



Influence of perceived social support and meaning in life on fighting spirit: A study of cancer patients

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Abstract

Objectives: The aim of the present study was to explore the relationship of perceived social support (support from family, support from friends and support from significant others) and meaning in life (presence of meaning in life and search for meaning in life) with fighting spirit (Mental adjustment) among cancer patients. The integrative effect of perceived social support and meaning in life on fighting spirit was also investigated.

Method: The sample of the study consisted of 200 cancer patients who were selected on purposive basis from Shri Maharaja Hari Singh Hospital, Srinagar, J&K and Jawahar Lal Nehru Medical College, Aligarh, Uttar Pradesh. The tools used for the present study were Meaning in Life Questionnaire (MLQ) developed by Steger, *et al.*, (2006); Multidimensional Scale of Perceived Social Support scale (MSPSS) developed by Zimet (1988), and The Mental Adjustment to Cancer Scale developed by (Watson *et al.*, 1988). The data collected was analyzed by using appropriate statistical techniques like Pearson's product moment correlation and stepwise multiple regression analysis.

Results: The results showed significant positive correlation between support from family and fighting spirit ($r=.210$, $p>.001$); support from friends and fighting spirit ($r=.295$, $p>.001$); support from significant others and fighting spirit ($r=.335$, $p>.001$); overall perceived social support and fighting spirit ($r=.379$, $p>.001$); meaning in life and fighting spirit ($r=.218$, $p>.001$) and between presence of meaning in life (X5) and fighting spirit. However, there was a significant negative correlation between search for meaning in life and fighting spirit ($r=-.364$, $p>.001$) among cancer patients. Hierarchical regression analyses indicated that social support and meaning in life as a whole accounted for 35.56% variance of fighting spirit.

Conclusion: The findings of the study revealed that perceived social support and meaning in life have a significant positive correlation with fighting spirit. The largest Beta value of presence of meaning in life ($\beta=.439$, $t= 6.909$, $p<.0001$) suggests that it made the strongest unique contribution in explaining fighting spirit and; the Beta value of support from friends was lower ($\beta=.172$, $t= 2.712$, $p<.007$) which suggests that it made less of a contribution.

Keywords: perceived social support, presence of meaning in life, search for meaning in life, fighting spirit, cancer patients

Introduction

Cancer is associated with many negative connotations in the society. The words like tumour, lump, shadow etc. are used to stay away from the word cancer (Baile, Lenzi, Parker, Buckman, & Cohen, 2002) [6]. Researchers like (Mystakidou, Parpa, Tsilika, Katsouda, & Vlahos, 2003; Amir, 1987) [4] have found patients, their family members, health professionals, society etc. have a negative notion of the word cancer and they usually don't like to use this word. These kinds of notions regarding cancer usually arise due to fears, misconceptions and stereotypes associated with it. Doctors usually avoid this word in order to encourage their patients to remain steadfast with positive attitude for the disease (Grassi, Giraldi, Messina, Magnani, Valle, & Cartei, 2000) [19]. Diagnosis of cancer is considered as the most threatening disease and it shatters the psychological make-up of a person (Polsky *et al.*, 2005) [36]. The issues related with cancer have always remained as unsolved mysteries for the people (Absolom *et al.*, 2011; Merckaert *et al.*, 2010) [1, 31]. The word 'mental adjustment' refers to cognitive and behavioral responses in the face of a diagnosis of cancer (Greer & Watson, 1987; Watson *et al.*, 1988) [20, 51] and is a change from one state to another (Brennan, 2001) [8]. The psychological

make-up of the person suffering from cancer alters in every stage of the disease and same is supposed to affect many health related factors of a cancer patient (Cordova *et al.*, 2003; Johansson, Rydén, & Finizia, 2011; De Fazio *et al.*, 2013) [11, 26, 12]. However, there is a gap as to what is defined as optimal mental adjustment among cancer patients. A lot of researchers have contributed in the evaluation of mental adjustment in different durations of the time. Many longitudinal studies have supported the fact that mental adjustment to cancer varies with the passage of time as well as the stages of the disease. A number of determinants of like private, environmental and behavioural have been found to play their prominent role in the prediction of mental adjustment (Akechi, Kugaya, *et al.*, 1998; Hulbert, Williams, Neal, Morrison, Hood, & Wilkinson, 2012) [2, 3, 24], however, there is scarcity on the basic and strong evidences. Psychological distress and quality of life have been found as the significant predictors of mental adjustment among cancer patients. The exact and crystallized clean evaluation of mental adjustment is mandatory as it plays a significant role in many psychological attributes of a patient (Moorey & Greer, 1989; Watson, Greer, Blake, & Shrapnell, 1984) [32, 50]. Fatalism as a mental adjustment strategy has been found to enhance the time period of living of a cancer patient

