INTERNATIONAL JOURNAL OF RESEARCH CULTURE SOCIETY
Monthly Peer-Reviewed, Refereed, Indexed Journal
Volume - 9, Issue - 3, March - 2025
ISSN(O): 2456-6683
[Impact Factor: 9.241]
IJRCS

DOIs:10.2017/IJRCS/202503007 --:-- Research Paper / Article / Review

A study to determine the level of anxiety and coping abilities among patients with cancer undergoing radiation therapy at KCG Hospital, Bangalore

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Abstract: *The aim of the study was to determine the level of anxiety and coping abilities among patients with cancer undergoing radiation therapy at KCG Hospital, Bangalore.”* ***OBJECTIVES:*** *1.To determine the level of anxiety among patients with cancer who are receiving radiation therapy 2.To determine the level of coping abilities among patients with cancer who are receiving radiation therapy 3.To assess the relationship between the level of anxiety and coping abilities among patients with cancer who are receiving radiation therapy 4.To find out the association between the level of anxiety and selected demographic variables.5.To find out the association between the level of coping abilities and selected demographic variables.* ***DESIGN****: descriptive design. was selected for the study.* ***APPROACH:*** *Evaluative Survey approach was selected for the study.* ***SUBJECTS:*** *The participants were 60 cancer patients from the KCG Hospital Bangalore.* ***METHOD:*** *A purposive random sampling technique was used to select the sample for study.* ***DATA COLLECTION TOOL:*** *A structured interview schedule, modified anxiety inventory scale and coping scale was used to collect data from the subjects****. DATA ANALYSIS****: The obtained data was analyzed using descriptive and inferential statistics and interpreted in terms of objectives and hypothesis of the study. The level of significance was set at 0.05 levels.* ***RESULTS:*** *The results indicated that there was a significant association between anxiety and selected demographic variables such as Religion, Occupation, Family history of cancer, Duration of illness, and Number of radiation therapy attended. The results confirmed that there was a significant association between coping abilities and selected demographic variables such as Dietary pattern, Hobbies, Family history, and Stage of disease.*

Key Words: *Anxiety, coping abilities, radiation therapy.*

1.INTRODUCTION:

Cancer known medically as a malignant neoplasm, is a large group of different diseases, all involving unregulated cell growth. In cancer, cells divide and grow uncontrollably, forming malignant tumors, and invade nearby parts of the body. The cancer may also spread to more distant parts of the body through the lymphatic system or bloodstream. Not all tumors are cancerous. Benign tumors do not grow uncontrollably, do not invade neighbouring tissues, and do not spread throughout the body.[1]

NEED AND SIGNIFICANCE OF THE STUDY:

When the investigator was posted in Oncology ward during the first year, she saw so many patients with anxiety before attending the radiation therapy and the patients asked so many questions regarding radiation therapy. They are in need of close and competent nursing care during this period.[2] The patients who got adequate information regarding radiation therapy had less anxiety and good coping abilities during the radiation therapy when compared to others who have not received adequate information. So the investigator was interested to select this topic.[3]

2.LITERATURE REVIEW:

The literature that was found relevant and useful for this study is organized and presented under the following headings.
1. Literature related to anxiety during radiation therapy
2. Literature related to coping abilities during radiation therapy

Vahdaninia M, Omidvari S, Montazeri A. studies showed the Psychological adjustment following cancer occurrence remains a key issue among the survivors. This study aimed to investigate psychological distress in patients with breast cancer following completion of breast cancer treatments and to determine its associated factors. This was a prospective study of anxiety and depression in breast cancer patients.[4] Anxiety and depression were measured using the Hospital Anxiety and Depression Scale at three points in time: baseline (pre-diagnosis), 3 months after initial treatment and 1 year after completion of treatment (in all 18 months follow-up). At baseline, the questionnaires were administered to all the suspected patients while both patients and the interviewer were blind to the final diagnosis. Socio-demographic and clinical data included age, education, marital status, disease stage and initial treatment. Repeated measure analysis was performed to compare anxiety and depression over the study period. Although the findings indicated that the levels of anxiety and depression decreased over time, a significant number of women had elevated anxiety and depression at the 18 months follow-up. This suggests that all women should be routinely screened for psychological distress and that quality cancer care include processes to treat that 30% of women who have elevated psychological distress.[5]

Steele RG, Fitch MI. identified the use and effectiveness of coping strategies identified by family caregivers of patients with terminal cancer. Twenty Caucasian family caregivers of 20 patients with terminal cancer who were enrolled in home hospice. Subjects were recruited on admission to hospice and completed the revised Jalowiec Coping Scale. Family caregivers' assessment of their use of 60 possible coping strategies and the extent to which those strategies were effective.[6]In this study, the problem was defined as caring for the patient in the two weeks prior to the interview. Family caregivers of patients with cancer receiving home hospice care found that keeping busy, thinking positively, and learning more about the problem were effective coping strategies. Talking the problem over with family and friends also was found to be an effective strategy. Family caregivers need encouragement to maintain hope and a positive attitude so that they can continue caregiving. Social, volunteer, and professional support are important for caregivers[7]

3.MATERIALS AND METHODS:

Descriptive research design was adopted in this study. This study was conducted at KCG Hospital; Bangalore. It was situated 58-kms away from sri shanthini college of Nursing. It is a 575 bedded hospital and has 40 beds in Oncology unit. Nearly 50 to 60 Oncology patients are attending out-patient and in-patient department to receive radiation therapy. The adult patients with cancer who fulfilled the inclusion criteria were selected as samples. The sample consisted of 60 adult patients with cancer who were receiving radiation therapy at KCG Hospital, Bangalore

TOOLS AND TECHNIQUE

DESCRIPTION OF THE TOOL:

The research tool consisted of two sections:

Section-A:

PART – I:

This deals with the demographic data of cancer patients such as age, sex, religion, education, occupation, income, marital status, number of children, type of family, dietary pattern, habits, hobbies, and family history of cancer.

PART-II:

It deals with the disease profile which includes the site of cancer, duration of illness, stage of the disease, duration of treatment and number of radiation therapy attended.

Section – B:

PART - I

The state anxiety inventory scale which was developed by Spielberger's et al (1983) was used and modified by the researcher to assess the level of anxiety. It consists of 25 statements which was a self report inventory that focused the subjective feeling on radiation therapy treatment.

All patients were encouraged to describe their feelings for assessing the state anxiety. The state anxiety consists of 25 statements that evaluate how the respondents felt "right now at that moment". It also might be used to evaluate how they felt at a particular time in the recent past and how they felt in a specific situation that was likely to be encountered in the future or a variety of hypothetical situation.

VALIDITY AND RELIABILITY

In order to ensure content validity, the tool was submitted to five experts in the field of Medical Surgical Nursing along with the blue print, criteria, and questionnaires. After establishing the validity, the tool was translated into kannada and

again translated in to English to validate the language. The test retest method was used to establish the reliability of questionnaires. By using Spearman Brown formula the ' r ' value was identified. It was 0.86.

ETHICAL CONSIDERATION

In order to find out the feasibility of the study, a pilot study was conducted among 6 patients with cancer, who were receiving radiation therapy at KCG Hospital, Bangalore who fulfilled the inclusion criteria. It was carried out in the same way as the final study was done. In order to test the feasibility and practicability, it was conducted. After obtaining permission from the Institution, six patients who met the inclusion criteria were selected by using purposive sampling method. After the proper explanation, the questionnaires were distributed and the doubts were cleared. The results were analyzed based on the scores obtained by the patients. The calculated value 'r' for the pilot study was -0.96 which indicated the presence of negative correlation in between the anxiety and coping abilities. During the pilot study the investigator did not face any difficulties. These subjects were excluded from the final study.

4.ANALYSIS AND FINDINGS:

The analysis of data was organized and presented under the following sections.

