

Impact of Cancer-Related Fatigue on Psychological Semiology among Cancer Patients

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Abstract

Objectives: To identify the impact of cancer-related fatigue on the psychological semiology (including hopelessness, stress, anxiety and depression) among cancer patients.

Study design, settings and duration: This cross-sectional study was carried out at oncology departments of various hospitals of Lahore from November 2014 to May 2015.

Subjects and Methods: A purposive sample of 200 cancer patients was drawn from the oncology departments of various hospitals of Lahore city. The Chalder Fatigue Scale was used to measure cancer-related fatigue. Depression, Anxiety, Stress Scale and Psychological Capital Scale were used to measure psychological semiology.

Results: There were 108 males and 92 female cancer patients with mean age of 41.3 ± 9.1 years. Findings indicated that cancer-related fatigue had significant negative correlation with hope and significantly positive correlation with depression, anxiety and stress. Result further indicated that both mental and physical fatigue had significant impact on mental health but impact of mental fatigue on stress level of cancer patient were found to be non-significant.

Conclusion: Present study revealed significant relationship between cancer-related fatigue, hope, depression, anxiety and stress. It was further concluded that both mental and physical cancer related fatigue had significant impact on psychological semiology among cancer patients.

Key words: Cancer-related fatigue, hope, depression, anxiety, stress.

Introduction

Fatigue is being considered as the most prevailing symptom associated with cancer.¹ It is known as one of the most widespread side-effect of cancer and its treatment.² Fatigue is an individual subjective unpleasant feeling having tiredness and exhaustion, which produce a cruel situation that obstructs the people capabilities of their normal capacity.³

Oncologists all over the world define Cancer-Related Fatigue (CRF) as the symptoms of tiredness among cancer patients.⁴ It is defined as persistent feelings of restlessness, tiredness and

lack of energy due to treatment process, which has significant negative impact on normal functioning of a patient.⁵ CRF is difficult to manage as it could have many reasons. Empirical literature indicated relationship between CRF and various psychological problems including anxiety, depression, poor sleep quality, stress, negative mood and poor physical functioning.^{6,7}

Previous researches indicate causal relationship between fatigue and depression.⁸ They concluded that not only cancer related fatigue and depression can cause each other but also there might be some other factors which can cause both the symptoms of depression and CRF among cancer patients.⁷ In another study significant relationship was found between stress anxiety, depression and CRF.⁸ Findings of another study reported higher level of stress and distress among Jordanian cancer patients.⁹ Results of another study reported high frequency of symptoms of anxiety and depression among cancer patients in Pakistan.¹⁰ They further reported that the problems of mental health issues among cancer patients becomes even more important in developing countries like Pakistan because of insufficient mental health services. Therefore, it become even more important for a

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Received: 24 March 2017, Accepted: 23 November 2017,

Published: 22 March 2018

Authors Contribution

SM conceptualized the project. SM & AS did the data collection, literature search & statistical analysis. Drafting, revision and writing of the manuscript were done by SM.

general consultant to understand the importance of risks of untreated anxiety and depression in cancer patients. Because of presence of psychological semiology among cancer patients who are already suffering from the lengthy and painful treatment procedures can further worsen their mental and physical condition.

The present research was conducted to explore the impact of cancer related fatigue on the psychological semiology including hopelessness, symptoms of depression, anxiety and stress among cancer patients. It was further intended to explore the gender differences to have a clear picture of the problem.

Subjects and Methods

This cross-sectional research was carried out at various cancer hospitals in Lahore. A purposive sample of 200 cancer patients (both male and female) with age range between 20-70 years were recruited for this study. The researchers approached those patients who were diagnosed by oncologists and were under treatment.

A self-constructed demographic sheet was used to get the demographic information of patients including, age, gender, type of illness, duration, marital status, occupation, etc. The Urdu version of Chadler Fatigue Questionnaire¹¹ (translated and adapted by the researchers) was used to measure cancer-related fatigue among cancer patients. It had 11 items including 7 items for physical fatigue and 4 items for mental fatigue which can be rated on 0-3 likert type scale (0= better than usual and 3= much worse than usual). Symptoms of depression, anxiety and stress were measured by using already translated and adapted Urdu version of Depression, Anxiety, Stress Scale (DASS).¹² In the present study its short version was used which consists of 21 items having 3 subscales. All the subscales are comprised of 7 items which could be rated on 0-3 optional responses (0 = never, to 3 = always).

Psychological Capital Scale (PSYCAP)¹³ was used to measure hope. It is an indigenously

constructed scale (available in both Urdu and English) which consisted of five dimension of positive psychology. Hope scale had 7 items with four optional responses which can be scored as 1= disagree, 2= a little agree, 3= agree, and 4= strongly agree.

Institutional Ethics Committee of Department of Psychology, University of Sargodha approved this study. They participants were informed about the nature and purpose of the study. Written informed consents were taken out from all the respondents and questionnaires were administered.

Statistical package for social sciences (SPSS 21) was used to analyze the data. Pearson product moment correlation was computed to explore the relationship between study variables. Regression analysis was used to explore the impact of CRF on mental health of cancer patients whereas independent sample t-test was used to investigate the gender differences.

Results

Male patients were 54% (n =108) of the total sample whereas female patients were 46% (n = 92, 46%). Around 47% Patients (n = 95) were belonged to low socio-economic status while 40.5% was from middle (n = 81) and 10% were from high socio economic class (n = 2). 72% patients were married (n = 144) and 28% were unmarried (n = 56). The results in Table-1 showed that cancer-related fatigue has significant positive relationship with depression, stress and anxiety while significant negative correlation with hope among cancer patients.

