

A Comparative Study on Coping Strategies of Cancer Cervix Patients Receiving Chemo and Radiation Therapies at SVIMS, Tirupathi.

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Abstract

OBJECTIVES:

- To assess coping strategies of cancer cervix patients on chemo and radiation therapies.
- To compare coping strategies of cancer cervix patients on chemo therapy and radiation therapies
- To find out association between the coping strategies with their selected demographic variables.

Material and methods: The present study was a cross-sectional descriptive research design used non-probability convenient sampling technique to select 100 patients who were receiving chemo therapy ,radiation fractions , at SVIMS, Tirupati. Data were collected by using demographic variables and Modified Folkman and Lazarus “way of coping” scale and the obtained data were analyzed by using frequency, mean, standard deviation, chi-square test and t- test.

Results: The study findings revealed that among 100 cancer cervix patients receiving chemo and radiation therapies the level of coping strategies, majority 52(52%) had medium coping, 27(27%) had high coping, and only 21(21%) had low coping . The comparative “t” value was 16.687** indicates significance difference between coping strategies in cervical cancer patients receiving chemotherapy and radiation therapy .

Conclusion:

The comparative “t” value was 16.687 which clearly indicates that there was significant difference in coping strategies among cervical cancer patients receiving chemo and radiation therapy.

Key words: comparative, study, coping strategies, cancer cervix, chemo therapy, Radiation therapy.

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I. Introduction:

Health is the real wealth and peace of gold and silver and complete harmony of the body, mind and spirit.¹

Cervical cancer happens when cell change in women, cervix which connect their uterus with vagina , this cancer can affect the deeper tissues of their cervix and may spread to other parts of their body like bladder, vagina, and rectum . Most cases of cervix cancer are caused by human papilloma virus which is preventable with a vaccine . Cervical cancer grows slowly , so there is usually time to find and treat it before it causes serious problems. It kills fewer and fewer women each year , by improved screening through pap tests. Women 35 to 44 years old are most likely to get it, more than 15% of new cases are in women over age 65.²

Chemotherapy commonly used chemotherapeutic agents for treating cervical cancer include cisplatin ,carboplatin ,5-fluo-rouracil , ifosfamide , irinotecan and taxanes .of these , the mostly widely used agent is cisplatin , alone or in combination with 5-fluorouracil administration of cancer chemotherapy requires careful monitoring of general health , blood counts , and liver and kidney function during and after treatment.⁶

Radiation uses high- energy X- rays to kill cancer cells and stop their growth, might get radiation before or after surgery or if cancer has spread beyond cervix .. Radiotherapy for cervical cancer usually involves a combination of external beam radiotherapy (EBRT) brachy therapy using intra cavitory radiotherapy (ICR) .⁷

Coping strategies for emotional and social effect as well as physical effect after a cancer diagnosis. This may include dealing with difficult emotions, such as sadness , anxiety , anger or managing stress level. The coping strategies as identified includes family support, positive reinterpretation, and palliative care . The

families and the patient have developed strategies but here is still a lot that needs to be done in addressing the challenges of living with cervical cancer.⁸

II. Materials And Methods:

2.1. Study Design:

The study was a **cross-sectional descriptive research design** with a non-probability convenient sampling technique was used to select 100 cancer cervix patients receiving Chemo, radiation therapy, SVIMS, Tirupati.

2.2 Eligibility Criteria: The criteria were as following: Patients who were receiving, chemo and radiation therapy, Age between 20-60 years, were able to read and write Telugu.

2.3 Instruments:

standard tool of modified Folkman and Lazarus "way of coping" was used with added demographic variables questions. Reliability of the research instrument defined as the extent to which the instrument yields the same result in repeated measures. It is then concerned with consistency, accuracy, precision, stability, equivalence and homogeneity. To establish reliability of the tool, split half method was used. The tool was administered to 10 cervical cancer patients at SVIMS, who were not included in the pilot study and who fulfilled the inclusion criteria. The Reliability was computed by Karl Pearson correlation coefficient method and the score was obtained $r = 0.726$ which shows high correlation of score. Hence the tool was considered for proceeding with the pilot study.

A pilot study was conducted by using the same questionnaire on 10 sample (5 from chemo and 5 from radiation therapy) and found that the tool was feasible to conduct.