SECTION-I

Table 1:

Frequency and percentage distribution of samples according to selected demographic variables

Table 2:

Frequency and percentage distribution of samples according to their level of anxiety

Table 3:

Frequency and percentage distribution of samples according to their level of coping abilities

SECTION-II:

Table 4: Relationship between the level of anxiety and coping abilities among the patients with cancer undergoing radiation therapy

SECTION-III:

Table 5:

Association between the level of anxiety and the selected demographic variables the patients with cancer undergoing radiation therapy

Table 6:

Association between the level of coping abilities and the selected demographic variables of the patients with cancer undergoing radiation therapy

SECTION-I

Frequency distribution of Demographic Variables

N=60

S.No	Demographic variables	Frequency	Percentage
1.	**Age (in years)**		
	21 to 35	5	08.30%
	36 to 50	16	26.70%
	51 to 65	39	65.00%
2.	**Sex**		
	Female	25	41.60%
	Male	35	58.40%

3.	**Religion**		
	Hindu	48	80.00%
	Muslim	9	15.00%
	Christian	3	05.00%
4.	**Education**		
	Illiterate	15	25.00%
	Upto middle school level	20	33.30%
	Higher secondary level	14	23.40%
	Under Graduate	8	13.30%
	Degree and Above	3	05.00%
5.	**Occupation**		
	Un Employed	33	55.00%
	Govt. Employee	6	10.00%
	Private Employee	6	10.00%
	Self employee	15	25.00%
6.	**Income of the family (per month in rupees)**		
	Below 5000	29	48.30%
	5001 to 10,000	24	40.00%
	10,001 and above	7	11.70%
7.	**Marital status**		
	Married	56	93.40%
	Unmarried	2	03.30%
	Widow/Spinster	2	03.30%
	Divorced	0	00.00%
8.	**Number of children**		
	One	8	13.30%
	Two	22	36.70%
	More than two	29	48.30%
	None	1	01.70%
9.	**Type of the family**		
	Nuclear family	33	55.00%
	Joint family	26	43.30%
	Extended family	1	01.70%
	separated family	0	00.00%
10.	**Dietary pattern**		
	Vegetarian	12	20.00%
	Non-vegetarian	48	80.00%
11.	**Habits**		
	Smoking	8	13.30%
	Alcohol	1	01.70%
	Tobacco chewing	0	00.00%
	Betal chewing	4	06.70%
	None of the above	47	78.30%
12.	**Hobbies**		
	Watching movies	31	51.70%
	Listening music	7	11.70%
	Reading books	12	20.00%
	Sleeping		16.60%
	None	10 0	00.00%
13	**Family history of cancer**		
	Yes	7	11.70%

	No	53	88.30%
14	**Site of cancer**		
	Head & Neck	13	21.70%
	Lung	6	10.00%
	Breast	15	25.00%
	Gastro Intestinal Tract	2	03.30%
	Cervical	16	26.70%
	Others	8	13.30%
15	**Duration of Illness**		
	0 to 3 months	10	16.70%
	4 to 7 months	18	30.00%
	8 to 12 months	14	23.30%
	Above one year	18	30.00%
16	**Stage of disease**		
	I stage	14	23.30%
	II stage	37	61.70%
	III stage	7	11.70%
	IV stage and above	2	03.30%
17.	**Duration of treatment**		
	0 to 1 month	25	41.70%
	2 to 6 months	20	33.30%
	more than 6 months	15	25.00%
18	**Number of radiation therapy attended**		
	One	5	08.30%
	Two	1	01.70%
	More than two	54	90.00%

Table-1 shows the frequency and percentage distribution of samples based on the demographic variables. Regarding **age**, 5 (8.3%) samples are in the age group of 21 - 35 years and 16 (26.7%) samples are in the age group of 36-50 and 39(65%) samples are in the age group of 51–65. Regarding **sex**, 25 (41.6%) samples are females and 35 (58.4%) samples are males. Regarding **religion**, 48 (80%) samples are Hindus, 9 (15%) samples are Muslims, and 3 (5%) samples are Christians. Regarding **education** 15 (25%) samples are Illiterate, 20(33.3%) samples studied up to middile school level, 14 (23.4%) samples studied up to higher secondary level, 8 (13.3%) samples studied up to undergraduate and 3 (5%) samples studied up to degree and above. Regarding **occupation** 33 (55%) samples are unemployed, 6 (10%) samples are government employees, 6 (10%) samples are private employees and 16 (25%) samples are self employees. Regarding the **total income of the family per month**, 29 (48.3%) samples are earning below Rs. 5000, 24 (40%) samples are earning Rs. 5001 to 10,000 and 7 (11.7%) samples are earning Rs.10,001 and above. Regarding **marital status,** 56 (93.4%) samples are married, 2 (3.33%) samples are unmarried and 2 (3.33%) samples are widow /spinster. Regarding **number of children**, 8 (13.3%) samples are having one child, 22 (36.7%) samples are having two children, 29 (48%) samples are having more than two children, 1 (17%) sample is not having child. Regarding **type of the family**, 33 (55%) samples are belongs to Nuclear family, 26 (43.3%) samples are belongs to joint family, and 1 (1.7%) sample is belongs to extended family. Regarding dietary pattern, 12 (20%) samples were vegetarian and 48(80%) samples were Non vegetarians. Regarding **habits,** 8 (13.3%) samples are smokers, 1 (1.77%) sample is an alcoholic, 4 (6.7%) samples are Betal chewers, 47 (78.3%) samples have no bad habits. Regarding **hobbies**, 31(51.7%) samples are watching movies, 7 (11.7%) samples are listening music, 12 (20%) samples are reading books, 10 (16.6%) samples are sleeping. Regarding the **family history of cancer**, 7 (11.7%) samples had the family history and 53 (88.3%) samples had no family history. Regarding the **site of cancer**, 13 (21.75%) samples had Head and Neck cancer, 6 (10%) samples had Lung cancer, 15 (25%) samples had Breast cancer, 2 (3.33%) samples had Gastro Intestinal cancer, 16 (26.7%) samples on cervical cancer, 8 (13.3%) samples had cancer on other sites.Regarding the **duration of Illness**, 10 (16.7%) samples have 0 to 3 months Illness, 18 (30%) samples have 4 to 7 months Illness, 14 (23.3%) samples have 8 to 12 months Illness, and 18 (30%) samples have above one year Illness. Regarding the **stage of disease** 14 (23.3%) samples are in I Stage disease, 37 (61.7%) samples in II Stage disease, 7 (11.7%) samples in III stage disease and 2 (3.3%)samples in IV Stage and above. Regarding the **duration of treatment** 25 (41.7%) samples are receiving treatment for 0 to 1 month, 20 (33.3%)

ISSN(O): 2456-6683
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samples are receiving treatment for 2 to 6 months and 15 (25%) samples are receiving treatment for more than 6 months. Regarding the **number of radiation therapy attended**, 5 (8.3%) samples are attending the radiation therapy for the first time, 1 sample (1.7%) is for the second time and 54 (90%) samples are for more than two times.