Multiple Regression analysis in Table-2 revealed the impact of cancer related fatigue on mental health among cancer patients and overall models found to be significant. The ΔR^2 value of .06 for hope indicated that both physical and mental types of cancer-related fatigue cause 6% variance in hope among cancer patients ($F(2, 197) = 6.98$ p -value < 0.001). In the same way, the ΔR^2 value of .096 reported that 9.6% variance in depression

Table 1: Inter-correlations among cancer-related fatigue and psychological semiology among cancer patients. (N=200)

	M	SD	α	1	2	3	4	5	6	7
1 Fatigue	19	6.36	.77	-	.90***	.70***	-.25***	.32***	.28***	.28***
2 Physical	13.73	4.80	.83		-	.31***	-.19**	.28**	.22**	.25***
3 Mental	5.27	2.94	.48			-	-.22**	.24***	.25***	.19**
4 Hope	21.48	6.11	.77				-	-.44***	-.30***	-.36***
5 Depression	10.93	5.77	.83					-	.85***	.85***
6 Anxiety	10.27	5.51	.48						-	.84***
7 Stress	11.06	5.03	.77							-

** $p < .01$, *** $p < .001$

Table 2: Impact of cancer-related fatigue on psychological semiology among cancer patients. (N = 200)

Variable	Hope			Depression			Anxiety			Stress		
	ΔR^2	β	F	ΔR^2	β	F	ΔR^2	B	F	ΔR^2	B	F
Physical fatigue	.06	-.14	6.98***	.096	.23***	11.52***	.076	.16*	8.99***	.067	.21**	8.13***
Mental fatigue		-.18*			.17*			.19**			.12	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Gender differences in cancer-related fatigue and psychological semiology among cancer patients. (N = 200)

Variables	Male n = 200		Female n = 200		t=(398)	95% CI		Cohen's d
	M	SD	M	SD		LL	UL	
Fatigue	17.87	6.78	19.96	5.84	.020*	-3.85	-.33	0.33
Physical	12.61	5.11	14.68	4.31	.002**	-3.39	-.76	0.43
Mental	5.26	2.78	5.28	3.08	.68	-.84	.80	0.006
Hope	21.58	5.92	21.40	6.28	.67	-1.53	1.89	0.02
Depression	10.43	5.96	11.34	5.58	.26	-2.52	.70	0.16
Anxiety	9.86	5.61	10.62	5.41	.33	-2.30	.78	0.14
Stress	10.63	5.29	11.42	4.79	.27	-2.19	.62	0.15

* $p < .05$, ** $p < .001$

can be accounted for, by the predictors with $F(2, 197) = 11.52$ p -value < 0.001 . The result further indicated that both physical and mental fatigue cause 8% variance in level of anxiety ($F(2, 197) = 8.99$, p -value < 0.001). The ΔR^2 value of .07 showed that both physical and mental fatigue cause 7% variance in level of stress among cancer patients ($F(2, 197) = 8.13$, p -value < 0.001). The findings indicated that physical fatigue has significant positive impact on the level of stress ($\beta = 0.21$, p -value < 0.01) whereas mental fatigue has no significant impact ($\beta = 0.12$, p -value > 0.05).

Results in Table-3 indicated significant gender differences in cancer-related fatigue. Though, findings showed non-significant results in mental health but mean differences reported that level of depression, anxiety and stress were higher in female patients as compared to male patients. According to results, men were found to be comparatively more hopeful than women.

Discussion

The present research was focused to determine the relationship between cancer-related fatigue and psychological semiology among cancer patients. Psychological semiology was accessed in terms of their level of hope, depression, stress and anxiety. The findings revealed positive relationship between cancer-related fatigue, depression and anxiety. These findings are consistent with previous finding of a study, which reported correlation between fatigue depression and anxiety.⁷ Previous research on cancer patients revealed relationship between fatigue and anxiety.^{9,14} The finding further revealed positive relationship between CRF and

stress among cancer patients. Existing literature is divided on this relationship.

Findings of present study further reported negative association between cancer-related fatigue and hope among cancer patients. These findings were similar to the previous findings which indicated¹⁵ significant negative relationship between hope and cancer related fatigue. The reason behind this negative relationship might be the reality that if a patient feel hopeful about the treatment that will help him out in bearing the fatigue and to cope with it.

The results of current study also reported positive impact of cancer related fatigue (CRF) on depression, anxiety and stress while negative impact on hope among cancer patients. Previous literature also revealed that CRF is associated with considerable psychological distress.² Findings of present study also revealed significant gender differences in cancer-related fatigue. This finding is consistent with the previous studies, which reported high level of symptoms in women than men.¹⁶

Present study is distinct from previous ones because it has been carried out in indigenous context on cancer patients. Most of the existing studies had been conducted on western cultural context so present study not only confirm almost the same findings in a totally different cultural setting but also become a valuable addition in the existing literature that also incorporates gender differences in cancer patients in terms of cancer-related fatigue and psychological symptoms.

The current study had several limitations. Firstly, study was conducted on a limited sample of cancer patients from a single city and therefore,

generalizability of the findings is limited. Secondly, demographic variables such as duration of illness, type of cancer and age of the participants were not taken into account. Future researchers should also focus on these factors including types of treatment, nutritious requirements and differences among patients, and duration of illness. It is further suggested to collect appropriate sample from various cities and sample size should be increased so a clear picture of types, symptoms and therapeutic interventions should be found.

A significant relationship was found between cancer-related fatigue, hope, depression, anxiety and stress. It was further found that both mental and physical fatigue has significant impact on psychological semiology. Therefore, stress management strategies, in addition to cancer therapy, might help to control the symptoms of depression, stress and anxiety and may increase hopefulness in cancer patients.

Conflict of interest: None declared.

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