

Effect of Stress on Quality of Life in Cervix Cancer Patients

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Abstract

The aim of the present study was to investigate the effect of physiological and psychological stress on quality of life in a group of cervix cancer patients purposively selected from various cancer Institutes of Lucknow, Kanpur and Delhi.

Material and Methods

A number of 100 cervix cancer patients undergoing Radiation Therapy and/or Chemotherapy were purposively selected from various cancer Institutes of Lucknow, Kanpur and Delhi. Stress Assessment scale developed by Misra & Mishra (2004) was used for the assessment of stress level among cervix cancer patients. The Missoula VITAS Quality of Life Index (MVQOLI) developed by Byock, Merriman & Kinzbrunner was used to evaluate the Quality of Life of Cervix Cancer Patients.

Results

To assess the level of stress among cervix cancer patients the 't-test' was calculated. One way anova was calculated to see the effect of stress on Quality of Life in Cervix Cancer Patients. Results are indicative that patients with a lower level of stress had better quality of life (overall and area wise) as compared to patients having high level of stress.

Conclusion

Therefore efforts must be made to minimize the effect of stress during the journey of cancer treatment in order to enhance quality of life in cervix cancer patients.

Keywords: Cervix Cancer, Stress, Quality of Life, Effect of Stress on Quality of Life.

Introduction

Cancer and its treatment has an extensive effect on all aspects of a patient's life – psychological, physical and social. The physical symptoms of cancer may reduce or disappear after treatment but the psychological/emotional symptoms continue to persist leaving the patients, families and friends alone to cope. Hence a getting to know about the diagnosis of cancer can be immensely stressful (**Matchim & Armer, 2007**). There are not only physical consequences of cancer diagnosis but it also yields psychological distress in many patients (**Fawzy, 1999; Serlin, Classen, Frances & Angell, 2000**). Thus it can be concluded that a cancer diagnosis can give rise to a variety of troublesome feelings and emotions and essentially affect various regions of an individual's life. It can also have a negative impact on patient's wellbeing and overall quality of life.

Psychological Impact of Cancer

Razazi and Devaux (1988) stated that the impact of cancer on an individual's life can be linked to four factors: the existential threat of the disease, psychological aftereffects (related to changes in social life, loss of employment), consequences of the morbid disease process (physical pain, fatigue etc.) and the treatment and its related side effects (nausea, vomiting, hair loss, weight loss etc.). These factors have a combined effect on Quality of Life of Cancer patients. They contribute to stress in an individual which in long term might be responsible for reduced wellbeing and quality of life among cancer patients. Generally, stressful events are thought to influence the patho-genesis of physical disease by causing negative affective states (eg, feelings of anxiety and depression), which in turn exert direct effects on biological processes or behavioural pattern that influence disease risk (**Cohen, Kessler, & Gordon, 1995; McEwen, 1998**).

Stress

Stress occurs when an individual perceives that environmental demands tax or exceed his or her adaptive capacity (**Cohen, Kessler, & Gordon, 1995**). Exposure to chronic stress are considered the most toxic because they are most likely to result in long term or permanent changes in the emotional, physical and behavioral responses that influence susceptibility to and course of disease (**Cohen, Kessler, & Gordon, 1995; McEwen, 1998**). It is generally believed that stress is more likely to influence the progression and recurrence of cancer than initial onset of the disease. In a study on breast cancer patients it was found that distress level varies in intensity level depending on the seriousness of illness along with the type of treatment (**Simonton & Sherman, 1998**).

Quality of Life

The term Quality of life is used to assess the general well-being of individuals and societies. Every individual's quality of life, well-being, and mental health are certainly influenced by physical and psychological aspects. World Health Organization defines Quality of Life as "individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (**Kazi et.al., 2006; Sayed et.al., 2009**). This definition is broad and includes domains such as physical health, psychological state, level of independence, social relationships and personal beliefs (WHOQOL, 1993). Cancer can result in varied symptoms, some subtle and some not at all subtle. In long term cancer survivors the foremost concern can be in the area of social/emotional support, health habits, spiritual/philosophical view of life and body image concerns (**Casso, Buist, Taplin, 2004; Dorval, Maunsell, Deschenes et.al., 1998; Ganz & Desmond et.al., 2002; Kornblith & Herndon et.al., 2011**). Numerous studies have confirmed that cancer has a significant effect on a patient's overall quality of life. In a study it was found that cancer patients experience worst symptoms not only because of the illness related conditions but also due to the toxicity of anticancer drug ultimately leading to reduced quality of life (**Numbers & Amundsen, 1986**).

Review of Literature

Research studies in the area of cancer are persistent with the findings that stress affects negatively the Quality of Life of patients suffering from Cervix Cancer. **Kreitler, Peleg & Ehrenfeld (2007)** found in their study that Quality of Life is affected negatively by health stresses (based on advanced disease stage, long disease duration and undergoing treatment) and social stresses (based on unemployment, recent immigration and older age), but the former are mediated primarily by the experience of perceived stress.