FIGURE - II

Percentage distribution of demographic variables according to age

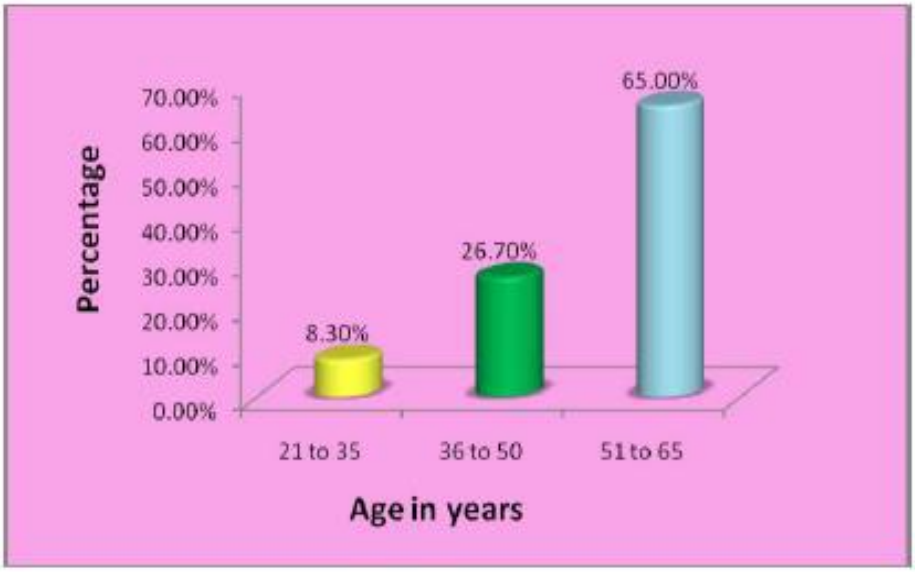

FIGURE – III

Percentage distribution demographic variables according to of sex

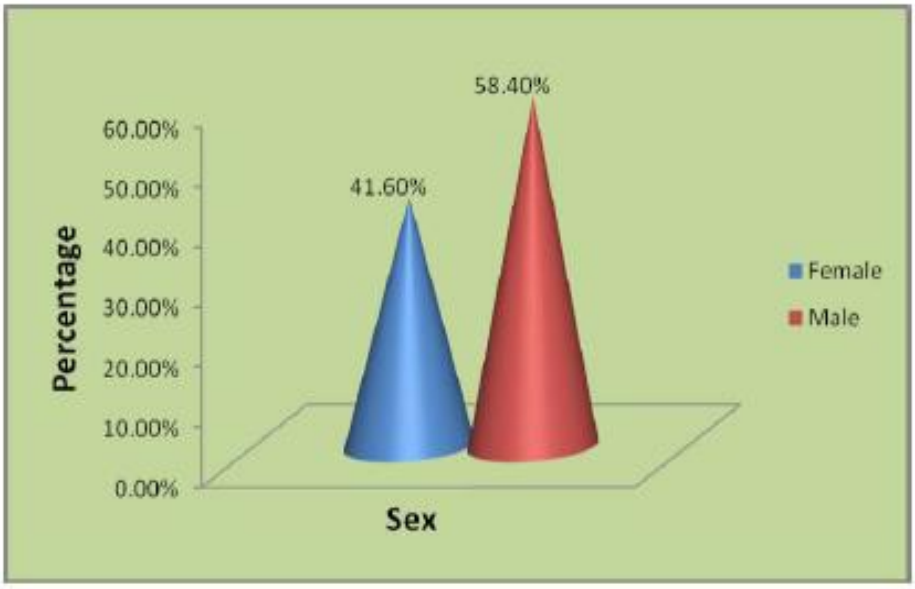

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FIGURE – IV

Percentage distribution of demographic variables according to religion

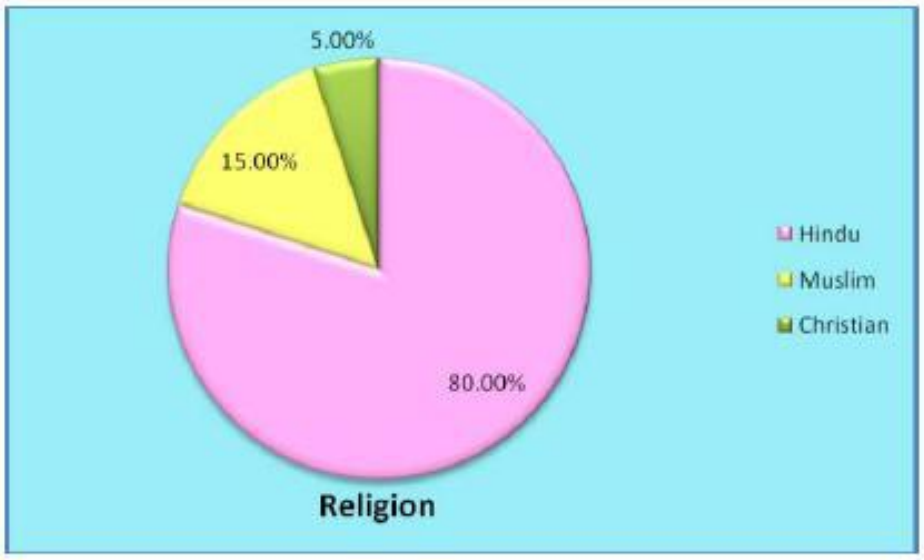

FIGURE - V

Percentage distribution of demographic variables according to education

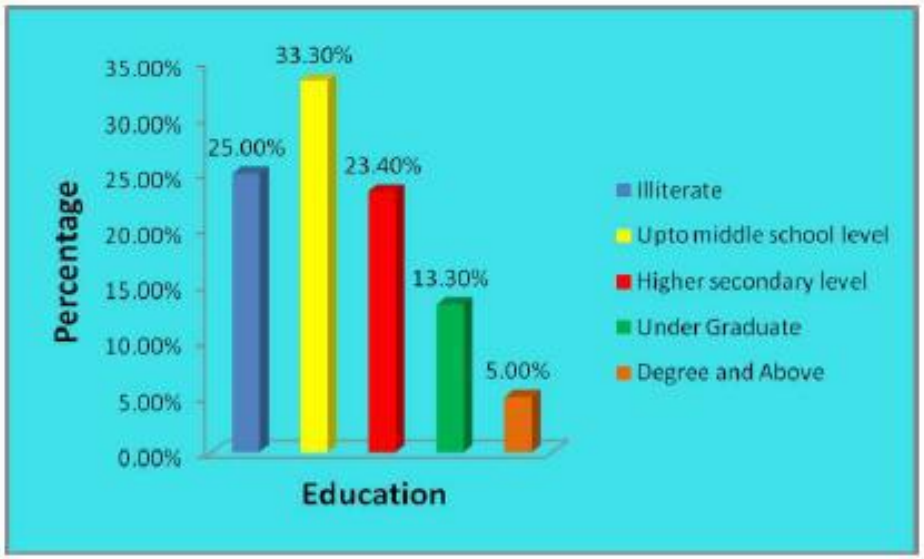

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FIGURE - VI

Percentage distribution of demographic variables according to occupation

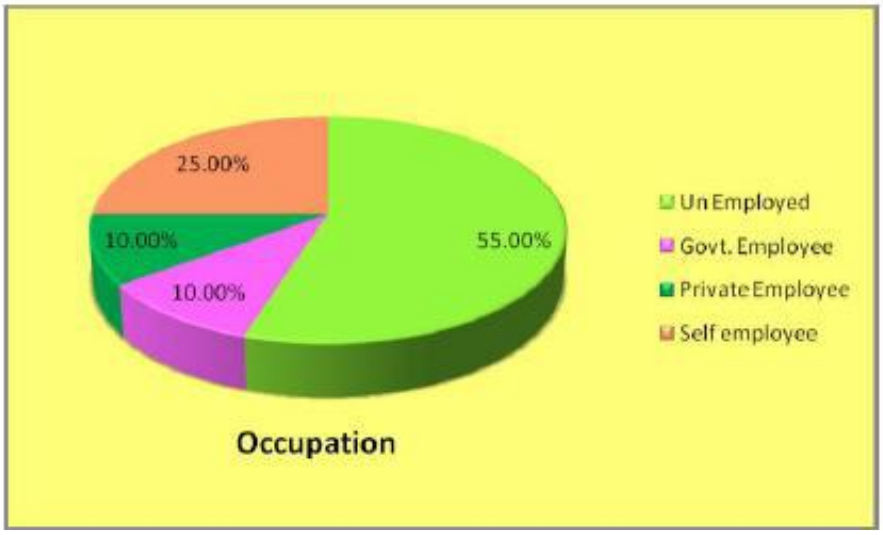

FIGURE - VII

Percentage distribution of demographic variables according to income

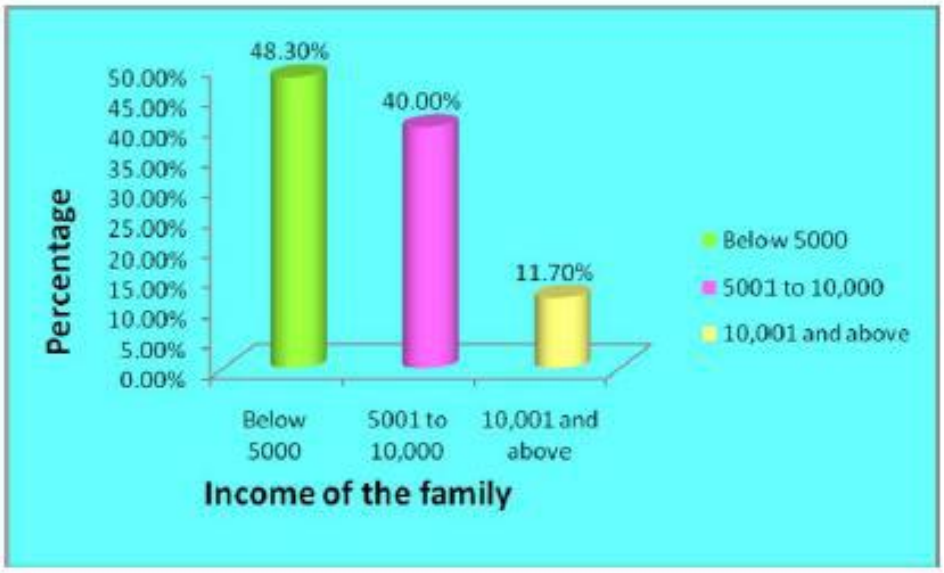

