of this question the stepwise regression was applied. Stress was the dependent variable and social support, locus of control, and personality type were the predictor variables.

**Stepwise Regression of Stress**

Regression analysis in stepwise method was run in three separate steps. Three independent variables satisfied the criterion of entrance in regression. In first step social support was most important predictor of stress in cancer patients, in second step internal locus of control entered in regression equation, and in third step personality type 2(type A) entered as a last important predictor of stress in cancer patients. Rest of variables could not enter in regression equation because they could not satisfy the criterion of entrance.

The results of this study showed that social support was first important predictor ($\beta=-0.597$, $p=0.0005<0.001$), and internal locus of control was second important predictor ($\beta=0.321$, $p=0.0005<0.001$) and also personality type 2(type A) was third important predictor ($\beta=0.157$, $p=0.0005<0.001$) in prediction of stress in cancer patients. As it mentioned Social support was negative significant predictor while internal locus of control and personality type 2 (type A) were positive significant predictors of stress in cancer patients. Eventually, in cancer patients samples, social support, locus of control and personality type have explained 54.9% of variance of stress.
According to the literature on social support and stress, social support is an interactive experience (Afifi & Nussbaum, 2006). The support of friends and family is highly important in dealing with and resolving stress. Social support can increase sense of belonging, purpose and self-worth. Social support moderates the relationship between stressors and strains (Cohen and Wills 1985). Cobb (1976) reported that social support has a stress-buffering property. With these studies and also our finding it is clear that Social support may act as a moderator of stress. Our finding also favours proposition of (Antonovsky, 1974; Caplan, 1974; Cassel, 1976 & Cobb, 1976) that support can buffer the effect of stress.

For personality type, as personality type A/type 2 are characterized by having poor impulse, impatient, hostile and aggressive nature. They think about future, all the time. This sort of nature pushes them in thoughts about the disease, their life and all the bad ideas about the progression of disease, its related adversities and sufferings. Thus type A may experience more stress with the onset of disease. The finding is in agreement with that of Job, et al., (2000). In their investigation of responses to laboratory-based stressors in Grossarth- Maticek personality Types, Type 2 scores were positively correlated with stress. Thus our finding is proving the Type 2 relation. As already mentioned Grossarth-Maticek personality type 2 is similar to personality type A. Alfred & Eric (1998) suggests that Type A behavior is linked to high stress levels.

For locus of control, the patient with internal locus of control feels himself/herself responsible for all the happenings (good/bad) related to his/her health. As the cancer is considered to be fatal disease, its onset or development may bring the stress accordingly in patients with internal loci., because they blame their own behavior responsible for its onset or development. In our study internal locus of control was a
significant predictor, consistent with the study of (Stanton & Snider, 1993). They found positive relation of internal locus of control with stress in breast cancer patients, but its positive correlation with stress contradicts the findings of Leiderman-Cerniglia (2002). He investigated resistance to the development of PTSD in a sample of women undergoing treatment for breast cancer, noted that resistance to PTSD symptoms was associated with a greater degree of perceived social support and an internal locus of control. With regard to perceived internal health-related locus of control, (Bremer, Moore, Bourbon, Hess, & Bremer, 1997; Norton et al. 2005) studies have predominantly revealed a positive concurrent relationship with psychological adjustment of cancer patients. Although, researchers have argued that cultural and societal factors often influence people’s health control beliefs (Helman, 1990; Marks, 1998; Schulz & Heckhausen, 1999; Sun & Stewart, 2000). Therefore the contradictory result may be due to cultural difference also.

**Research Question 2**

Is there significant correlation between the stress and Type of locus of control? For answering the above question Eta correlation was run. The amount of coefficient between stress as a dependent variable and type of locus of control (internal, chance and powerful others locus of control) as an independent variable was 0.381. That is in cancer patients, the correlation between mentioned variables was significant with 99% confidence. Therefore our study reports that type of locus of control has a relation with stress in cancer patients. Patients’ health beliefs therefore may play a significant role in the experience of stress. Health locus of control has also been proposed as one of the possible mediators in the stress process (Barron & Chacon, 1990). Further, wells (1994) has reported locus of control as a predictor of distress and disability in chronic pain sufferers and parental stress (Kelly, 1998)
Research Question 3

Is there significant correlation between stress and social support and its sub-scales?

