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Ways of Coping and Quality of Life in Patients with Head and Neck Cancer

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Abstract: ***Background****: Life as cancer patient includes fear of the future as well as symptoms cause by the disease place considerable demands. The ways of coping with this stress may determine the quality of life of the patient.*
Aim *: To study coping, quality of life and its correlation in patients with head and neck cancer.*
Material Methods*: The study was a case controlled study .After ethical clearance from institutional review board 50 subjects with head and neck cancer and 50 age and sex matched healthy controls from the same socio-cultural background were selected. Each group comprised of 30 males and 20 females between 21-70 years of age and they were assessed with Ways of Coping Questionnaire (WOCQ) and WHO Quality of life scale (WHO-QOL). Unpaired sample t-test and Spearman correlation was used and results were obtained*
Results*: The QOL scores were significantly low in all the QOL domains in the study group as compared to the control group (p<0.05). Confrontive coping, accepting responsibility and escape avoidance showed significant negative correlation with all the domains of quality of life whereas seeking social support, planful problem solving and positive reappraisal had significant positive correlation.*
Conclusion*: Quality of life is overall lower in the head and neck cancer patients and maladaptive coping strategies may further deteriote it.*
Keywords*: stress, neoplasm, confrontive coping, accepting responsibility , escape avoidance ,seeking social support, positive reappraisal*

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I. Background

Epithelial carcinomas of the head and neck arise from the mucosal surfaces in the head and neck. Alcohol and tobacco consumption, smoking, marijuana, exposure such as nickel refining, textile fibre, wood working, dietary factors such as low consumption of fruits and vegetables, salted fish and human papilloma virus infection are some of the etiological factors contributing to head and neck cancer **[1].**

57.5% of global Head and Neck Cancers occur in Asia, especially in India. Head and Neck Cancers in India account for 30% of all cancers. In India incidence is 12.48 cases per 1 lakh population for males and 5.52 cases per 1 lakh population in females [2].

The diagnosis of cancer creates a lot of emotional upheaval and distress with which the patient has to cope. Thus an understanding of and respect for each individuals way of coping is necessary to avoid invalidation and precipitating empathic failures.

Lazarus defines coping as ongoing cognitive and behavioral efforts to manage specific external and/or internal demands that are judged to tax or exceed the resources of the person **[3].**

Coping process involves at least two stages: confronting and managing with different aspects of illness or disability **[4].**

Quality of life is defined as individuals' perceptions 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 concern **[5]**. It is the way with which the particular individual faces the different aspects of his/her life as a whole. It is related with the degree of satisfaction an individual finds in his/her family life, love life, social and environmental life, and the very existential sense. To assess the quality of life of the patients affected by malignant neoplasm is important to better understand the impact of the disease and its treatment in the patient's daily routine and improve the care protocol with more encompassing clinical, social and rehabilitation support measures.

The 5-year survival rate for some Head and Neck cancer tumor sites is now greater than 50% **[6].** As a result, quality of life and psychological adjustment to treatment and survival are increasingly important in Head

and Neck Cancer patients. Unfortunately, quality of life and psychosocial adjustment may be particularly impaired in these patients.

Thus understanding how patients cope with these challenges and their quality of life is important in comprehensive care of the patients with head and neck cancer.

In North East India tobacco related oral cancer is very common. The prevalence of head and neck cancer in North East India is found to be significantly high at 54.48%; affecting males more than females **[7].**

With the above background the present study aimed**:** to study coping, quality of life and its correlation in patients with head and neck cancer.

II. Materials And Methods

The study was carried out in the department of psychiatry in a tertiary care teaching hospital in north-east India. The study duration was one year from August 2012 to July 2013. The study received the ethical approval from the institutional review board. An informed written consent was obtained from every participant and they were free to withdraw from the study at any point of time.

STUDY DESIGN : The study was a case- control study.

SAMPLE:

The subjects included in the study were those patients who were newly diagnosed as cases of head and neck cancer and who reported to the outpatient and inpatient department of Radiotherapy, Assam medical college, Dibrugarh. All patients in the study group completed a 6 weeks period of radiotherapy after their diagnosis. The study samples were selected consecutively from those patients who attended department of Radiotherapy and fulfilled the inclusion criteria and those who were not excluded. The total number of subjects was 50.

Samples of the control group were selected by the same method with age and sex matched healthy population from the community with same socio-cultural background. The total number of controls was 50.

INCLUSION CRITERIA:

Study Group:

- ☑ Patients of age group between 21—70 years.
- ☑ Patients of both sexes.
- ☑ Diagnosed cases of head and neck cancer at completion of radio therapy.
- ☑ Patients giving written informed consent for the study.

Control Group:

- ☑ Age and sex matched healthy individuals from same socio-cultural background.
- ☑ Individuals giving written informed consent.

EXCLUSION CRITERIA:

Adults with the following conditions were excluded from the study:

- ☒ Past history of psychiatric disorder.
- ☒ Co-morbid psychiatric illness including delirium.
- ☒ Other chronic debilitating illness.
- ☒ Mental Retardation.