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FIGURE - VIII

Percentage distribution of demographic variables according to marital status

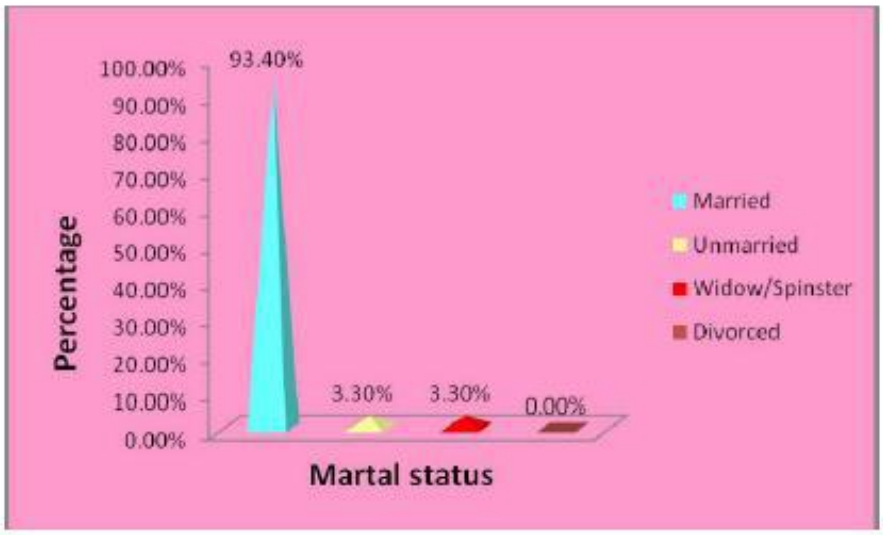

FIGURE - IX

Percentage distribution of demographic variables according to number of children

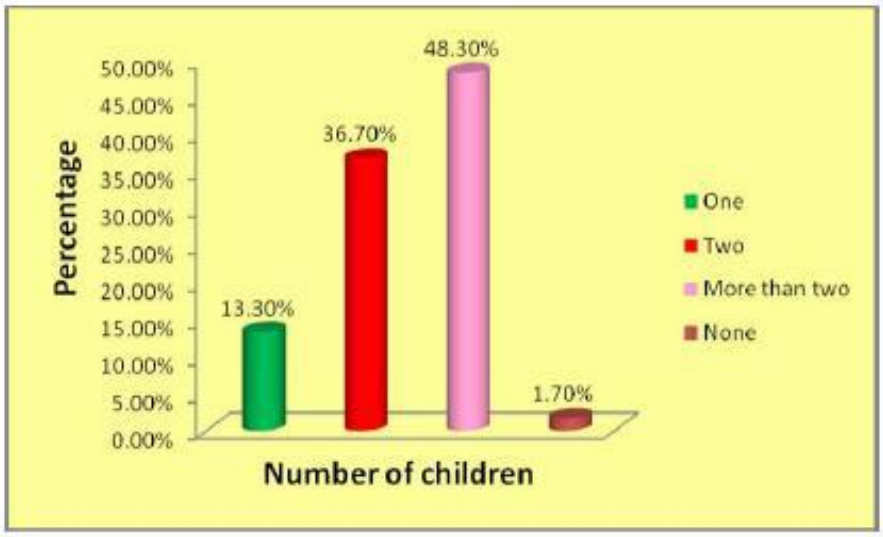

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FIGURE – X

Percentage distribution of demographic variables according to type of family

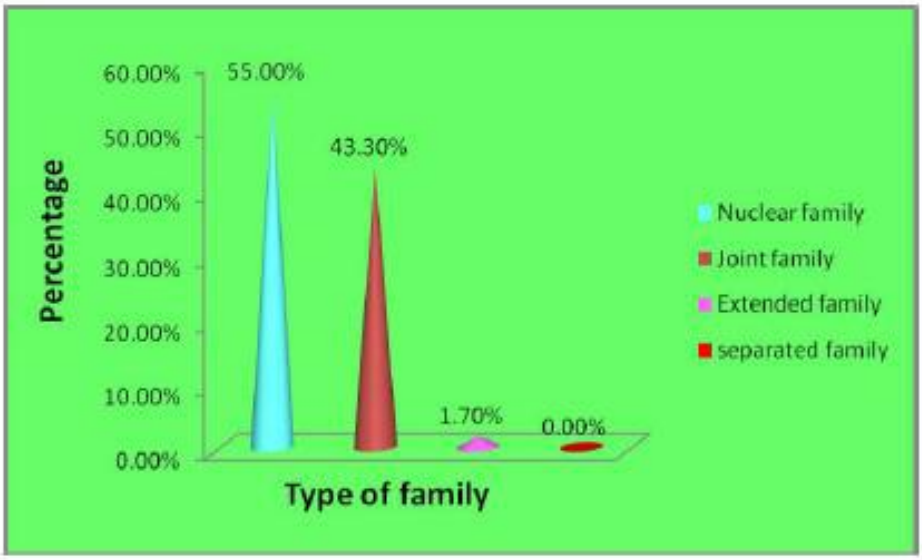

FIGURE – XI

Percentage distribution of demographic variables according to dietary patten

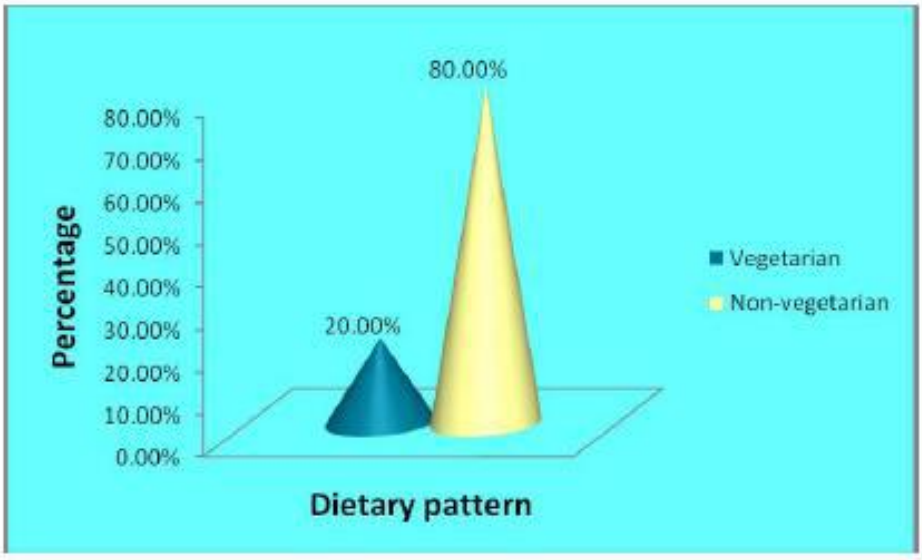

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FIGURE – XII

Percentage distribution of demographic variables according to habits

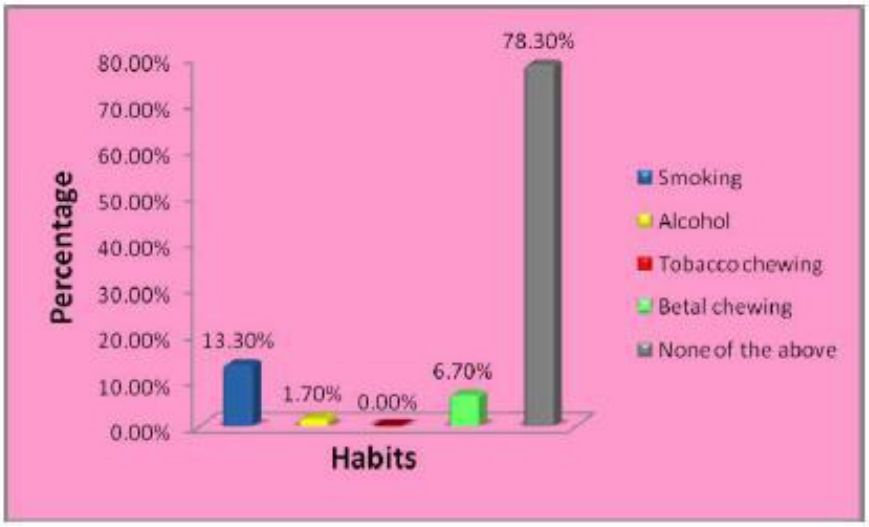

FIGURE – XIII

Percentage distribution of demographic variables according to hobbies