To determine the relationship between the scores of stress and social support and its sub-scales on stress the Pearson Correlation was applied, the result indicated that social support scale, and its sub-scales i.e tangible support, and belonging support have significant negative correlation with stress (r= -.641, p=0.0005<0.01, r= -.631, p=0.0005<0.01, and r= -.576, p=0.0005<0.01) respectively. But there was no significant correlation(r= -0.124, p=.080>0.05) between the scores of appraisal support and stress among cancer patients.

Appraisal refers to support in the form of advice and discussion. In our finding it had negative but insignificant correlation with stress. Thus the presence of a perceived confident and trusted advisor of the cancer patients may not make much difference in minimizing stress, rather cancer patients may need perceived availability of material aid and also someone with whom he/she can share his/her sufferings. When a patient has someone who cares about him, with whom he/she can share the burden of illness, it may come less threatening and the patient may feel a greater sense of control and confidence than if he/she were alone. More social support therefore may lower the stress. As reported by Gilbar, (2005), he found significant negative correlations between social support and level of distress. This is also supported by the finding of Trunzo & Pinto (2003). They reported that higher levels of optimism and social support are associated with less emotional distress in cancer patients.

Research Question 4

Is there significant difference between the mean scores of cancer patients' stress with consideration of type locus of control?
In order to examine this question, the One Way ANOVA was used. The three types of locus of control (internal, chance, and powerful others) were compared with regard to scores of stress. Because of ($p=0.0005<0.01$), there were significant differences between at least two groups. The mean scores of stress in internal locus group were higher than chance locus of control group, and powerful others locus of control group.

The patients with internal loci consider their own self responsible for every improvement as well as impairment in health. As the severity of cancer as a disease is strong therefore they blame their own behavior for the onset and development of disease which in turn may bring more stress. Our finding is in conformity with the study of (Stanton & Snider, 1993). In their study they found positive relation of internal locus of control with stress in breast cancer patients.

**Research Question 5**

Is there significant difference between the mean scores of cancer patients' stress with consideration of personality type?

In order to examine this question, the One Way ANOVA was used. As there were not enough subjects in personality type 2(type A), type 3, and type 6 cancer patients. Before computation, mentioned groups were deleted to get better results. The results indicated that, there were significant differences ($p=0.0005<0.01$), between two groups on stress scores. The mean scores of stress in personality type 1 (type C) cancer patients were higher than personality type 4(healthy personality/Personality type B) cancer patients.

Personality type 1(type C) is characterized, when a person responds to stress with depression and a sense of hopelessness. Such personalities have a tendency to be introverted, conforming and complaint. Such personalities have repressive
personalities, who look calm but held in a cauldron of painful emotions and may thus possess more stress. Caponecchia (2005) reported that the Types 1 and 2 showed increased salivary cortisol responses to an uncontrollable maths stress task (relative to control) compared to Type 4s, and scored higher on perceived stress, state-anxiety, and measures of negative mood. Our finding is also in conformity with finding of Gerry and et al., (2006). In their study they found healthy personality tended to score lower than those in the stressed cluster on most of the biological markers known to increase during acute stress.

Research Question 6

Is there significant difference between the mean scores of cancer patients' stress with consideration of type of cancer?

In order to examine this question, the One Way ANOVA was used. The three groups/types of cancer patients (general cancer, esophagus cancer and breast cancer) were compared with regard to scores of stress. Because of \( p=0.0005<0.01 \), there were significant differences between at least two groups of cancer patients on stress scores. The mean scores of stress in esophagus cancer patients were higher than general cancer patients. And breast cancer patients had higher mean scores of stress than general and esophagus cancer patients.