ASSESSMENT TOOLS

(1) Semi-structured Pro-forma for socio-demographic data.
(2) Ways of coping questionnaire by Susan Folkman & Richard Lazarus**.[8][9]**
(3) WHO Quality of Life Scale **[5]**

III. Procedure

All patients in the age group 21-70 years, fulfilling the inclusion criteria for the study, were included in the study as consecutive cases after completion of radiotherapy (6 weeks). They formed the study group **(Group A)**. A control group **(Group B)** was selected with age and sex matched healthy population from the same socio-cultural background. A written informed consent was taken from each participant. Socio-demographic data of each case and control was tabulated in the demographic sheet. Coping strategies deployed by the cases and controls in stressful life situation was evaluated by Ways of Coping Questionnaire (WOCQ). Quality of life was assessed by WHO Quality of Life Scale (WHOQOL). Analysis of the observed data was done using Statistical

Program for Social Sciences (SPSS -20).An unpaired sample t-test was used to compare coping domain scores and quality of life scores between the study and control group. Spearman correlation was used to examine the correlation between coping domain scores and quality of life scores in both the groups.

IV. Results

SUBJECT CHARACTERISTICS:

At the end of one year data was collected from 50 subjects with a diagnosis of Head and Neck cancer who completed 6 weeks of radiotherapy. Similarly there were another 50 subjects who were age and sex matched healthy individuals belonging to the same socio-cultural background as the patients.

Both the groups comprised of individuals between 21-70 years of age with the mean age of 52.78 years (Table-1). Males comprised 60% of both the groups and females 40% (Table-2).

TABLE–1: AGE DISTRIBUTION IN STUDY AND CONTROL GROUP

AGE GROUP *(years)*	STUDY (n=50)		CONTROL (n=50)	
	n (%)	*Mean*	*n (%)*	*Mean*
21—30	2 (4%)	52.78	2 (4%)	52.78
31—40	3 (6%)		3 (6%)	
41—50	15 (30%)		15 (30%)	
51—60	23 (46%)		23 (46%)	
61—70	7 (14%)		7 (14%)	

TABLE–2: GENDER DISTRIBUTION IN STUDY AND CONTROL GROUP

GENDER	STUDY GROUP	CONTROL GROUP
	n (%)	*n (%)*
Male	30 (60%)	30 (60%)
Female	20 (40%)	20 (40%)

COMPARISON OF COPING BETWEEN STUDY AND CONTROL GROUP:

A comparison between the coping strategies in study and control group revealed a significant difference in the use of distancing (p<0.05), self controlling (p<0.05) seeking social support (p<0.05), escape avoidance (p<0.05), planful problem solving (p<0.05) and positive reappraisal (p<0.05). A high mean score was obtained for self controlling (5.70), distancing (4.48), planful problem solving (8.64) and positive reappraisal (7.88) in the control group as compared to study group which showed a high mean score for seeking social support (6.74) and escape avoidance (6.22) (Table–3).Higher mean scores suggested that the respective coping domains were used more frequently by the participants.

TABLE–3: COMPARISON OF COPING BETWEEN STUDY AND CONTROL GROUP

COPING	STUDY GROUP		CONTROL GROUP		*t*-value	df	*p*-value
	Mean	SD	Mean	SD			
Confrontive	3.82	1.32	3.86	1.87	0.123	98	0.901
Distancing	3.40	1.10	4.48	0.50	6.320	98	**0.001***
Self Controlling	3.42	0.88	5.70	0.88	12.954	98	**0.001***
Seeking Social Support	6.74	2.81	5.40	1.01	3.173	98	**0.002***
Accepting Responsibility	4.24	1.73	4.18	1.22	0.200	98	0.841
Escape Avoidance	6.22	2.50	4.10	1.52	5.123	98	**0.001***
Planful Problem Solving	3.66	2.11	8.64	1.57	13.389	98	**0.001***

Positive Reappraisal	5.30	2.90	7.88	1.30	5.740	98	**0.001***

df- Degrees of freedom, *p value significant at <0.05

COMPARISON OF QUALITY OF LIFE IN STUDY AND CONTROL GROUP:

The domain scores of quality of life scale namely physical health, psychological, social relationships and environment were compared between the study and control group and depicted in Table–4

TABLE–4: COMPARISON OF QOL BETWEEN STUDY AND CONTROL GROUP

QOL	STUDY GROUP		CONTROL GROUP		*t*-value	DF	*p*-value
	Mean	SD	Mean	SD			
Domain 1	53.26	11.00	91.26	5.98	21.46	98	**0.000***
Domain 2	53.80	13.46	89.98	8.09	16.29	98	**0.000***
Domain 3	61.62	8.95	92.76	6.36	20.05	98	**0.000***
Domain 4	61.76	10.05	91.88	5.48	18.60	98	**0.000***

[Domain 1 : Physical Health, Domain 2 : Psychological, Domain 3 : Social Relationships, Domain 4 : Environment] DF : Degrees of Freedom, *p value significant at <0.05

It is evident that the scores were significantly low in all the quality of life scale domains in the study group as compared to the control group, the p value being <0.05. The domains which had lower mean scores were physical health (53.26) and psychological (53.80) followed by social relationship (61.62) and environment (61.76).