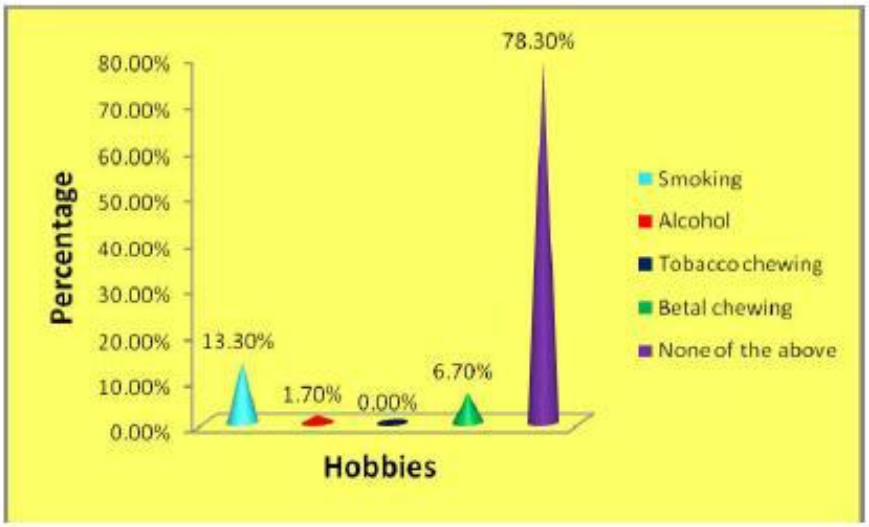

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FIGURE – XIV

'ercentage distribution of demographic variables according to family h
of cancer

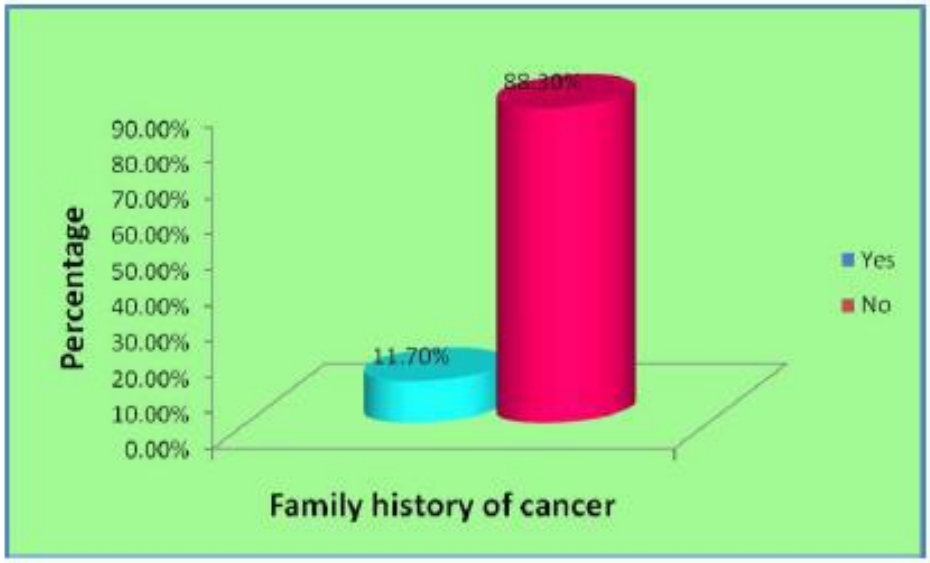

FIGURE – XV

'ercentage distribution of demographic variables according to site of c

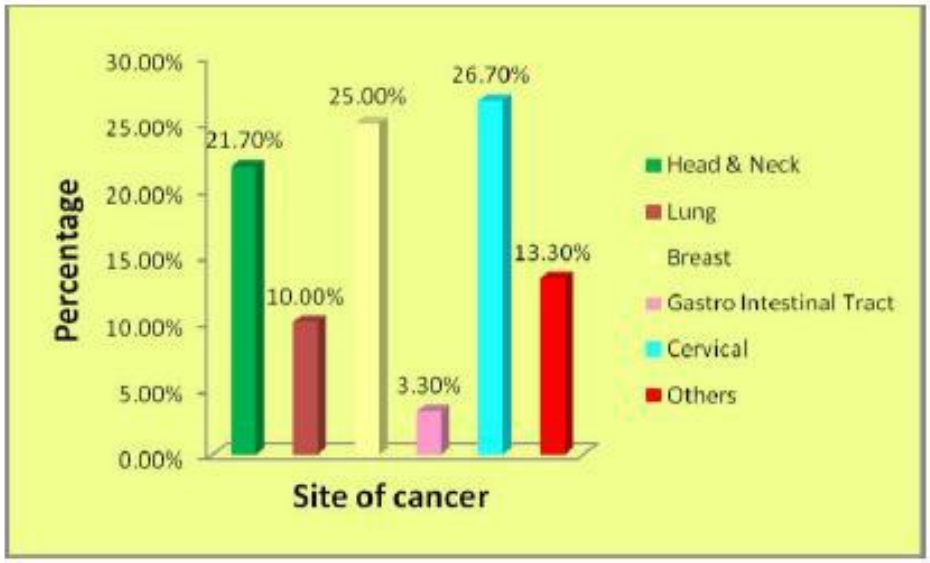

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FIGURE – XVI

Percentage distribution of demographic variables according to duration of illness

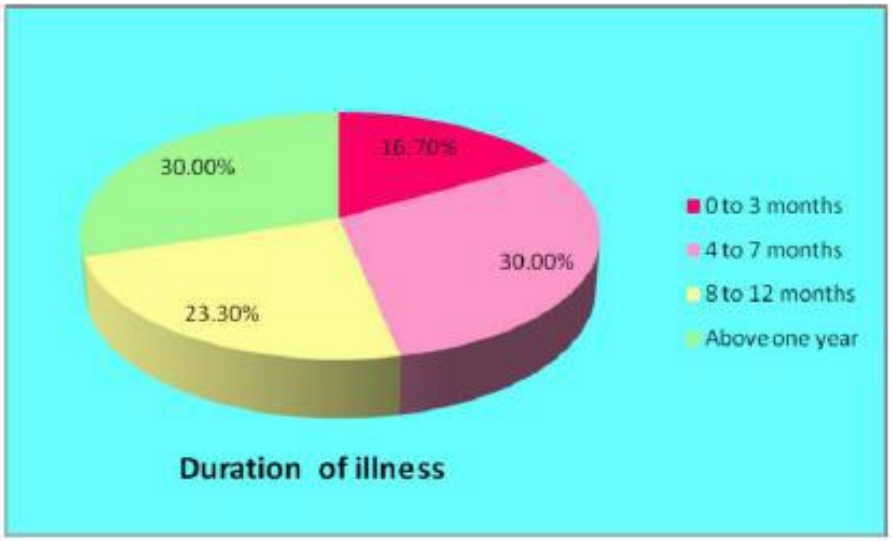

FIGURE – XVII

Percentage distribution of demographic variables according to stage of the disease

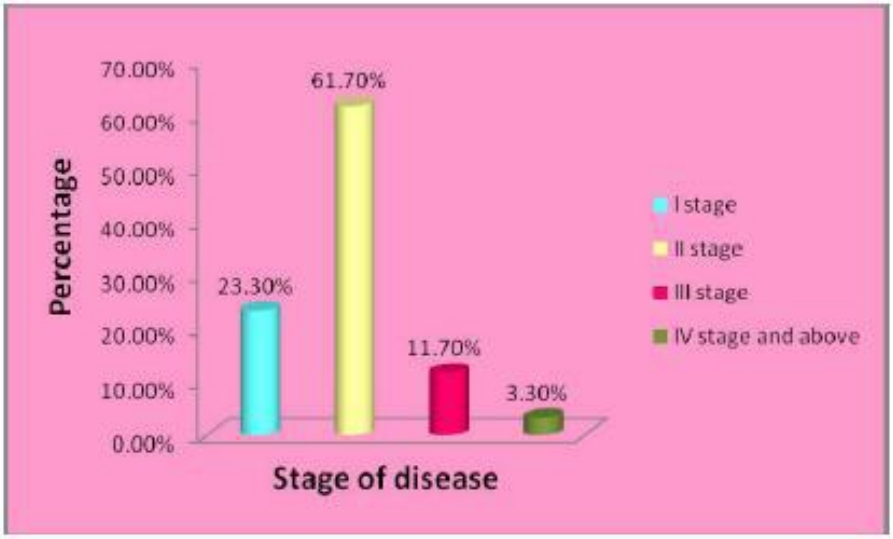

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FIGURE – XVIII

Percentage distribution of demographic variables according to duration of treatment