When women are diagnosed with breast cancer, one of their biggest immediate concern may be what will happen to their breast. It may seem counterintuitive that physical appearance would be foremost on the mind of someone with a serious disease, but this is the reaction of several women. For women, their breasts are a critical component of their womanhood. Many women fear that they will not feel "whole" if they have a breast removed. Losing a breast to surgery is not only emotionally traumatic, but it can be physically painful and may require physical
therapy for a full recovery. Psycho-social problems following mastectomy are related to anxiety, fear, social withdrawal, changes in body image, sexual problems of perceived acceptance and rejection. Therefore in comparison to other types of cancer breast cancer patients may possess more stress. This is in conformity with the finding of Susanne et al., (2004). They found that Breast cancer patients had the highest stress levels.

Research Question 7

Is there significant difference between the mean scores of cancer patients’ stress with consideration of residence?

For responding to this question independent t-test was used. The two groups (rural and urban cancer patients) were compared with regard to scores of stress, because of \( p=0.635>0.05 \), there was not any significant difference between two groups on stress scores. That is no significant difference was found between rural and urban cancer patients on stress scores.

Having a disease like cancer may itself brings a deep impact on ones life. Cancer is often viewed as an acute and usually fatal disease. Cancer patients face many problems related to the diagnosis and treatment of their disease like medication, therapies (for eg. Chemo-therapy, radiotherapy etc), and regular check-ups. These problems are same for both rural as well as urban cancer patients and therefore may induce same amount of stress in both of these groups. Thus stress related to cancer is perceived equally by both rural as well as urban cancer patients.

Research Question 8

Is there significant difference between the mean scores of cancer patients’ stress with consideration of age?

In order to examine this question, the One Way ANOVA was used. The three
age groups (young age, middle age and old age) were compared with regard to stress scores. Because of \((p=0.0005<0.01)\) there were significant differences at least between two groups on scores of stress. The results showed that the mean scores of stress of middle age cancer patients were higher than old age and young age cancer patients.

When a person is diagnosed with cancer he/she feels that his/her ambitions are shattered with the onset of disease. Thus the development of stress is expected and that the level of stress may vary with age of cancer patients. The middle age cancer patients in the sample were in the age range of 41-55 years. In comparison to young (25-40) and old age (56 and above) cancer patients. The patients in middle age group have more stress because of liabilities with respect to family like parents, spouse and children. The problems related to the future of their children, their higher studies, or establishing business for them, their marriage etc. all these factors and many more contribute to the development of stress. At the same time though old age cancer patients also have concern about others around them particularly their family members and relatives, but mostly people around them like family members, are not that much dependent on them rather old age patients are themselves dependent on others, therefore they experience low amount of stress in comparison to middle aged cancer patients. Herschbach et al, (2004), findings suggest that in breast cancer patients, age is the most important predictor of stress and patients under 57 years of age are more stressed than the older patients. Young cancer patients do also have liabilities but not that much as middle aged cancer patients have. As parents of young age cancer patients are expected to be self sufficient i.e their parents are not dependent on them. Moreover young cancer patients may have feeling that their parents will look after their children in their absence or in case of any dire condition.
Also young cancer patients are not supposed to be the head of family. further due to their young age they may have more potential to resist stress than middle aged cancer patients.

In 2006, The National Cancer Institute (NCI) along with other affiliates formed the Adolescent and Young Adult Oncology Program Review Group (AYAO PRG) who conducted an evaluation of the current status of a cancer diagnosis in YAs between age 15 to 40 years (Schmidt, 2006. Empirical research to date indicates YAs and their cancer types are distinguished by unique biological characteristics (AYAO PRG, 2006). For example breast cancer in a 30-year-old woman or colon cancer in a 35-year-old man may have biologic characteristics not found in patients with the same diseases at 65 years of age, and these biologic differences may have an affect on disease susceptibility, treatment response, and outcome (AYAO PRG, 2006). Additional to this, AYA delay a diagnosis of cancer as they typically see themselves as unassailable to serious disease, causing them to ignore or minimise symptoms and delay seeking medical attention (Bleyer, 2007). Nicole, S.(2008) reported that this age group are unique in that they experience great disparities to that of the whole population in terms of cancer types; diagnosis, treatment and survival outcomes. Therefore the mentioned factors may also be the reason for presence of less stress among young cancer patients with respect to middle aged cancer patients.