(Watson, Haviland, Greer, Davidson, & Bliss, 1999) [52]. It has been recommended that the construct of mental adjustment is related to the medical and psychological outcome in cancer patients (Watson *et al.*, 1988) [51]. One of the mental adjustment techniques is fighting spirit. As fighting spirit is the main focus of this study, so it is mandatory to give a brief explanation of this variable. Fighting spirit is a confrontative coping response and patient is optimistic toward the future and believes in possible some control over the illness. The diagnosis of cancer is fully accepted and the term “cancer” is used. Patient is determined to fight the illness and tries to explore as much information as possible. The illness is seen as a challenge and an optimistic view is taken. Some examples are as following: ‘I won’t let cancer beat me, I’m trying everything to get better, I go to these classes to learn to relax and to think positively’, ‘At first I was devastated, but now I realized I’ve got too much to live for...’ I believe with the help of the doctors, I can get well’.

Social support plays an important role in the life of a cancer patient. Perceived social support is by and large defined as perceived comfort, caring, assistance and esteem one individual receives from others (Wallston, Alagna, DeVellis, and DeVellis, 1983) [49]. The presence or absence of social support may be an significant cause influencing the growth and development of cancer (Pinquart & Duberstein, 2010; Ikeda, Kawachi, Iso, Iwasaki, Inoue, & Tsugane 2013) [35, 25]. Social support leads the persons to believing that themselves are concerned and accepted, in the meantime, there is someone who appreciates and takes care of them (Dreyer & Schwartz-Attias, 2013) [15]. The presence of supportive interpersonal relationships has the potential to influence well-being in cancer survivorship (Schroevers, Helgeson, Sanderman & Ranchor, 2013), and it is also shown to be significant mediators of optimistic and positive affect (Hodges & Winstanley, 2012) [22]. Social support has always been recognized as a powerful weapon for dealing with the challenges and stresses of life. It has been considered as a driving force for maintain health and wellness in all cultures of the world (Dollete *et al.* 2004) [16]. The concept is perceived social support is considered more effective tool for dealing with the challenges of the life. It is considered as a component of one’s belief system that makes a person stronger even in the situations that are traumatic in nature. Perceived social support refers to expected available social support that may come from different sources such as family, friends, teachers, community, or any social groups to which one is affiliated (Zimet, *et al.* 1988) [60]. It has been found that deficiency of social support is one of the determinants of psychological problems (stress, depression, anxiety, etc.) among college students (Teoh and Rose 2001) [48].

Human beings have been questioning the meaning of life and trying to make their lives more meaningful since the beginning of their existence. The concept of meaning in life has been explored by many religions, philosophies and other disciplines (Sezer, 2012; Pope, 1999) [42, 37]. Meaning in life has been a topic of well-off empirical inquiry for many decades. A number of researches suggest that meaning in life plays an important role in protecting against adverse health effects from stress as well as providing direction and fulfillment in life (Antonovsky, 1987; Kobasa, 1979;

Wortman, Silver, & Kessler, 1993) [5, 30, 55]. The emergence of meaning as an important variable has been come out by the Frankl’s (1963) [18] work, particularly Man’s Search for Meaning (Wong & Fry, 1998) [54]. Meaning in life is not merely a philosophical or theoretical construct but human health and well-being is solely dependent on its presence and absence. It is asserted that absence of meaning is related to psychopathology. It has been validated in an empirical research that to live without meaning, goals or values provokes considerable distress (Yalom, 1980) [57]. Frankl argued that a lack of meaning in life causes a so-called existential vacuum. Frankl’s philosophy asserts that one has to be conscious that life has meaning under all circumstances in order to have a positive view of life and that all people have the capacity and ability to find meaning in their lives. It is outcome of successful efforts of Steger and colleagues (2006) who made it possible to clarify the concept by distinguishing between two components of meaning in life (Steger, Frazier, Oishi & Kaler, 2006) [46, 47]. The first aspect, Presence of Meaning, indicates whether individuals perceive their lives as significant and purposeful. The term refers to the comprehension of oneself and the surrounding world, including the understanding of how one fits into the world (King, Hicks, Krull & Del Gaiso, 2006; Steger, Kashdan, Sullivan & Lorentz, 2008) [28]. The second aspect, Search for Meaning, refers to the strength, intensity, and activity of people’s efforts to establish or increase their understanding of the meaning and purpose of their lives (“how can I make my life more meaningful?”) (Steger, Kashdan, Sullivan & Lorentz, 2008). In sum, whereas the ‘Presence of Meaning’ dimension implies some kind of outcome, the ‘Search for Meaning’ dimension refers to an active and process-oriented factor.