Several other studies clearly demonstrated that psychosocial stress occurs in one third to one half of all cancer patients (**Chochinov, 2002; Leopold, Ahles, Walch, Amdur, Mott et.al., 1998; Stiegelis, Ranchor, Sanderman, 2004**).

Strong et al., found in their study that females with advanced disease and less than 65 years of age suffered more from psychological stress (**Strong, Waters, Hibberd, Rush, Cargill, Storey, et al. 2007**). Another study conducted by (**Mehnert & Koch, 2008**) showed that family problems, emotional concerns and reduced physical functioning had an association with higher levels of psychological distress and ultimately resulting in poorer quality of life.

Many other previous studies have shown that the negative effect of chemotherapy influence the functioning and Quality of Life of female cancer patients (**Smith, Pang, Cirrincione, Fleishman, Paskett, Ahles, et.al., 2013; Fagundes, Lindgren, Shapiro, Kiecolt-Glaser, 2012**). Studies also found that various stressors like disease progression, fear of complication, being away from family etc causes distress in cancer patients and also contributes to reduction in Quality of Life among female cancer patients (**Melchior, Buscher, Thorenz, Grochocka, Koch, Watzke, 2013; Drageset, Lindstrom, Giske, Underlid, 2011; Garcia-Ortega, Benito, Vahamonde, Torres, Velasco, Paredes, 2011; Levine, Yoo, Aviv, Ewing, 2007**).

Material and Method**Purpose**

To study the level and effect of stress on Quality of Life in Cervix Cancer Patients.

Objective of the Study

1. To assess the level of stress among cervix Cancer Patients.
2. To assess the effect of stress on Quality of Life in Cervix Cancer Patients.

Hypothesis

1. There will be significant difference in the mean Quality of Life scores of Cervix Cancer Patients having high level of stress as compared to Cervix Cancer Patients having low level of stress.
2. Stress will have a significant effect on Quality of Life in Cervix Cancer Patients.

Sample

The sample of the study consisted of 100 cervix cancer patients with age range of 30-65 years, purposively selected from various cancer hospitals of Lucknow, Kanpur and Delhi. Inclusion and exclusion criteria for the sample consisted of the following details:

Inclusion Criteria

1. Patients who were diagnosed with cervix cancer by a medical practitioner and are presently undergoing chemotherapy and/or radiation therapy.
2. Patients diagnosed with stage II and III of cervix cancer
3. Patients who are able to communicate in Hindi or English.

Exclusion Criteria

1. Patients diagnosed with cancer other than cervix cancer.

2. Cervix cancer patients who have completed their treatment.
3. Patients diagnosed other than Stage II and III of cervix cancer.
4. Patients who cannot communicate in Hindi and/or English.
5. Patients diagnosed with co-morbid disorders diagnosed by a medical practitioner (mental or physical).

Procedure

All the respondents who gave their consent for their participation in the study were briefed about the purpose of the study. Thereafter they were asked to fill the questionnaires related to stress and quality of life.

Tools Used

For the purpose of assessment of stress level among cervix cancer patients the stress scale developed by Mishra & Misra (2004) was used and quality of life was assessed by Missoula VITAS Quality of Life Index (MVQOLI) developed by Byock, Merriman & Kinzbrunner.

Results

The Significance of difference between mean Quality of Life (Overall & Area wise) scores of having

high & low Stress in Cervix Cancer Patients is shown in **Table 1**. The results in the table indicate that the mean QOL (Overall & Area wise) scores are higher in low Stress group than the high Stress group. To find out the significant difference between the mean QOL of High & Low Stress group the t-test was applied. The obtained t-values were found to be highly significant for QOL (Symptom, Interpersonal and Overall) while for other dimensions of QOL they were not found to be significant. Thus, we can say that both the groups differ significantly with reference to QOL (Symptom, Interpersonal & Overall). In other words it can be said that cervix cancer patients having low level of total stress tend to show better QOL (Symptom, Interpersonal & Overall) as compared to the high stress group. A graphical presentation of the same is shown in **Figure 1** to give instant clarity about the results obtained. Table 2 shows the results of ANOVA and interprets the effect of stress on Quality of Life in Cervix Cancer Patients. It is evident from the table that there was a significant effect of Stress on Quality of Life in Cervix Cancer Patients at the $p < .05$ level for three conditions [$F(26,73) = 2.342, p = 0.002$]. Hence it is found that the **Hypothesis 1** is **partially accepted** and **Hypothesis 2** is **confirmed**.

Table1: Significance of difference between mean Quality of Life (Overall & Area wise) scores of having high & low Stress in Cervix Cancer Patients (N = 100).