Research Question 9

Is there significant difference between the mean scores of cancer patients’ stress with consideration of gender?

For responding to this question independent t-test was used. The two group’s i.e male and female cancer patients were compared with regard to scores of stress. Because of (p=0.001<0.01), there was significant difference between two groups on
stress scores. The results showed that female cancer patients have higher mean scores of stress in comparison to male counterparts.

Women may be more prone to stress and other mental disorders than men. Due to the physical transformation that women undergo and also for specific external factors, women may fall prey to stress quite easily. Treatment for cancer may include surgery, radiation, chemotherapy, or other drug treatments. All of these factors may lead to some undesirable consequences. Chemotherapy often causes hair loss and serious temporary digestive problems as side effects. Hair loss can be difficult emotionally because it is an obvious external manifestation of what is really an internal disease. Therefore women may experience more stress than men. Our result is in conformity with the finding of Herschbach et al., (2004). They reported that female cancer patients demonstrate higher stress scores in psychological tests than males. Same finding is reported by Susanne et al (2004) that women cancer patients showed significantly higher stress. Besides as our sample is from Kashmir valley, Younis et al., (2008) in a study in Kashmir valley found that the prevalence of depression was twice more in female subjects as compared to male subjects (32.7% vs 15.4%). Also, Hussain reported that, in Jammu and Kashmir, cases of women suffering from depression and post-traumatic stress disorders are on the rise. (http://www.biomedicine.org/medicine-news/More-People-Seeking-Treatment-for-Mental-Illness-in-Strife-torn-Kashmir-13179-1/).

Research Question 10

Is there significant difference between the mean scores of cancer patients' stress with consideration of income?

In order to examine this question, the One Way ANOVA was used. The three income groups (low income, moderate income and sound income) were compared
with regard to scores of stress. Because of \( p = 0.043 < 0.05 \), there was significant
difference at least between two groups on scores of stress in cancer patients. The
mean scores of poor cancer patients were higher than cancer patients with sound
income on stress.

Low income is itself a problem which may add to worry and stress. Low-
icome cancer patients may encounter economic and other barriers to cancer care,
like, problems in buying medicines, arranging fare to see a doctor in time, charges for
therapies like chemo therapy, radio therapy etc. These factors may add to stress as
reported by Ayse & Asli (2007), in their study income level of the participants and
depression scores were found to be negatively correlated with stress-related growth.
This is further supported by the study of Elaine (2005), this study showed that
individuals with low income possess more depressive symptoms.

Research Question 11

Is there significant difference between the mean scores of cancer patients’
stress with consideration of family strength?

In order to examine this question, the One Way ANOVA was used. The
results showed that there was no significant difference \( p = 0.280 > 0.05 \) amongst three
groups of family strength on stress scores. In other words no significant difference
was found among cancer patients with small family, medium family and large family
on stress scores.

The reason behind that may be the type of family engagement. As an active
engagement has been found to be associated with more relationship satisfaction
(Hagedoorn et al., 2000) while protective buffering has been found to be associated
with more distress (De Ridder, Schreurs, & Kuijer, 2005; Kuijer et al., 2000; Coyne et
al., 1991) and with less relationship satisfaction (Hagedoorn et al., 2000). Peggy
Reynolds and George Kaplan in a study of specific aspects of social ties found that involvement in a range of social activities, as well as the quality of relationships and frequency of contacts (not necessarily the numbers of friends or acquaintances), were the most important elements. (http://www.oralcancerfoundation.org/ emotional/mind-body.htm#support). Therefore, it may not be the number of family members which make a difference but it is the type of relationship and engagement. The findings of Rowland, (1989); Wortman & Lehman, (1985) suggest that family members sometimes lack communicatively supportive skills and need help learning how to effectively support one another. Implementing communication training programs into social support focused health. Interventions would make certain that family members are taught appropriate behaviours to help an ill loved one adjust and maintain his or her well being.

Research Question 12

Is there significant difference between the mean scores of cancer patients’ stress with consideration of period of diagnosis?