Keeping the above facts into consideration, researchers have tried to find out the role of perceived social support and meaning in life in fighting spirit among cancer patients.

Objectives

1. To study the nature of relationship of perceived social support and its dimensions, i.e. (Support from family, support from friends and support from significant others) with fighting spirit among cancer patients.
2. To study the nature of relationship of meaning in life and its dimensions, i.e. (Presence of Meaning in Life and Search for meaning in life) with fighting spirit among cancer patients.
3. To examine perceived social support and meaning in life as predictors of fighting spirit among cancer patients.

Hypotheses

H₁: There will be significant relationship of overall perceived social support and its dimensions, i.e. (support from family, support from friends and support from significant others) with fighting spirit among cancer patients.

H₂: There will be significant relationship of overall meaning in life and its dimensions, i.e. (presence of meaning in life and search for meaning in life) with fighting spirit among cancer patients.

H_{3a}: Perceived social support and its dimensions (Support from family, support from friends and support from

significant others) will emerge as significant predictors of 'fighting spirit' dimension of mental adjustment among cancer patients.

H_{3b}: Meaning in life and its dimensions (presence of meaning in life and search for meaning in life) will emerge as significant predictors of 'fighting spirit' dimension of mental adjustment among cancer patients.

H_{3c}: Perceived social support and meaning in life will emerge as significant predictors of 'fighting spirit' dimension of mental adjustment among cancer patients.

Methodology

Sample: The sample of the present study consisted of 200 cancer patients who were selected on purposive basis from Shri Maharaja Hari Singh Hospital Srinagar, J&K and Jawahar Lal Nehru Medical College, Aligarh, Uttar Pradesh.

The Inclusion criteria were:

Patients aware of the diagnosis of cancer
30 years of age or older

Able to consent to the study and independently complete questionnaires

The Exclusion criteria were:

Severe physical or mental impairments

Previous history of malignant disease

Those who were not able to give the consent and participate as per their interests.

Research Design

The study used a correlation design, examining the relationship of two independent variables, i.e. Perceived Social Support and Meaning in Life With Fatalism (dependent variable). The data collected is analyzed using Pearson's product moment correlation to know the correlation between the variables and regression analysis was used to know the prediction value of independent variables.

Tools Used

Meaning in life questionnaire (MLQ)

The Meaning in Life Questionnaire (MLQ) was developed by Steger, Frazier, Oishi and Kaler (2006) [46, 47]. It is a 10-item self-report inventory designed to measure life meaning. It measures two dimensions of meaning in life: (1) Presence of Meaning (how much respondents feel their lives have meaning), and (2) Search for Meaning (how much respondents strive to find meaning and understanding in their lives). Respondents answered each item on a 7-point Likert-type scale ranging from 1 (Absolutely True) to 7 (Absolutely Untrue). Scoring is kept continuous; Items 1, 4, 5, 6, & 9 make up the Presence of Meaning subscale. Items 2, 3, 7, 8, & 10 make up the Search for Meaning subscale, Item 9 is reverse score. The MLQ has good internal consistency, with coefficient alphas ranging in the low to high .80 for the Presence subscale and mid .80 to low .90 for the Search subscale.

Multidimensional Scale of Perceived Social Support scale (MSPSS)

The Multidimensional Scale of Perceived Social Support scale

(MSPSS) was developed by Zimet (1988) [60] to measure social support. The MSPSS is a 12-item scale, self-report instrument. It measures individuals social support from three specific areas namely family, friends, and significant others. Each of the 3 areas has 4 subscales. Items were measured on 7-point Likert-type scale from 1 'very strongly disagree' to 7 'very strongly agree'. The MSPSS evaluates perceived social support (PSS) from family (FA), friends (FR), and significant others (SO) and quantifies the degree to which respondents perceive support from each of these three sources, namely FA, FR and SO.