CORRELATION BETWEEN QUALITY OF LIFE AND COPING IN STUDY AND CONTROL GROUP:

When the scores of coping and quality of life were correlated statistically using spearman correlation among the study group (Table–5), it was found that the scores of confrontive coping, accepting responsibility and escape avoidance showed significant moderate to high negative correlation with all the domains of quality of life i.e. the use of such coping strategy resulted in lower quality of life

However, it was found that the scores of seeking social support, planful problem solving and positive reappraisal had significant moderate to high positive correlation with all the domains of quality of life i.e. the use of such coping strategy resulted in higher quality of life.

A similar result (Table–6) was also observed in the controls where scores of confrontive coping, accepting responsibility and escape avoidance showed significant moderate to high negative correlation with all the domains of quality of life and scores of planful problem solving and positive reappraisal had significant moderate to high positive correlation with all the domains of quality of life. However score of seeking social support did not have a significant correlation with any of the domain of quality of life in the controls.

TABLE–5: CORRELATION BETWEEN COPING AND QOL IN STUDY GROUP

COPING	QUALITY OF LIFE			
	Physical Health	Psychological	Social Relationships	Environment
	r	r	r	r
Confrontive	**-.768***	**811***	**- 653***	**718***
Distancing	.441	458	406	478
Self Controlling	.249	203	300	297
Seeking Social Support	**.840***	**869***	**720***	**875***
Accepting Responsibility	**.755***	**799***	**565***	**685***
Escape Avoidance	**.908***	**879***	**718***	**855***
Planful Problem Solving	**632***	**671***	**715***	**768***

Positive Reappraisal	**800***	**832***	**732***	**887***

***Significant Correlation, r : Correlation Coefficient**

TABLE–6: CORRELATION BETWEEN COPING AND QOL IN CONTROL GROUP

COPING	QUALITY OF LIFE			
	Physical Health	Psychological	Social Relationships	Environment
	r	r	r	r
Confrontive	**953***	**907***	**844***	**892***
Distancing	363	326	107	.243
Self Controlling	396	377	204	.345
Seeking Social Support	263	130	098	437
Accepting Responsibility	**860***	**813***	**854***	**800***
Escape Avoidance	**904***	**823***	**814***	**861***
Planful Problem Solving	**788***	**750***	**733***	**697***
Positive Reappraisal	**828***	**682***	**597***	**775***

***Significant Correlation, r : Correlation Coefficient**

V. Discussions

At the end of one year, data related to 50 patients with head and neck cancer and 50 age and sex matched healthy controls,who were evaluated with Ways of coping questionnaire and WHO Quality of Life scale, was interpreted and results were obtained.

The study group comprising of head and neck cancer patients differed significantly from the control group in the use of distancing, self controlling, seeking social support, escape avoidance, planful problem solving and positive reappraisal as their coping strategies. The study group used more of escape avoidance (mean 6.22, SD 2.50) and seeking social support (mean 6.74, SD 2.81) as coping strategy than the control group which is similar to the findings of other studies **[10][11][12][13].**

The quality of life scores showed a significant difference between the study and control group in relation to all the domains namely physical health, psychological, social relationships and environment. The study group showed lower scores in all the domains (mean 53.26, 53.80, 61.62, 61.76 respectively) and their overall quality of life was poor as compared to the controls which was similar to the findings of other studies **[6][14]**

In the study group when coping strategies and quality of life were correlated it was found that confrontive coping, accepting responsibility and escape avoidance as coping strategy had significant negative correlation with all the domains of quality of life namely physical health, psychological, social relationships and environment. This suggests that the use of such coping strategies led to poor quality of life and is supported by other study **[15]**.

It was also found that seeking social support, planful problem solving and positive reappraisal as coping strategy had significant positive correlation with all the domains of quality of life suggesting that the use of such strategies lead to better quality of life. This finding of the study is similar to the findings of other studies **[16][17][18].**

VI. Conclusion

In conclusion the present study has shown that head and neck cancer patients differ in their choice of coping strategies and the use of seeking social support and escape avoidance are much more in them.

The quality of life of head and neck cancer patients is low and coping by confrontive, accepting responsibility and escape avoidance is found to lower the quality of life. On the other- hand, coping by seeking social support and positive reappraisal leads to a better quality of life.

LIMITATIONS:

(1) The study involved one-time assessment and lacked follow up. The reason for this was time constraint.
(2) The sample size of the study was small

FUTURE IMPLICATIONS

The present study emphasizes on the need for consideration of the psychological demands of the patients with head and neck cancer. Targeting and correcting the maladaptive psychological aspects such as coping can prove to be a key factor in the treatment adherence and survival of the patients and impart them a healthy quality of life.

Future prospective studies are needed to address the issue of coping and quality of life in head and neck cancer patients, especially in the Indian context where very few studies have dealt in this area.

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