2.4 Procedure:

Prior permission was obtained from the head of the department of oncology to conduct the study. 50 chemo and 50 radiation sample were selected by non-probability convenient sampling technique with minimum of 8-10 cases per day from 8AM-1PM. The names of the cervical cancer patients were obtained from the nominal register and made into a list. The investigator made them sit comfortably and introduced herself to each participant and explained the purpose of the study and took a written informed consent and administered the questionnaire to the patients through interview schedule and the responses of the participants were recorded. The data collection took 15-20 minutes for each patient. After completion of data collection the investigator has given information booklet with all aspects as Dietary habits, Pain management, Appearance, Exercises, Mental health, Spiritual health, Emotional health to every participant for future references and thanked the participants for their cooperation. The same procedure was followed for all 100 sample.

2.5 Statistical Analysis:

SPSS version 12.0 for windows was used to analyze the data. To describe the characteristics of research units, firstly the descriptive statistics including central (mean & standard deviation) indicators and frequency distribution were calculated. Then chi-square test analysis, t test, were done for analysis of main variables.

III. Results:

3.1. Demographic characteristics:

Among 100 cancer cervix patients majority 42 (42%) were aged 41-50 yrs, and lowest 10 (10%) were in the age group of 30-40 yrs. In relation to religion 84(84%) were Hindus, 9(9%) Muslims, 7(7%) Christians. Regarding the marital status majority 93(93%) were married, 5(5%) were unmarried and 2(2%) were widows. In reference to educational status majority 49(49%) were illiterate, (32%) had primary education, (16%) had higher primary, (2%) had secondary education and only 1 (1%) had intermediate. Regarding occupation of patients majority 49(49%) were home makers, lowest 4(4%) were private employees. Regarding place of residence majority 31(31%) were from semi urban, lowest 20(20%) were rural. Pertaining to family monthly income majority 82(82%) had below 5000, lowest 6(6%) had above 10,000. In relation to type of family majority 69(69%) were joint, lowest 31(31%) were from nuclear family. Considering to patient habits majority 58(58%) had betel chewing, lowest 2(2%) had cigarette smoking. Pertaining to stages of cancer cervix majority 60(60%) had stage II, lowest 1(1%) were stage IV. Regarding the family history of cervix cancer majority 96(96%) said No, lowest 4(4%) said yes. In relation to number of chemo cycles majority 59(59%) had below 2, lowest 10 (10%) were above 5. Pertaining to number of radiation fractions majority 30(30%) were above 30, lowest 10(10%) were below 5. Accordance to type of cervical cancer surgery majority 89(89%) had total hysterectomy, lowest 1(1%) had radical hysterectomy. Regarding the long term medications majority 6(6%) said no, lowest 4(4%) said yes. (Table-1).

3.2 Distribution of level of coping strategies on cervical cancer patients receiving chemo and radiation therapies.

Among 100 patients With respect to confrontive coping the majority 6.56 posses high , 6.17 had moderate , 5.19 low, In pertaining to distancing possess 8.67 having high, 7.92 had moderate, 7.38 low , regarding the self controlling posses 8.37% high, 7.83 had moderate, 6.9 had low, accordance to seeking social support posses 11.19 having high, 9.42 had moderate, 7.86 had low. In relation to accepting responsibility posses 2.59 had high, 2.06 having moderate, 1.33 had low. Regarding the escape avoidance posses 14.07 having high, 13.13 had moderate, 11.1 had low. considering to Plan full problem solving posses 10.33 had high, 9.17 having moderate, 8.24 had low. In reference to positive reappraisal 5 having high , 4.81 had moderate, 3.19 have low level of coping strategies in cancer cervix patients receiving chemo and radiation therapies.(Table-2).

3.3 Distribution of overall level of coping strategies of cervical cancer patients receiving chemo and radiation therapies:

Among the total sample of 100 cancer cervix patients receiving chemo and radiation the level of coping strategies, majority , 52(52%) had medium coping, 27(27%) had high coping . and only 21.(21%) had low coping. (Table-3).

3.4 Distribution of Mean and Standard deviation of level of coping strategies in cancer cervix patients receiving chemo and radiation therapies .

In chemo therapy the mean value was 62.20 with standard deviation 1.679 and P value 4.642 (0.012) significant at ($P < 0.05$) level and radiation fractions mean value was 62.10 with standard deviation 1.035 and P value 3.025 (0.021) was significant at ($p < 0.05$) level in coping strategies of cancer cervix patients. (Table-4).

3.5 Comparison of coping strategies among cancer cervix patients who were receiving chemo and radiation therapies.

The coping strategies in chemo therapy mean value was 1.94 with standard deviation 2.526 where as among radiation therapy the mean value was 14.60 with standard deviation 6.834 . The comparative “t” value was 16.687** indicates significance difference between coping strategies in cervical cancer patients receiving chemotherapy and radiation therapy .