In order to examine this question, the One Way ANOVA was used. The results showed that, there was not any significant difference among three groups of period of diagnosis on scores of stress. That is, no significant difference was found among newly diagnosed, old diagnosed and very old diagnosed cancer patients on scores of stress.

The diagnosis of cancer may cause psychological stress. Diagnosis and treatment of cancer can be a stressful experience and the level of stress experienced by the patient may vary with the “time since diagnosis” but in our study no significant difference was found in scores of stress with consideration to period of diagnosis. One of the potential reasons may be that there was a small gap in intervals between the
three groups of cancer patients based on “time since diagnosis”. Each of the three
groups were distinguished with a gap of two months only i.e. 0-2 months consisting of
43.5% patients, 3-4 months consisting of 27.5% patients and 5 and above consisting
of 29.0% patients respectively. Therefore the expected difference was not found.

**Research Question 13**

Is there significant difference between the mean scores of cancer patients’
social support and its sub-scales with consideration of type of locus of control?

In order to examine this question, the One Way ANOVA was used. The three
groups/ type of locus of control (internal, chance and powerful others) were compared
with regard to social support and its sub-scales. Because of (p=0.002<0.01), there
were significant differences between at least two groups on Appraisal support. But
there was no significant difference between the mean scores of three groups on
tangible support, belonging support, and total social support. The results further
showed that the mean scores of cancer patients with powerful others locus of control
were higher than cancer patients with internal and chance locus of control.

Persons scoring high on powerful others are referred to as “believers in
control”, because these people believe that their health outcomes are due to factors
under control of powerful other people such as physicians and other care takers. It
might be assumed that one needs to have faith in professionals’ recommendations
(e.g., prescribed interventions) as well as a belief that a person can affect their health
through participation in a behavioral intervention program. Therefore, they may
exhibit the behavior that elicits more support.

**Research Question 14**

Is there significant difference between the mean scores of cancer patients’
social support and its sub-scales with consideration of personality type?
In order to examine this question, the One Way ANOVA test was used. The three groups/personality types were compared with regard to social support and its sub-scales. Because of \( p=0.009<0.01, p=0.008<0.01, \) and \( p=0.006<0.01 \), there were significant differences between at least two groups on tangible support, belonging support, and total social support. But there was no significant difference between the mean scores of three groups on appraisal support sub-scales. The results further reported that mean scores of type 4 (healthy personality/Personality type B) cancer patients were higher than type 1 (type C) cancer patients on tangible support, belonging support, and social support.

Type B personalities tend to be patient and friendly. They feel that they can control themselves more than anything else. Some of the peculiar characteristics of type B personalities as reported by Sharma (2007) is that they try to make others feel accepted and at ease. They are supportive of others and more likely to express positive feelings. They have a lesser chance of stress related disorders. This very nature of personality type B may help them in earning maximum social support. Therefore personality type 4/type B score higher than personality type 1/ type C on social support.

**Research Question 15**

Is there significant difference between the mean scores of cancer patients' social support and its sub-scales with consideration of type of cancer?

In order to examine this question, the One Way ANOVA test was used. The three groups/types of cancer (general, esophagus and breast cancer) were compared with regard to social support and its sub-scales. Because of \( p=0.002<0.01, p=0.033<0.01, p=0.003<0.01, \) and \( p=0.0005<0.01 \), there were significant differences between at least two groups on social support and its sub-scales. The results showed
that the mean scores of general cancer patients were higher than esophagus and breast cancer patients on tangible support, belonging and the total social support. And the mean scores of general cancer patients were higher than breast cancer patients on appraisal support.

As the general cancer is not a particular type of cancer rather it consists of various kinds of cancers like skin cancer, stomach cancer, lung cancer, prostate cancer, etc. Some of these cancer types are not life threatening, agonizing with harsh symptoms. Some of cancer patients with less severe cancer can manage activities in their daily lives at their own and therefore do not have much expectation from others. On the other hand, esophagus and particularly breast cancer patients may feel themselves severely affected and therefore may raise many expectations on others who support them. With the daily hurdles, agony they may feel that the people around are not caring much about them as they expect and thus may report less amount of social support.