Mini-Mac Scale

The Mental Adjustment to Cancer Scale (Watson *et al.*, 1988) [51] was designed to provide a method of assessing specific responses to cancer. The aim was to develop a self-rating questionnaire acceptable to cancer patients, which could be administered easily during busy oncology clinics. The MAC Scale does not attempt to measure every possible coping response; a detailed exposition of a more complex rating method has been described elsewhere (Morris *et al.*, 1985) [33]. The Mini-Mental Adjustment to Cancer Scale (Mini-MAC) was extracted from the MAC which it has still five sub-scales and is now often used in preference to MAC in clinical settings due to brevity. The Mini-MAC is a 29-item self-rating questionnaire developed in response to the limitation of the original MAC Scale (Watson *et al.*, 1994) [53]. This questionnaire included the same five dimensions but fewer items for 'fighting spirit' (4 questions), 'hopelessness/helplessness' (8 questions), 'anxious preoccupation' (8 questions), 'fatalism' (5 questions) and 'cognitive avoidance' (4 questions). It takes less time to complete and is more suitable for distressed cancer patients (Kang *et al.*, 2007) [27]. The Mini-MAC has been translated into several other languages. Aside from the original psychometric data in the 1994 paper, we are aware of no subsequent publication that provides validity and reliability data for the English 54 version of the Mini MAC (Hulbert-Williams, Hulbert-Williams, Morrison, Neal, & Wilkinson, 2012) [24]. The internal reliability coefficients of the Mini-MAC subscales were reported to be satisfactory (α coefficients 0.62–0.88) (Watson *et al.*, 1994) [53]. For present study only the scores of the fighting spirit were taken into consideration.

Procedure

These three measures were in printed form and were administered on each selected subject by assuring them that information provided by them will be kept strictly confidential. Having obtained the data from the subjects, the data were tabulated for giving statistical treatment for obtaining the results.

Statistical Analysis

The information/responses collected from the respondents were subjected to various statistical treatments. The data was analysed by using Statistical Product and Service Solutions (SPSS 16.0). Statistical techniques used for analyzing data were: correlation and stepwise regression analysis. Pearson's product moment correlation was used to study correlation of

perceived social support and meaning in life with fighting spirit and stepwise multiple regression analysis was used to understand the role of perceived social support and meaning in life in predicting fighting spirit among cancer patients.

Results and Discussion

Table 4.1: Showing Pearson’s correlation coefficient(r) between perceived social support and its dimensions with fighting spirit

Variables	r
Support From Family	
Fighting Spirit (Y2)	.210**(p = <0.005)
Support From Friends	
Fighting Spirit (Y2)	.295**(p = <0.005)
Support From Significant Others	
Fighting Spirit (Y2)	.335**(p = <0.005)
Overall Perceived Social Support	
Fighting Spirit (Y2)	.379**(p = <0.005)

**. $P \leq 0.05$ Level of significance, Y2= Fighting Spirit, X1= Support from Family, X2= Support from Friends, X3= Support from Significant Others, X4= Total Perceived Social Support

Table 4.1 Shows significant positive correlation between support from family (X1)and fighting spirit(Y2) ($r=.210, p>.001$); support from friends (X2) and fighting spirit (Y2) ($.295 p>.001$); support from significant others (X3) and fighting spirit (Y2) ($r=.335, p>.001$) and between overall perceived social support (X4) and fighting spirit (Y2) ($r=.379, p>.001$). Findings indicate as perceived social support and its dimensions increases in cancer patients their fighting spirit also increases and vice-versa. Thus, our hypothesis H_{A1} stating that “there will be significant relationship of overall perceived social support and its dimensions, i.e. (support from family, support from friends and support from significant others) with fighting spirit among cancer patients” stands accepted.

