



Research Article

A STUDY OF DEPRESSION AND QUALITY OF LIFE IN CARCINOMA PATIENTS IN A TERTIARY CARE HOSPITAL

**Anirban Ray¹, Anjana Basu^{2*}, Ronti Ghosh³, Nabakumar Maity⁴, Anindya Chakraborty⁵
Aalokdut Sarkar⁶ and Alok Ghosh Dastidar⁷**

¹Department of Psychiatry Institute of Post Graduate Education and Research
Kolkata, West Bengal, India

²R. G. Kar Medical College & Hospital

³Department of Radiotherapy Institute of Post Graduate Education and Research
Currently: Radiation Oncologist, AMRI Hospitals

⁴Department of Psychiatry Institute of Psychiatry IPGME & R

⁵Department of Radiotherapy College of Medicine & Sagar Dutta Hospital

^{6,7}Department of Radiotherapy Institute of Post Graduate Education and Research

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ABSTRACT

Introduction: Carcinoma is a dreaded disease considering its morbidity and mortality. Poor quality of life and depression is known to be associated with this disease. Little is known about the clinical and demographic correlates of the psychiatric morbidities. **Materials & Methods:** 198 carcinoma patients who consented to the study from radiotherapy OPD of a tertiary hospital. Each participant was given a clinical and demographic questionnaire along with two instruments VR12 (Veterans Rand 12) and BDI (Beck's Depression Inventory) to assess health related quality of life and depression respectively. **Results and Analysis:** 42.9% had clinical depression. Physical quality of life (mean score=35.98) is poorer than mental quality of life (mean score = 47.53). Disease severity, patients education, age, carcinoma diagnosis had a significant impact on the scores of different domains. Proper psycho-education of the patients had a universal protective effect on both domains of quality of life and depression score. **Conclusion:** Proper psycho-education is essential. A further pre-post study after a psychiatric intervention is necessary to establish the importance of liaison services for these patients.

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INTRODUCTION

Carcinoma is a disease known to have high morbidity and mortality. Because of its chronic debilitating nature and long term morbidity, quality of life (QoL) has proposed to be an important parameter of morbidity. According to a definition QoL is the gap between the hopes, expectations and present experiences and performance (Bottomley, 2002; Calman, 1984). Quality of life have proven to be significantly worse in cancer patients compared to others (Baker et al., 2003). A study showed that QoL varies with clinical and treatment parameters in cancer patients but not so much on demographic parameters (Heydarnejad et al., 2011). Another study also showed it varies with ethnicity (Ye et al, 2012). Chronic medical diseases significantly associated with depression (Moussavi et al., 2007). Carcinoma is a chronic debilitating diseases. Depression is significantly associated with carcinoma also across studies (Fann et al., 2008; Krebber et al., 2014; Massie, 2004).

Depression is also thought to be one of the risk factors for cancer progression (Irwin, 2007) Pain seems to be one of the factors that determines the occurrence of higher depression and lower quality of life in cancer patients (Tavoli et al, 2008). Though there are some studies across the world, very less number of study have been conducted in India in this liaison psychiatry field. Hence a study is required specifically to identify the determinants of quality of life and depression to facilitate to determine the treatment options in India specifically in eastern India.

MATERIALS AND METHODS

To identify quality of life there are many generic and cancer specific instrument among which Short Form -36 and SF 12 are notable (Bottomley, 2002). Veterans Rand 12 (VR12) is a health related quality of life questionnaire which derived from SF 36 and is free to use (E. Kazis et al., 2019; Jones et al., 2001; Kazis, Miller, et al., 2004). It has eight different domains of assessment physical functioning, role physical,

*Corresponding author: **Anjana Basu**
R. G. Kar Medical College & Hospital

bodily pain, general health, vitality, social functioning, role depression, 21-30 moderate depression, 31-40 severe emotional and mental health. depression and >40 is extreme depression.

Table 1 Descriptive statistics and significance of factors that examined to be contributing towards Health Related Quality of Life (Physical Composite Score (PCS) & Mental Composite Score (MCS)) and Depression score (Beck's Depression Score)