**Research Question 16**

Is there a significant difference between the mean scores of cancer patients' social support and its sub-scales with consideration of residence?

In response to this question, independent t-test was used. The results showed that, because of (p=0.819>0.05, p=0.714>0.05, p=0.606>0.05, and p=0.829>0.05) there was no significant difference between the mean scores of rural and urban cancer patients with regard to social support and its sub-scales.

Though our finding is contrary to that of Barry, Doherty, Hope, Sixsmith, & Kelleher, (2002); Duncan, (2001), they reported that rural women have greater informal support from family and friends compared to urban women. As the data was collected from Kashmir valley the family bonds there are very close due to existing
turmoil and unrest, and people are dependent on each other. Therefore the urban people in valley may also receive substantial amount of support from the family members as is reported by Younis et al., (2008), they conducted a study to see the morbidity pattern in Kashmir valley and to see the depression level in relation to the family support. Their sample consists of urban patients. The result indicated that majority of the aged population were having family support as 85.7% (n=180) and only 14.3% (n=30) were not having any family support. Therefore rural and urban cancer patients may receive same level of social support.

**Research Question 17**

Is there significant difference between the mean scores of cancer patients' social support and its sub-scales with consideration of age level?

In order to examine this question, the One Way ANOVA was used. The three age groups (young age, middle age and old age) were compared with regard to social support scale and its sub-scales. Because of ($p=0.003<0.01$), and ($P=0.05<0.05$) there were significant differences between at least two groups on Tangible support and total social support. But there was no significant difference between the mean scores of three groups on Appraisal support and belonging support. The results showed that the mean scores of old cancer patients were higher than middle age cancer patient on tangible support and total social support.

Tangible support is the result of concrete behaviors that help a person directly. The helping person intervenes personally in the problem situation and takes practical action such as help in household chores, giving a financial assistance, helping with work responsibilities or giving some other form of material aid. With increasing age a person becomes dependent on others, therefore besides help received from others concerning disease, a patients may receive help for various disabilities and
weaknesses developed due to his old age. Therefore old aged cancer patients may perceive more support than younger patients. Kasper et al., (2000) in a study on disabled women, reported that greater reliance on family is associated with being of age ≥ 80, black, and living with others. Also, younger patients and lower income women indicated they received less help than needed. In a study on aged people in Kashmir valley by Younis et al., (2008). Their result indicated that majority of the aged population were having family support as 85.7% (n=180) and only 14.3% (n=30) were not having any family support. Therefore our result is in conformity with the mentioned findings.

**Research Question 18**

Is there significant difference between the mean scores of cancer patients’ social support and its sub-scales with consideration of gender?

In order to examine this question, the independent t-test was used. The results showed that, because of (p=0.130>0.05, p=0.156>0.05, p=0.231>0.05, and p=0.059>0.05) there was no significant difference between the mean scores of two groups on social support and its sub-scales. That is, no significant difference was found between the mean scores of male and female cancer patients on social support and its sub-scales.

The absence of difference between male and female cancer patients on social support may be due to the fact that, when a person is diagnosed with cancer the people around be they his or her family members, friends, physicians etc all may try to provide him or her care and support so as to comfort the patient, build his/her confidence and in a way ease patients’ stress irrespective of gender. Therefore our result is in conformity with the finding of Lehto-Jarnstedt (2000). In their study they found that the mean scores of cancer patients’ social support with consideration of
gender have hardly any differences.

Research Question 19

Is there significant difference between the mean scores of cancer patients' social support and its sub-scales with consideration of income level?

In order to examine this question, the One Way ANOVA was used. The results indicated that, because of \( p = 0.047 < 0.05 \) there was significant difference between the mean scores of at least two groups on appraisal support sub-scale. But there was no significant difference between the mean scores of three groups on tangible support, belonging support and total scores of social support. The results further showed that the mean scores of cancer patients with sound income were higher than cancer patients with moderate income on social support scale.