Perceived social support enhances the strenght of cancer patients and helps them to develop positive adjustment qualities in order to tackle the challenges which they face due to cancer. Support from family members, friends and significant others prove very helpful for cancer patients in the times of their illness. This support acts as a booster for those patients. It strenthens their morale and makes them enough strong, tolerant and knowledable. The findings of the present can be corroborated with the findings of Yagmura and Dumanb (2016) which proves that perceived social support and its dimensions were positively correlated with fighting spirit and negatively correlated with helplessness/hopelessness. Moreover, the study conducted by Kinsinger, Laurenceau, Carver and Antoni (2011) is also in line with the present findings as they found the perception of emotional, instrumental and informational support facilitatess adjustment and the bond of happiness among cancer patients. Social support has been found as an important source that has positive effects on increasing longevity and emotional well-being as well as decreasing hopelessness in lifelong diseases such as cancer (Carver, 1998; Yoo, Levine, Aviv, Ewing, and

Au, 2010; Somasundaram and Devamani 2016) [59, 45]. Moreover, lower levels of perceived social support were found to be related to higher levels of hopeless feelings among cancer patients (Dedeli, Fadilogli, and Uslu, 2008; Singer, *et al.*, 2012; Somasundaram and Devamani 2016) [13, 44, 45].

Table 4.2: Showing Pearson’s Correlation Coefficient(r) between Meaning in Life and its dimensions with Fighting Spirit

Variables	r
Presence of Meaning in Life	
Fighting Spirit (Y2)	.488**(p = <0.005)
Search for Meaning in Life	
Fighting Spirit (Y2)	-.364**(p = <0.005)
Overall Meaning in Life	
Fighting Spirit (Y2)	.218** (p = <0.005)

**. $P \leq 0.05$ Level of significance, Y2= Fighting Spirit, X5= Presence of Meaning in Life, X6= Search for Meaning in Life, X7= Total Meaning in Life score.

The table 4.2 depicts that there exists a positive relationship between meaning in life (X7) and fighting spirit (Y2) ($r=.218, p>.001$) and between presence of meaning in life (X5) and fighting spirit, *indicating more the level of presence of meaning in life and overall meaning in life, more is fighting spirit and vice-versa among cancer patients*. The table further reveals that there was a significant negative correlation between search for meaning in life (X6) and fighting spirit (Y2) ($r=-.364 p>.001$) among cancer patients, *indicating more there is search for meaning in life, less is fighting spirit and vice-versa*. Thus, our hypothesis H_{A2} stating that “there will be significant relationship of overall meaning in life and its dimensions, i.e. (presence of meaning in life and search for meaning in life) with fighting spirit among cancer patients” stands partially accepted.

Overall meaning in life and presence of meaning in life seem to be crucial for fighting spirit among cancer patients. These attributes safeguard cancer patients from negative effects of the illness and boost their morale. The overall meaning in life as well as presence of meaning in life enhance the positive adjustment behaviors among cancer patients. There are many research studies which are in line with the present research findings. Studies conducted by (Park, Edmondson, Fenster and Blank, 2008; Yanez, Edmondson, Stanton, Park, Kwan, Ganz, and Blank, 2009 and Sherman, Simonton, Latif, and Bracy, 2010) [34, 58] found that cancer patients with higher meaning in life reported improved quality-of-Life, higher well-being, and lower levels of depressive symptoms and fatigue. Moreover, Steger, (2012) in a study found that presence of meaning in life is significantly related with psychological wellbeing of a person. DeRoon-Cassini, de, Valvano, Hastings, and Horn (2009) [14] carried out a research endeavour on the subjects with spinal cord was injurd and found that meaning in life helped them to cope with the medical challenges and enhanced their psychological well-being. Similarly, studies conducted by (Cohen and Cairns, 2012; and Dezutter *et al.*, 2013) [10, 15] revealed that presence of meaning in life acts as a buffer for the negative impact of

searching for meaning.

On the other hand, significant negative correlation was found between search for meaning in life (X6) and fighting spirit (Y2). There are several studies which are support our findings. For example, Dezutter, Luyckx, and Wachholtz (2015) carried out a study on chronic pain patients and found presence of Meaning was positively associated with life satisfaction and search for Meaning in life was positively related to depressive symptoms at every time point. Moreover, this study supports

the idea searching for meaning is a worrying process, resulting in less adjustment (Baumeister, 1991) [7]. Moreover, Scrignaro, *et al.*, (2015) [41] carried out a study on 266 cancer patients and found that the presence of meaning totally or partially mediated the effect of the search for meaning on both mental adjustment and eudaimonic well-being. Further correlation analyses showed a high negative correlation between eudaimonic well-being and hopelessness.