Group X 6 (Total Stress)		N	Mean	SD	Df	t-ratio	P
QOL 1 (Symptom)	Low	49	11.61	5.64	98	2.80	0.01
	High	51	8.85	4.10			
QOL 2 (Functional)	Low	49	9.03	4.59	98	2.47	N.S.
	High	51	7.06	3.27			
QOL 3 (Interpersonal)	Low	49	5.82	2.60	98	2.84	0.01
	High	51	4.31	2.70			
QOL 4 (Well-Being)	Low	49	3.70	1.68	98	.701	N.S.
	High	51	3.45	1.91			
QOL 5 (Transcendence)	Low	49	2.86	1.32	98	.302	N.S.
	High	51	2.77	1.47			
QOL (Overall)	Low	49	33.03	13.06	98	2.75	0.01
	High	51	26.45	10.79			

Fig.1: Showing the mean scores of Quality of Life for High and Low Stress in Cervix Cancer Patients.

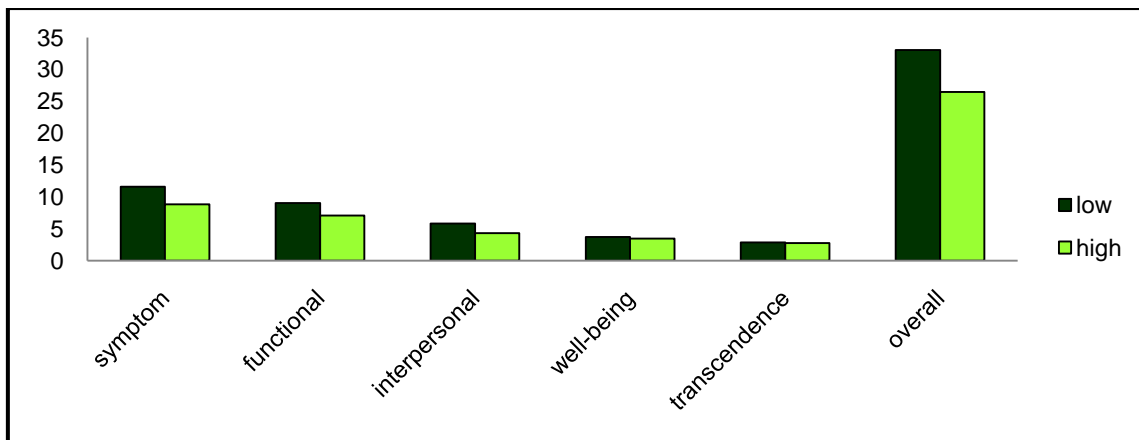


Table 2: Showing Effect of Stress on Quality of Life in Cervix Cancer Patients.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6868.182	26	264.161	2.342	.002
Within Groups	8232.424	73	112.773		
Total	15100.606	99			

Discussion & Conclusion

The results are indicative that stress do effect the Quality of Life in Cervix Cancer Patients. Numerous studies have been conducted which support the present findings. According to some researches, Stress has shown to have detrimental effects on one's physical and mental well-being (McCabe & Schneiderman, 1985; Selye, 1976). Stress has been associated with increases of depression, anxiety, and psychological distress (DeLongis, Folkman, & Lazarus, 1988; Kanner, Coyne, Schaefer & Lazarus, 1981). Various studies have proved that the greater levels of distress are positively associated with greater severity of disease (Maunshell, Brisson & Deschenes, 1992; Schag, Ganz, Polinsky, Fred, Hirji & Peterson, 1993). Further, a patient's phase of life has a significant impact on adjustment: younger patients demonstrate greater levels of distress than older patients (Simonton & Sherman, 1998; Vinokur, Threatt, Vinokur-Kaplan, & Satariano, 1990).

In a study it was found that different treatment methods and ways of providing care for cancer patients can develop stress in their daily life and affect their quality of life (Mansano-Schlosser, Ceolim, 2012). In another study it was found that pain, emotional distress, neuropathy, alopecia, nausea and vomiting, anemia and fatigue are among some of the prominent toxicities and symptoms that can weaken Quality of Life of patients suffering from gynaecologic cancers (Steginga, 1997; Harper, 2000; Khayat, 2000; Wilmoth 2000; Pignata 2001; Brassil, 2002; Tabano, 2002). Similar results have been found in another study reporting that cancer patients face some psychological problems – stress, anxiety, depression; some physiological side effects – hair loss, pain, fatigue, nausea, vomiting; some social side effects – social isolation, changes in role and functions and eventually a worsened Quality of Life (Burgess et.al., 2005; Reich et.al., 2008; Shapiro et.al., 2001).

Interaction between psychosocial and immunologic factors are relevant to a variety of disease. Researches indicate psychotherapeutic intervention can reduce distress, anxiety, depression and improve Quality of Life.

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