One's socioeconomic status may be a major factor in whether or not an individual gets enough social support. The socioeconomic status is the measurement of level of income. As expected, anyone who comes from a lower socioeconomic class would be more likely to receive less social support. They basically may not have enough resources in their environment available to assist with social support. Our finding is in conformity with the study of Dansuk et al (2000). They found that cancer patients with low socioeconomic status have low social support scores. Further, Gallo, Bogart, Vranceanu, & Matthews, (2005) has suggested that adults who have higher socioeconomic status tend to receive more social support, thus our finding is in same direction.

Research Question 20

Is there significant difference between the mean scores of cancer patients' social support and its sub-scales with consideration of family strength?

To answer this question, One Way ANOVA was used. Because of
(p=0.027<0.05, p=0.550>0.05, p=0.006<0.05, and p=0.035<0.05), there was significant differences between at least two groups on tangible, appraisal, and total social support. The results showed that, the mean scores of cancer patients with large family were higher than cancer patients with small family on tangible support, belonging support, appraisal support and total social support.

Social support is an emotional need when individuals are faced with life-threatening events (Carstensen et al., 1999) during such crises, individuals view the future as limited because their time left in life becomes potentially constrained. This cognitive time change causes people to prioritize certain goals that best enable them to adapt to their circumstances (Carstensen, 1991, 1992; Carstensen et al., 1999). They now seek emotional goals like social support in order to alleviate distress and maximize wellness. Individuals seek to achieve these goals via interaction with familiar partners, typically family, as such needs can easily be attained in previously established, close bonds (Carstensen et al., 1999). Therefore the presence of more family members may result in perception of more social support. At the same time it is important to note that all social support is not perceived to be helpful (Barrera, 1989; Kaniasty & Norris, 1997). The findings of Rowland, 1989; Wortman & Lehman, 1985 suggest that family members sometimes lack communicatively supportive skills and need help learning how to effectively support one another.

Research Question 21

Is there significant difference between the mean scores of cancer patients' social support and its sub-scales with consideration of period of diagnosis?

In order to examine this question, the One Way ANOVA was used. The results showed that, because of (p=0.827, p=0.103, p=0.925, and p=0.564), there was no significant difference between the mean scores of three groups on tangible,
appraisal, belonging and total social support. That is, no significant difference was
found between the mean scores of newly diagnosed, old diagnosed and very old
diagnosed cancer patients on tangible, appraisal, belonging and total social support.

Diagnosis and treatment of cancer can be a stressful experience and the level
of stress experienced by the patient may vary with the “time since diagnosis” and so
can be the amount of social support perceived, but in our study no significant
difference was found in scores of social support with consideration to period of
diagnosis. One of the potential reasons may be that, there was a small gap in intervals
between the three groups of cancer patients based on “time since diagnosis”. Each of
the three groups were distinguished with a gap of two months only i.e 0-2 months
consisting of 43.5% patients, 3-4 months consisting of 27.5% patients and 5 and
above consisting of 29.0% patients. Therefore the expected difference was not found.

5-2-Conclusion

The result of regression and correlation showed that social support have very
strong relationship with stress in cancer patients, followed by internal locus of control
and personality type 2(type A). Social support was negative significant predictor
while internal locus of control and personality type 2 (type A) were positive
significant predictors of stress in cancer patients.

The correlation between stress and Type of locus of control was significant
with 99% confidence in cancer patients.

Significant correlation was found between social support, its sub-scales (i.e
tangible support, and belonging support) and stress in cancer patients. But there was
not any significant correlation between the scores of appraisal support and stress.

The mean scores of stress in cancer patients with internal locus of control were
higher than cancer patients with chance locus of control, and powerful others locus of
The mean scores of stress in personality type 1 (type C) cancer patients were higher than personality type 4 cancer patients.

The mean scores of stress in esophagus cancer patients were higher than general cancer patients, and breast cancer patients had higher mean scores of stress than general and esophagus cancer patients.

No significant difference was found between rural and urban cancer patients on stress scores.

The mean scores of stress of middle age cancer patients were higher than old age and young age cancer patients.

Female cancer patients had higher mean scores of stress in comparison to male counterparts.