Table 4.3: Showing the results of stepwise multiple linear regression analysis by considering perceived social support and meaning in life as predictors of ‘fighting spirit’ dimension of mental adjustment among cancer patients.

Predictor	B	β	R	R ²	ΔR^2	f ²	t	F	df	p
Perceived Social Support (Model Y ₂ = a + β_4 X ₄)										
X ₄	0.108	.379	0.379	0.144	-	0.168	5.770	33.293	(1,198)	0.000
Constant	5.524									
Meaning in Life (Model Y ₂ = a + β_5 X ₅)										
X ₅	0.234	.488	0.488	0.238	-	0.312	7.861	61.792	(1,198)	0.000
Constant	6.048									
Perceived Social Support and Meaning in Life (Model Y ₂ = a + β_5 X ₅ + β_2 X ₂)										
X ₅	.210	.439	0.488	0.238	-	0.312	6.909	61.792	(1,198)	0.000
X ₂	.113	.172	0.515	0.265	0.027	0.360	2.712	35.564	(2,197)	0.007
Constant	4.833									

**p<0.01 (1-tailed), Predictor Variables: X₄=Total Perceived Social Support, X₅= Presence of Meaning in Life, X₂= Support from Friends; Criterion Variable: Y₂=Fighting Spirit.

Perceived social support and its’ dimensions were considered as predictors and fighting spirit (dimension of mental adjustment) as criterion to develop a regression model. Total perceived social support (X₄) passed on the criteria and accounted for a significant amount of variance in fighting spirit (Y₂), R² = 0.144, F(1, 198) = 33.293, p < 0.001. It can be inferred that total perceived social support (X₄) explained 14.4% variance in fighting spirit (Y₁) of cancer patients. Therefore, *H3a is supported*. At the p < 0.001 level of significance; there exists enough evidence to conclude that the slope of the regression line is not zero and, hence, that total perceived social support is significant predictor of fighting spirit of cancer patients. It suggests that changes in predictor are associated with changes in the criterion variable. Further, Cohen’s effect size value (f² = 0.168) suggested a medium strength of association between perceived social support and fighting spirit.

Secondly, meaning in life and its dimensions were considered as predictors and fighting spirit as criterion to develop a regression model. Presence of meaning in life (X₅) passed on the criteria and accounted for a significant amount of variance in fighting spirit (Y₂), R² = 0.238, F (1, 198) = 61.792, p < 0.001. It can be inferred that presence of meaning in life (X₅), explained 23.8% variance in fighting spirit (Y₂) of cancer patients. Therefore, *H3b is partially supported*. At the p < 0.001 level of significance; there exists enough evidence to conclude that the slope of the regression line is not zero and, hence, that presence of meaning in life is a significant predictor of fighting spirit of cancer patients. It suggests that changes in predictor are associated with changes in the criterion variable. Further, Cohen’s effect size value (f² = 0.312) suggested a medium strength of association between presence of meaning in life and fighting spirit.

Finally, perceived social support and meaning in life were

considered as predictors and fighting spirit as criterion to develop a regression model. Presence of meaning in life (X₅) and support from friends (X₂) passed on the criteria and accounted for a significant amount of variance in fighting spirit, R² = 0.265, F (1, 197) = 35.564, p < 0.001. It can be inferred that presence of meaning in life and support from friends explained 26.5% variance in fighting spirit of cancer patients. However, total presence of meaning in life alone explained 23. 8% and support from friends 2.7% variance in fighting spirit. Therefore, *H3c is partially supported*. At the p < 0.001 level of significance; there exists enough evidence to conclude that the slope of the regression line is not zero and, hence, that presence of meaning in life and support from friends are significant predictors of fighting spirit in cancer patients. It suggests that changes in predictor are associated with changes in the criterion variable. Further, Cohen’s effect size value (f² = 0.360) suggested a high and large strength of association of presence of meaning in life and support from friends with fighting spirit.

The largest Beta value (in the 3rd model) of presence of meaning in life (β =.439, t= 6.909, p<.0001) suggests that it made the strongest unique contribution in explaining fighting spirit and; the Beta value of support from friends was lower (β =.172, t= 2.712, p<.007) which suggests that it made less of a contribution. On the basis of the significance level of the standardized beta value, it can be concluded that presence of meaning in life and support from friends made a unique and statistically significant contribution to the prediction of fighting spirit among cancer patients.