		Mean ± SD (PCS)	Significance (p- Value)	Mean ± SD (MCS)	Significance (p- Value)	Mean ± SD (BDS)	Significance (p- Value)
Age	n=198	50.54 ± 12.882	r = -.066 p = .352	50.54 ± 12.882	r = -.153 p = .031	50.54 ± 12.882	r = .217 p = .002
Income	n=198	3662.35 ± 5074.858	r = .067 p = .352	3662.35 ± 5074.858	r = .084 p = .237	3662.35 ± 5074.85	r = -.083 p = .245
Sex	Male (n=107) Female (n= 91)	35.64±11.73 36.36±11.20	P = 0.663	47.51±14.21 47.53±13.80	P = 0.993	16.69±13.07 18.37±13.50	P = 0.375
Religion	Hindu (p= 163)	36.85± 11.83	P = 0.019	47.88± 13.94	P = 0.432	16.64± 12.99	P = 0.058
Psycho-education	Muslim (p= 35)	31.87± 8.59		45.83± 14.27		21.31± 14.00	
	Complete (p= 109) Not complete(n=89)	38.09 ±11.68 33.38 ±10.70	p = 0.004	51.05 ±12.36 43.20 ±14.69	p = .000	13.99 ±10.89 21.72 ±14.66	p =.000
Residence	Urban (n=46)	38.66 ± 11.65	P = 0.069	49.51± 11.78	P = 0.272	16.65± 13.19	P = 0.637
	Rural(n=152)	35.16 ± 11.32		46.92 ± 14.57		17.71± 13.31	
Marital Status	Married (n=158)	36.57± 11.97		48.70±13.14		16.01±12.30	
	Single (n=18) Single Again (Divorced or Widowed) (n=22)	36.58± 8.95 31.16± 8.34	P = 0.113	46.73±16.55 39.66±15.68	P = 0.016	16.00±14.13 29.14±13.99	P = 0.000
Duration	<6 month (N=150)	36.05± 11.47	P = 0.873	48.47± 13.96	P = 0.090	17.21± 13.50	P = 0.639
	>6 month (N=48)	35.74± 11.57		44.54± 13.79		18.25± 12.59	
Occupation	Unemployed (n=17)	36.64±11.86	P = 0.375	50.53±10.12		15.59±12.04	
	Retired (n=11)	42.73±13.27		52.24±11.27		15.82±14.41	
	House wives (n=74)	35.63±10.88		47.53±14.69	P = 0.197	18.26±13.40	P = 0.700
	Self-employed (n=58)	35.19±11.49		44.30±14.77		18.69±14.79	
Diagnosis of Carcinoma	Service (Govt + Private) (n=38)	35.58±11.82		49.70±12.99		15.37±10.76	
	Genitourinary (n=39)	39.23±12.24	P = 0.004	49.14± 14.11		16.28±13.85	
	Lung (n=33)	33.88±11.51		44.30± 14.15		19.27±11.86	
	Breast n=29)	41.71±11.40		51.34± 11.52	P = 0.302	13.24±10.44	P = 0.166
Histological Diagnosis	Head & Neck(n=30)	35.75± 9.00		44.71± 12.77		18.07±10.50	
	GI tract (n=44)	32.64± 10.93		46.99± 16.27		20.91±16.25	
	Others (n=23)	32.87± 10.90		49.26± 12.67		14.83±13.25	
	Adeno-Carcinoma (n=105)	35.37±11.59	P = 0.275	47.54±14.72		18.26±14.75	
Treatment Modality	Squamous Cell Carcinoma (n=68)	35.65±10.79		46.28±13.15	P = 0.385	17.84±10.47	P = 0.212
	Others (n=25)	39.41±12.58		50.82±12.97		13.12±13.11	
	Radio (n=9)	38.58±8.88	P = 0.279	39.80±10.81		21.78±12.14	
	Chemo (n=37)	33.41±9.98		44.41±16.37	P = 0.056	21.11±16.06	P = 0.087
Level of Education	Combined (n=152)	36.44±11.89		48.74±13.33		16.32±12.43	
	Primary(n=101)	34.38±10.64	P = 0.039	44.54±14.16		20.78±14.19	
	Secondary (n=61)	36.19±11.77		48.98±13.93	P = 0.005	15.39± 11.63	P = 0.001
	Under Graduate (n=18)	42.60±12.01		55.45±10.21		9.39±7.35	
TNM Stages	Graduate & Above (n=18)	37.52±12.64		51.38±12.44		13.94±12.62	
	Stage 1 (n=10)	39.73± 10.39		55.95±10.35		10.40±10.79	
	Stage 2 (n=83)	38.20± 12.59	P = 0.013	48.23±12.92		15.42±13.15	P = 0.036
	Stage 3 (n=76)	35.03± 10.56		47.48± 14.64	P = 0.061	19.16±12.94	
	Stage 4 (n=29)	30.78± 8.82		42.69±15.08		21.31±13.83	

Table 2 Correlation values of physical composite score (PCS), mental composite score (MCS) and Beck's Depression score (BDS)

		PCS	MCS	BDS
PCS	Pearson Correlation	1	.314**	-.537**
MCS	Pearson Correlation	.314**	1	-.818**
BDS	Pearson Correlation	-.537**	-.818**	1