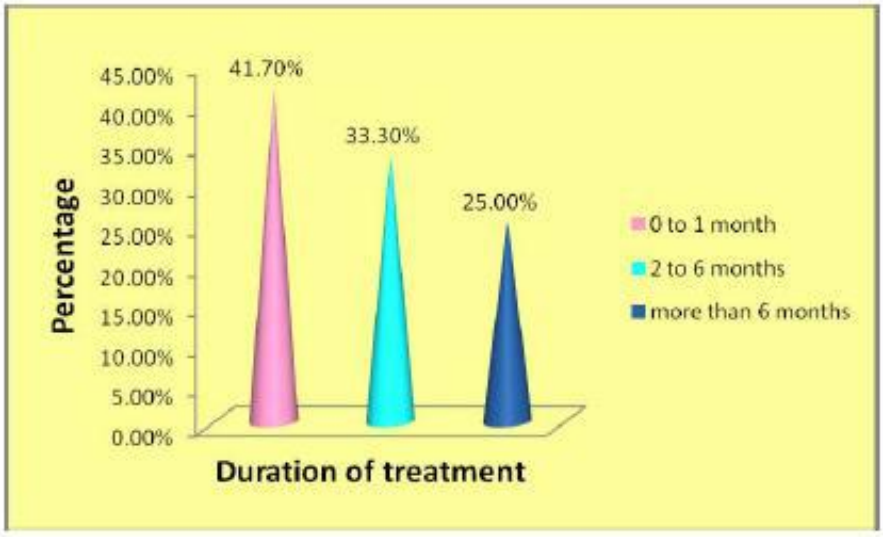

FIGURE – XIX

Percentage distribution of demographic variables according to number of radiation therapy attended

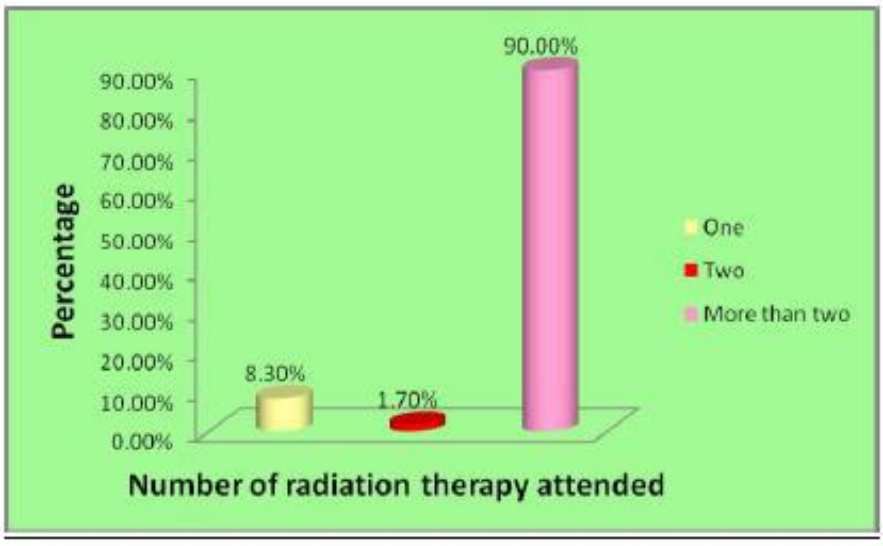

TABLE – 2

Distribution Of Level Of Anxiety During Radiation Therapy According To Their Selected Demographic Variables N = 60

Level of anxiety					
Low level		**Moderate level**		**High level**	
Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
14	23.33%	36	60%	10	16.67%

Table – 2 reveals that 36 (60%) cancer patients are having moderate level of anxiety; 14 (23.33%) patients are having low level of anxiety; and 10 (16.67%) patients are having high level of anxiety

FIGURE – XX

Percentage distribution of level of anxiety among patients with cancer who are receiving radiation therapy

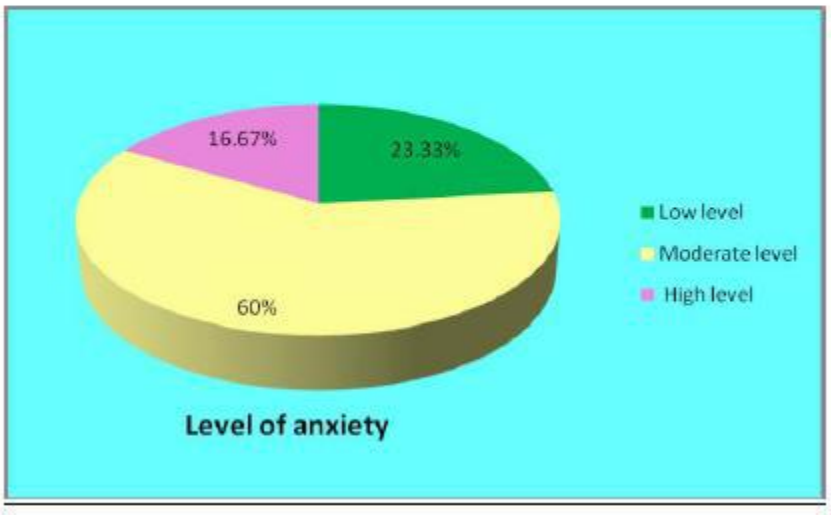

TABLE – 3:

Distribution Of Level Of Coping Abilities According To Their Selected Demographic Variables

N=60

Level of coping abilities					
Low level		**Moderate level**		**High level**	
Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
8	13.33%	39	65%	13	21.67%

Table – 3 reveals that maximum of 39 (65%) cancer patients have moderate level of coping abilities, 13 (21.67%) patients have maximum level of coping abilities, and 8 (13.33%) patients haves minimal level of coping abilities.

FIGURE – XXI

Percentage Distribution Of Coping Abilities Among Patients With Cancer Who Are Receiving Radiation Therapy

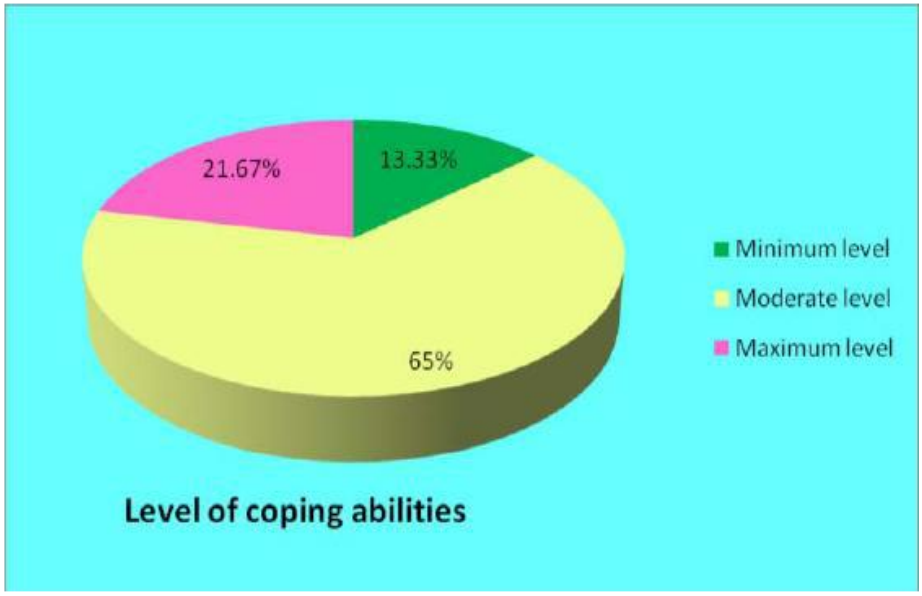

TABLE – 4:
Relationship Between The Level Of Anxiety And Coping Abilities
N = 60

Variables	**Mean**	**Standard deviation**	**Correlation**
Anxiety	56	10.01	'r' = -0.79
Coping Abilities	74	13.42	

Table – 4 shows that the calculated value 'r' is - 0.79 which indicates the presence of negative correlation between the anxiety and coping abilities.