In fighting spirit, the patient sees the diagnosis as a challenge, has an optimistic view of the future, believes it is possible to exercise some control over the illness, and manifests confrontative coping responses. The support from friends plays a significant role in presence of meaning in life among

cancer patients. The presence of both presence of meaning in life and support from friends help a person to be very strong. They enhance the persons fighting spirit and always have a significant impact on their lives. They act as the main sources of psychological support which enables a person to deal with any chronic or acute stresses of life. Some of the research studies are in support of our findings. For example, Akechi, Okamura, Yamawak and Uchitomi (1998) ^[2, 3] carried out a study on 455 cancer patients in order to find out the predictors of their mental adjustment. Size of household, performance status, support from physicians and satisfaction with support from friends were found as the predictors of patients' fighting spirit. Hodges and Winstanley (2012) ^[22] carried out a study on cancer patients the aim of which was to find out the relationship between optimism and positive affect during cancer survivorship together with four possible mediators: social support, fighting spirit, internal health locus of control and cancer worry, all of which have been shown to be important predictors of well-being in cancer patients. The results of the study revealed that social support and fighting spirit collectively acted for 50% of the variance in positive affect. Additionally, In a number of earlier studies, social support was also recognized as an significant factor for alleviating cancer patients' psychological distress (Revenson, Wollman and Felton, 1983; Neuling and Winefield, 1988; Roberts, Cox, Shannon and Wells, 1994; Hann, Oxman, Ahles, Furstenberg and Stuke, 1995) ^[38, 39, 21]. Zika and Chamberlain (1992) carried out a study on the relationship between meaning in life and psychological well-being. They found that presence of meaning in life was positively correlated with positive than with negative dimensions of psychological well-being. Hsiao *et al.*, (2012) also found that lack of presence of meaning in life was significantly correlated with depression.

Implications of the study

Perceived social support, presence of meaning in life and fighting spirit can improve well-being of the cancer patients by:

- Eliminating the levels of anxiety, stress, depression, loneliness and other psychological problems.
- Teaching them how to become psychologically strong
- Uplifting their personal growth and self-awareness
- Decreasing their feelings of isolation, rejection and loneliness
- Improving their sense of attachment with others and secure feelings
- Increasing their adherence to positive adjustment strategies like fatalism.
- Guiding them towards finding meaning in life and escalating their determination to live.

Limitations of the study

- a. The major limitation of the study is that the target population was sensitive that had effect on objectivity of study.
- b. The selected sample group was heterogeneous with respect to their educational status which may have resulted in variation of responses.
- c. Another limitation is that minimal demographic data were

collected for the sample in this study. Information regarding the financial status, marital status, type of cancer, and educational qualification would also have been important variables to include in the analysis. For instance, not knowing whether cancer patient was a married or unmarried concealed any possible influence marriage would have on patient's life.

- d. Keeping in view the nature of the target population, combination of qualitative and quantitative research would have been more appropriate and much informative as compared to quantitative study.
- e. Though standardized tools were used in the study but due to large number of items in these tools respondents experienced fatigue and boredom.

Suggestions for future research

- a. There is much scope to conduct further research on perceived social support, meaning in life and fighting spirit among cancer patients in order to recognize the pathways in which these variables are related in this population. This study provides the groundwork for further exploration. Further research should include a qualitative component, which would provide the opportunity to learn more about the lived experience cancer patients.
- b. Future studies should involve a larger and more diverse group of cancer patients, including a more ethnically and racially diverse sample. This would allow further study of the ways that culture and ethnicity play a role in perceived social support, meaning in life and mental adjustment among cancer patients.
- c. Alternative research techniques should be used by future researchers to authenticate the results. Moreover, Short versions of scales and questionnaires and adequate sample size should be preferred by future researchers.
- d. More research is needed to explore the role of positive intervention variables such as perceived social support, meaning in life, hope, resilience, psychological capital, hardiness in adjusting with the disease like cancer. These positive variables should be taken into consideration while dealing with the problems of mental adjustment of cancer patients.
- e. The impact of certain socio-demographic and clinical variables such as financial status, marital status, type of cancer, and educational qualification should be given due weightage in future research endeavours.

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