** Correlation is significant at the 0.01 level (2-tailed).

These domains were after weighted average summarized to get Physical composite score and mental composite score. Where higher score denotes better functioning (Baker *et al.*, 2003; Ware, A. *et al.*, 1998). To assess depression the Beck's Depression Inventory (Beck, AT *et al.*, 1988) was used. It has 21 questions with 0-3 scoring for each item. It has been used in multiple studies, assessing depression in cases of medical morbidities (Farinde, 2013), Score 1-10 is normal while, 11-16 is subclinical mood disturbances, 17-20 is mild clinical

This is a cross sectional assessment study done in psychiatry and radiotherapy OPDs in a tertiary care centre in West Bengal, India. Consecutive patients diagnosed with carcinoma approached from the study. Those who has given consent to be enrolled in the study were given Beck's Depression Inventory (BDI), Veterans RANDS 12 (VR12) along with a semi-structured questionnaire for socio demographic and clinical details. A psychiatrist trained the post graduate trainees of department of Radiotherapy to administer the questionnaires. Some clinical data was filled in from the case record file by the treating team. Those who was diagnosed with depression were treated in department of psychiatry. Those who were observed to have less than adequate psycho education regarding nature of disease, line of management and prognosis were ensured to have full psycho-education by the treating team under guidance of a psychiatrist.

RESULT AND ANALYSIS

Overall in Carcinoma patients Physical Quality of Life (PCS) is worse (Mean± SD = 35.98 ± 11.47) than mental quality of life (MCS) (Mean± SD = 47.53±13.99). Mean Beck's Depression Inventory score is 17.46 (Standard Deviation (SD) =13.264). 42.9% of carcinoma patients have clinical depression. 39.4% was normal while 17.7% had sub clinical mood disturbances among non-depressed individuals. Among those who had clinical depression 8.1% had mild depression, 13.1% had moderate and 15.2% had severe depressive syndrome while 6.6% had extreme depression.

The results of the study is displayed in Table 1. Statistical correlation of the three dependent variables were displayed in Table 2.

DISCUSSION

US norm suggests that 50 is the normal summary scores of SF12 and each 10 score suggest variance of one standard deviation (Baker *et al.*, 2003). VR12 has been comparable to SF12 (Kazis, Lee, *et al.*, 2004; Lee *et al.*, 2008). Indian norms does not exist in such instruments. This study showedon average mental wellbeing (47.53) is better than physical wellbeing (35.98) in carcinoma patients. But 42.9% had clinical depression as supported by a lot of studies across the world (Fann *et al.*, 2008; Massie, 2004; Thapa *et al.*, 2010)

It shows as age increases mental wellbeing deteriorates and depression is more but physical wellbeing does not change significantly with age. It is slightly different from previous studies. Where some studies had shown it is correlated with age (Klantari *et al.*, 2017; Thomé *et al.*, 2004). But some other opined that it is unrelated with age(Heydarnejad *et al.*, 2011).

Religion is a contributing factor in physical wellbeing but not in mental wellbeing. Not many study explored this. But other study showed ethnicity had an impact on quality of life (Ye *et al.*, 2012).Proper knowledge of the disease along with prognosis and treatment options definitely have a positive impact on both health related quality of life and mood symptoms of the patients with carcinoma. It reaffirms the instrumental need of proper psycho-education.

On contrary to Heydarnejad *et al.*(2011) which had shown no effect, this study emphasized the significant contribution of education and marital status on both quality of life and depression score. Divorced and windowed patients (single again) patients was significantly worse in mental wellbeing as well as depression score. On contrary to one study from Iran (Klantari *et al.*, 2017) where higher education was associated with poorer quality of life, this study suggested poorer education associated with poorer quality of life and depression. Interestingly higher than secondary and lower than graduate level of education had the best outcome on quality of life and depression score.

On contrary to Klantari *et al.* (2017) again, this study showed sex is not a significantly contributory factors to the quality of life measures in carcinoma.

Heydernejad *et al.* (2011) showed quality of life significantly varies with cancer type, pain intensity, fatigue and treatment intensity. But in this study cancer type has contributed to physical quality of life only not in mental components, whereas other histology, treatment etc. did not had an impact. Instead, stage of the disease had been a determinant in both

quality of life and depressive scores according to this study. It deteriorates with the increasing severity of the disease.

Quality of life and mood symptoms especially when secondary to the disease changes with cultural belief and attitude of the society and the patient towards the disease. Hence it can vary with cultural norms. Hence further large scale study in the area needs to be performed, especially when accepting a wide array of carcinoma diagnosis. Also norm for the scales has to be established in normal population in the society for more accurate evaluation.

CONCLUSION

This study emphasized that severity of disease had a negative impact on quality of life and mood. Also widowed and divorced persons are prone to be more depressed and with poor mental wellbeing. Proper psycho-education can have a protective factor. It is associated with less depression and good quality of life. Further large scale study is needed with pre post assessment after psychiatric intervention of the identified patients to determine the effectiveness liaison intervention in these carcinoma patients.

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