The mean scores of poor cancer patients were higher than cancer patients with sound income on stress.

No significant difference was found among cancer patients with small family, medium family and large family on stress scores.

No significant difference was found among newly diagnosed, old diagnosed and very old diagnosed cancer patients on scores of stress.

The mean scores of cancer patients with powerful others locus of control type was higher than cancer patients with internal and chance locus of control type on social support and its sub scales.

The mean scores of personality type 4 (healthy personality/personality type B) cancer patients were higher than personality type 1 (type C) cancer patients on tangible support, belonging support and total social support.

The mean scores of general cancer patients were higher than esophagus and
breast cancer patients on tangible support, belonging support and total social support. And the mean scores of general cancer patients were higher than breast cancer patients on appraisal support.

No significant difference was found between the mean scores of rural and urban cancer patients with regard to social support and its sub-scales.

The mean scores of old cancer patients were higher than middle age cancer patients on tangible sub-scale and total social support scale.

No significant difference was found between the mean scores of male and female cancer patients on social support and its sub-scales.

The mean scores of cancer patients with sound income were higher than cancer patients with moderate income on social support scale.

The mean scores of cancer patients with large family were higher than cancer patients with small family on tangible sub-scale, belonging sub-scale and total social support scale.

No significant difference was found between the mean scores of newly diagnosed, old diagnosed and very old diagnosed cancer patients on tangible, appraisal, belonging and total social support.

With all these findings we can finally conclude that:

The study provided a useful heuristic for understanding health beliefs and showed that health beliefs may have impact in cancer patients’ stress levels. Therefore importance of behavioral interventions designed to reduce the stress was revealed.

The study also showed effectiveness of personality type in relation to stress among cancer patients’ and therefore highlighted the need to augment psychological intervention on change, enhancing perceived emotional support, and, ultimately, assisting in the adaptive coping and psychological well-being of cancer patients.
Finally, the study provided the significance of social support for buffering stress and also the importance of an active engagement associated with more relationship satisfaction, so that Interventions would be provided to certain that family members are taught appropriate behaviours to help cancer patient adjust and maintain his or her well being and minimise stress.

5-3- Limitation of the Present Research

The most significant limitation of this study was that the data for all variables included in this study were collected via participants self report. All though self reports of participants are common ways of collecting data in the social science(Kline, Sulsky & Rever-moriyama, 2000), the use of such data collection for the only assessment of stress is criticized for two major reasons: the inferences made by the researcher as to correlations and causal relationships between the variables under investigation might be artificially inflated by the problem of common method variance and secondly, studies involving self report data are prone to response biases which need to be acknowledged and understood when interpreting results(Donaldson & Grant-vallone, 2002).

- Contamination through common method variance may have occurred in this study. As a result of the fact that all measures were assessed using the same paper-and- pencil response format. The problem with common method variance in correlational investigation is that in addition to the relationship calculated by the correlation coefficient, some of this correlation coefficient may be measuring a false relationship, meaning that correlation between variables is estimated as higher than is actually true to the same response bias being applied by the participant to each measure in the questionnaire battery (Kline et al, 2000). Therefore, it is possible that the relationships observed and
reported in this study have been slightly inflated due to common method variance. One way to control for this bias in future research could be using different versions of the questionnaire batteries, where the items are ordered differently, to detect order effects. Although this does not completely eradicate common method of variance it would provide the researcher with an indication of its effect and possibly allow them to control for this type of biasness in research.

5-4- Further Research Suggestions

Despite the spurt of research work in the field of cancer disorder there are some areas that need to be explored further in order to gain better understanding of the phenomena.

- The awareness of risk factors associated with cancer disease.
- Research on the role of psychological and behavioral factors in the management of cancer must be expanded. For example, the role of hardiness, quality of life, self concept,
- exploratory styles, hope or optimism etc.
- The role of individual techniques or management strategies-relaxation techniques positive appraisal, seeking social support and recreational activities should be adopted for rehabilitation of cancer patients.
- An important research area concerns how the patient's kith and kins view their health. We know little about childrens benefits concerning the health of their parents.