SECTION – III

TABLE – 5:
Association between anxiety and demographic variables

N=60

S.No	**Demographic data**	**Level of anxiety**			
		Low	MEDIUM	HIGH	**Chisquare** VALUE
1	**Age (in years)**				
	21 to 35	**1**	2	2	2.76#
	36 to 50	**3**	10	3	
	51 to 65	**10**	24	5	
2	**Sex**				0.53#
	Female	**5**	16	4	

	Male	**7**	20	6	
3	**Religion**				
	Hindu	**11**	31	6	16.224*
	Muslim	**3**	5	1	
	Christian	**0**	0	3	
4	**Education**				
	Illiterate	**0**	11	4	9.37#
	Upto middle school level	**5**	11	4	
	Higher secondary level	**4**	9	1	
	Under Graduate	**3**	4	1	
	Degree and Above	**2**	1	0	
5	**Occupation**				
	Un Employed	**1**	26	5	
	Govt. Employee	**4**	3	0	
	Private Employee	**1**	3	2	
	Self employee	**8**	4	3	
6	**Income of the family (per month in rupees)**				1.456#
	Below 5000	**7**	18	4	
	5001 to 10,000	**5**	15	4	
	10,001and above	**2**	3	2	
7	**Marital status**				2.83#
	Married	**13**	34	9	
	Unmarried	**0**	1	1	
	Widow/Spinster	**1**	1	1	
	Divorced	**0**	0	0	
8	**Number of children**				5.86#
	One	**4**	4	3	
	Two	**5**	14	5	
	More than two	**5**	19	0	
	None	**0**	1	1	
9	**Type of the family**				5.82#
	Nuclear family	**8**	11	4	
	Joint family	**6**	14	6	
	Extended family	**0**	1	0	
	separated family	**0**	0	0	
10	**Dietary pattern**				
	Vegetarian	**2**	9	1	1.48#
	Non-vegetarian	**12**	27	9	
11	**Habits**				
	Smoking	**2**	4	2	
	Alcohol	**1**	0	0	
	Tobacco chewing	**0**	0	0	
	Betal chewing	**1**	1	2	13.18#
	None of the above	**10**	31	36	
12	**Hobbies**				
	Watching movies	**9**	15	7	

	Listening music	**0**	7	0	
	Reading books	**5**	6	1	11.14#
	Sleeping	**0**	8	2	
	None	**0**	0	0	
13	**Family history of cancer**				6.47*
	Yes	**4**	3	0	
	No	**10**	33	10	
14	**Site of cancer**				2.72#
	Head & Neck	**3**	8	2	
	Lung	**1**	2	3	
	Breast	**4**	10	1	
	Gastro Intestinal Tract	**1**	1	0	
	Cervical	**4**	9	3	
	Others	**1**	6	1	
15	**Duration of Illness**				14.29*
	0 to 3 months	**0**	6	4	
	4 to 7 months	**3**	12	3	
	8 to 12 months	**4**	9	1	
	Above one year	**7**	19	2	
16	**Stage of disease**				12.59#
	I stage	**1**	11	1	
	II stage	**9**	21	8	
	III stage	**3**	3	1	
	IV stage and above	**1**	1	0	
17	**Duration of treatment**				2.58#
	0 to 1 month	**4**	16	5	
	2 to 6 months	**5**	11	4	
	more than 6 months	**5**	9	1	
18	**Number of radiation therapy attended**				23.88*
	One	**0**	1	4	
	Two	**0**	0	1	
	More than two	**12**	34	5	

- Not significant

Table 5 represents the association between the level of anxiety and selected demographic variables of patient with cancer, who are receiving radiation therapy. The result shows that the calculated value for anxiety and the selected demographic variables such as, Religion, Occupation, Family history, Duration of illness, and Number of radiation therapy attended are greater than the tabulated value. So it is concluded that there is a significant association between anxiety and the selected demographic variables such as, Religion, Occupation, Family history of cancer, Duration of illness, and Numbers of radiation therapy attended

S.No	**Demographic data**	**Level of coping**			
		Minimum	**Average**	**Maximum**	**Chisquare** VALUE
1	**Age (in years)**				
	21 to 35	**1**	3	1	1.46#

	36 to 50	**2**	12	2	
	51 to 65	**15**	24	10	
2	**Sex**				1.06#
	Female	**2**	17	6	
	Male	**6**	22	7	
3	**Religion**				
	Hindu	**4**	34	10	7.38#
	Muslim	**3**	3	3	
	Christian	**1**	2	2	
4	**Education**				
	Illiterate	**4**	11	0	12.81#
	Upto middle school level	**1**	14	5	
	Higher secondary level	**2**	8	4	
	Under Graduate	**0**	5	3	
	Degree and Above	**1**	1	1	
5	**Occupation**				
	Un Employed	**6**	22	5	
	Govt. Employee	**0**	3	3	9.07#
	Private Employee	**0**	6	0	
	Self employee	**2**	8	3	
6	**Income of the family (per month in rupees)**				0.38#
	Below 5000	**4**	19	6	
	5001 to 10,000	**3**	15	6	
	10,001 and above	**1**	5	1	
7	**Marital status**				
	Married	**8**	36	12	
	Unmarried	**0**	2	0	2.205#
	Widow/Spinster	**0**	1	1	
	Divorced	**0**	0	0	
8	**Number of children**				4.37#
	One	**0**	5	3	
	Two	**4**	12	6	
	More than two	**4**	21	4	
	None	**0**	1	0	
9	**Type of the family**				4.23#
	Nuclear family	**5**	23	5	
	Joint family	**3**	15	8	
	Extended family	**0**	1	0	
	separated family	**0**	0	0	
10	**Dietary pattern**				
	Vegetarian	**0**	9	3	41.9#
	Non-vegetarian	**8**	30	10	
11	**Habits**				
	Smoking	**0**	6	2	
	Alcohol	**0**	1	0	
	Tobacco chewing	**0**	0	0	

	Betal chewing	**2**	1	3	
	None of the above	**6**	31	38	12.53#
12	**Hobbies**				13.23#
	Watching movies	**4**	22	5	
	Listening music	**1**	5	1	
	Reading books	**1**	4	7	
	Sleeping	**2**	8	0	
	None	**0**	0	0	
13	**Family history of cancer**				11.37*
	Yes	**0**	2	5	
	No	**8**	37	8	
14	**Site of cancer**				6.69#
	Head & Neck	**2**	9	2	
	Lung	**1**	4	1	
	Breast	**0**	12	3	
	Gastro Intestinal Tract	**0**	2	0	
	Cervical	**3**	8	5	
	Others	**2**	4	2	
15	**Duration of Illness**				7.79#
	0 to 3 months	**3**	5	2	
	4 to 7 months	**0**	15	3	
	8 to 12 months	**1**	10	3	
	Above one year	**4**	9	5	
16	**Stage of disease**				18.02*
	I stage	**4**	9	4	
	II stage	**1**	28	5	
	III stage	**2**	2	3	
	IV stage and above	**1**	0	1	
17	**Duration of treatment**				2.2#
	0 to 1 month	**3**	17	5	
	2 to 6 months	**3**	14	3	
	more than 6 months	**2**	8	5	
18	**Number of radiation therapy attended**				4.02#
	One	**1**	4	0	
	Two	**0**	1	0	
	More than two	**7**	34	13	

#- Not significant **Significant**

Table 6 represents the association between the coping abilities and the selected demographic variables of patient with cancer, who are receiving radiation therapy. The result shows that the calculated value for coping abilities and selected demographic variables such as Dietary pattern, Hobbies, Family history, and Stage of disease are greater than the tabulated value. So it is concluded that there is a significant association between coping abilities and selected demographic variables such as Dietary pattern, Hobbies, Family history, and Stage of disease.

5. Result :

The results indicated that there was a significant association between anxiety and selected demographic variables such as Religion, Occupation, Family history of cancer, Duration of illness, and Number of radiation therapy attended. The results confirmed that there was a significant association between coping abilities and selected demographic variables such as Dietary pattern, Hobbies, Family history, and Stage of disease

6. DISCUSSION:

Objective 1: **To determine the level of anxiety among patients with cancer who are receiving radiation therapy.**

The findings of the study revealed that, 36 (60%) samples had moderate level of anxiety, 14 (23.33%) samples had low level of anxiety, and 10 (16.67%) samples had high level of anxiety.

These findings were supported by Nunes D F et al (2007). They proved that emotional distress, anxiety and depression were commonly present during treatment and varied from an individual to individual according to their coping abilities The anxiety is unavoidable for the cancer patients undergoing radiation therapy, and may be vary from individual to individual according to their perseverance, family support, and individual coping abilities.

Objective 2 :- To determine the level of coping abilities among patients with cancer who are receiving radiation therapy.

The findings of the study revealed that maximum of 39 (65%) samples had moderate level of anxiety, 13 (21.67%) samples had maximum level of coping abilities, and 8 (13.33%) samples had minimal level of coping abilities.

These findings were supported by Foss N SD, Dahl AA, Loge JH (2003). They proved that the varying level of coping abilities were unavoidable among the cancer patients and vary from individual to individual. The coping abilities and style may vary from an individual to individual according to their previous exposure to any stage of anxiety; adjusting with life style situation, family support and the acceptance level of each individual.

Objective 3: - To find out the relationship between the level of anxiety and coping abilities among patients with cancer who are receiving radiation therapy.

The study findings revealed that the calculated 'r' value was - 0.79, which indicated that there was a negative correlation between the anxiety and coping abilities.

These findings were supported by Luebbert K, Dahme B, Hasenbring M (2001). They proved that relaxation trainings and strengthening the coping abilities could reduce the anxiety level which indicated the negative correlation.

The researcher finds that, when the coping abilities are high, the level of anxiety will be low and when the coping abilities are less the level of anxiety will be high.

Objective 4:- To find out the association between the level of anxiety and the selected demographic variables such as, age, sex, religion, education, occupation, income, marital status, number of children, type of family, dietary pattern, habits, hobbies, family history of cancer, site of cancer, duration of illness, stage of disease, duration of treatment, and number of radiation therapy attended.

The findings of the study revealed, that the calculated value for anxiety and the selected demographic variables such as, Religion, Occupation, Family history, Duration of illness, and Number of radiation therapy attended is greater than the tabulated value. So, it was concluded that there is a significant association between anxiety and selected demographic variables such as Religion, Occupation, Family history of cancer, Duration of illness, and Number of radiation therapy attended.

The findings showed that 48 (80%) samples were belongs to Hindu religion; 8(13.3%) samples were self employees, and 4(6.7%) samples were Government employees; 7 (11.7%) samples had family history of cancer; 18 (30%) samples were treated for more than one year; and 12(20%) samples were attended the radiation therapy for more than two times.

These findings were supported by Lundberg PC, Trichorb K (2001). They proved that most of the cancer patients were using cultural beliefs, and religious factors as their primary coping strategies. This was also supported by Jahraus D, Sokolosky S, Thurston N who conducted a study in 2002 and proved that the prior adequate information regarding the radiation therapy, adverse reaction and coping mechanisms may help to reduce the anxiety. These findings were also supported by Chandra P (2003). She proved that the family history of cancer could provide prior information regarding cancer, radiation therapy and the side effects of therapy which enabled the family members to go for periodical review and aided in early identification of cancer. She also proved that these prior information had reduced the anxiety level and strengthen the coping abilities.

Most of the samples may prefer religion as their primary coping strategy and hence, there is a low and moderate level of anxiety among Hindus. Job assurance and the consistent income which may give a feeling of secured life; so when compared to unemployed, the job holders are having less anxiety. Previous exposure of knowledge, skills and attitudes towards the cancer may reduce the level of anxiety; hence the level of anxiety is low among the family history of cancer samples. Confirmation of sudden insult of the disease may shoot up the level of anxiety and following information regarding treatment modalities, expected outcome, side effects can alert the patient, and may give a chance to strengthen the coping abilities which in turn reduce the anxiety level. The level of anxiety is high among the samples who were receiving radiation therapy for the first time it may be due to the lack of knowledge and the fear of radiation therapy, once they have exposed, then they know about the impact of radiation therapy; so, the anxiety is gradually reducing according to the number of radiation therapy attended.

Hence, the researcher concludes that there is a significant association between the level of anxiety and the selected demographic variables such as, Religion, Occupation, Family history of cancer, Duration of illness, and Number of radiation therapy attended at a significance level of $p<0.05$.

Objective 5 : To find out the association between the level of coping abilities and selected demographic variables such as age, sex, religion, education, occupation, income, marital status, number of children, type of family, dietary pattern, habits, hobbies, family history of cancer, site of cancer, duration of illness, stage of disease, duration of treatment, and number of radiation therapy attended.

In this study, the result showed that the calculated value for coping abilities and the selected demographic variables such as, Dietary pattern, Hobbies, Family history, and Stage of diseases is greater than the table value. So, it was concluded that there is a significant association between coping abilities and selected demographic variables such as, Dietary pattern, Hobbies, Family history of cancer, and Stage of disease.

This study revealed that, 48 (80%) samples were non-vegetarians; 6(8.3%) samples were having the habit of watching movies and 7 (11.7%) samples were having the habit of reading books; 7 (11.7%) samples had family history of cancer; and 37 (61.7%) samples had II stage of cancer.

These findings were supported by, Lauver DR, Conolly Nelson K, Vang P (2007). They proved that most of the patients were using distractions like listening music as their primary coping strategy. These findings were also supported by Rao M et al (2007). They proved that relaxation techniques, divertional therapies and yoga were significantly strengthen the coping abilities.

These findings were also supported by Christman NJ, Cain LB (2004). They found that recreational activities, relaxation techniques, divertional therapies like reading books, listening music were effective methods to strengthen the coping mechanisms. These findings were also supported by Jasline (2003). She proved that the prior information from the families regarding cancer and the treatments had reduced the anxiety level by strengthening the coping abilities.
It may be due to diversion of mind from the problems. In India, many people are using ‘watching movies and listening musics as their primary coping strategy because of easy availability and the less cost containment. The prior information about radiation therapy and the family history of cancer may allow the patient to strengthen their coping abilities which proved the adequate information may allow the patients to strengthen their coping abilities.

Hence, the researcher concludes that there is a significant association between the level of coping abilities and the selected demographic variables such as, Dietary pattern, Hobbies, Family history, and Stage of disease at a significance level of $p<0.05$.

7. RECOMMENDATIONS

On the basis of the present study following recommendations are made,

- A similar study could be done with large sample.
- An experimental study could be done with structured teaching programme for strengthening the coping abilities.
- A study can be done to assess the Quality of life of patients with cancer who are receiving radiation therapy.
- A similar study can be done on a longitudinal basis.
- A similar study may be conducted to find out the Quality of life of cancer patients undergoing radiation therapy.

8. CONCLUSION:

Majority of the samples were in the age group of 51 to 65 (65%). Males were affected more with cancer 35 (58.4%). Most of the samples were Hindus (80%) Most of the patients studied upto middle school level (23.4%).Majority of the samples were unemployed (55%) .Most of the family’s income (per month) was less than Rs. 5000 (48.3%) Maximum number of patients were married (93.4%). Majority of the samples(48%) were having more than two children. Most of

the patients belong to Nuclear family (55%) Maximum number of the patients was Non vegetarians (80%) .Majority of the patients had no bad habits (78.3%).Most of the sample's hobby was watching movies (51.7%).Maximum number of patients had the family history of no cancer (88.3%) .Majority of the samples had the cancer cervix (26.7%) .Majority of the patient were suffering with cancer for 0 to 3 months (30%) and more than one year (30%).Majority of the samples were in the II stage (61.7%) of Disease .Majority of the samples were in 0 to 1 month treatment (41.7%).Most of the patients were receiving radiation therapy for more than two times. Majority of the cancer patients 36 (60%) had moderate level of anxiety, 14 (23.33%) patients had low level of anxiety, and 10 (16.67%) patients had high level of anxiety Majority of the 39 (65%) cancer patients had moderate level of coping abilities, 13 (21.67%) patients had maximum level of coping abilities, and 8 (13.33%) patients had minimal level of coping abilities The reports indicated that there was a negative correlation between the level of anxiety and coping abilities The results indicated that there was a significant association between anxiety and the selected demographic variables such as, Religion, Occupation, Family history of cancer, Duration of illness, and Number of radiation therapy attended the results confirmed that there was a significant association between coping abilities and the selected demographic variables such as, Dietary pattern, Hobbies, Family history, and Stage of disease

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