3.6 Association between level of coping and selected demographic variables of cancer cervix patients receiving chemo and radiation therapy.

There was significant association between level of coping with selected demographic variable as age, marital status, educational status , occupational status, place of residence, family income , patient habits , stage of cancer , number of chemo cycles , number of radiation fractions and type of cervical cancer surgery at 0.05 level of significance. where as place of residence, stage of cancer and number of chemo cycles at 0.01 level of significance. There was no significant association with religion , type of family, family history and long term medications

3.7 Item wise analysis of coping strategies of cancer cervix patients, receiving chemo and radiation therapies.

The 100 cancer cervix patients , anger to the person who caused the problem 69(69%) were used some what, 29(29%) were not used, 1(1%) were used quit a bit, 1(1%) were used a great deal. In reference to if they feeling out some how , 59(59%) were used quite a bit, 21(21%)were used some what,14(14%) were not used, 6 (6%), were used a great deal . Regarding if they took a big chance (or) did something very risky, 45(45%)were used a great deal, 33(33%) were used quite a bit , 11(11%) were used some what,11(11%)were not used . Pertaining to something they did not think , would work, but at least they doing something, 29 (29%) were used quite a bit, 27(27%) were used a great deal, 25(25%) were used some what 19(19%) were not used,In related to if they made light of the situation they regard to get too serious about it, 38(38%) were used somewhat, 31(31%) were used quit a bit, 19(19%) were not used, 12(12%) were used a great deal .Regarding they went on as if nothing had happened ,42 (42%) were used quit a bit,33 (33%) were used somewhat,18(18%) were used a great deal, 7(7%) were not used. In reference if they refused to think too much about it, 35(35%) were used quit a bit, 25(25%) were used a great deal,27(27%) were used somewhat,25(25%) were used a great deal. Pertaining to if they tried to forget the whole thing, 31(31%)were used quit a bit ,27(27%) were used somewhat, 26(26%)were used a great deal, 16(16%)were not used. Accordance to the silver lining, so to speak, if they tried to took on the bright side of things 65(65%) were not used,28(28%) were used somewhat, 7(7%) were used quit a bit, 0(0%) were used a great deal. In relation to they went along with fate sometimes they feel bad luck, 65(65%) were used some what,18(18%) were used quit a bit, 13(13%) were not used,4(4%)

were used a great deal. Considering to tried to keep our feelings to our self used some what, 44(44%) were they 34(34%) were used quit a bit,14(14%) were not used, 8(8%) were used a great deal. Pertaining to if they dept other from knowing how bad things were happened, 46(46%) were used quite a bit ,34(34%) were used a great deal, 12(12%) were used somewhat, 8(8%) were not used. Regarding to if they tried to burn their bridges, but leave things some what, 32(32%)were used a great deal,25(25%) were used some what,22(22%)were used quit a bit,21(21%) were not used . In related to if they tried to deep their feeling about the problem from interfering with other things, 35(35%)were used somewhat,25(25%)were not used,22(22%) were used quit a bit , 18(18%) were used a great deal, Pertaining to if they thought about a person they admire would handle those situation and used that as a model, 43(43%) were used quite a bit, 34(34%)were used somewhat ,17(17%) were not used,6(6%) were used a great deal, In reference if they talked to someone to find out more about the situation, 40(40%) were used quit a bit,33(33%) were used a great deal,20(20%) were used some what,7(7%) were not used.,Considering to if they talked to someone who could do something concrete about the problem 43(43%) were used somewhat ,39(39%) were not used .17(17%) were used quit a bit ,1(1%) were used a great deal ,Pertaining to advice from a relative (Or) friend they respected , 43(43%) were used quit a bit, 40(40%) were used somewhat,14(14%)were used a great deal,3(3%) were not used.In reference to if they talked to someone about how they was feeling , 43(43%) were used quit a bit, 30(30%) were used a great deal , 16(16%) were not used, 11(11%)were used some what . In related if they accepted sympathy and understanding from someone, 27(27%) were used a great deal,26(26%) were used quit a bit,24(24%)were not used,23(23%)were used somewhat.Regarding if they got professional help, 37(37%) were used somewhat, 33(33%) were used quit a bit,21(21%)were used a great deal 9(9%) were not used. In relation if realized that they had brought the problem on myself , 47(47%) were used quite bite , 32(32%) were used a great deal, 14(14%) were used somewhat, 7(7%) were not used.In reference if they wished that their situation would go away (or) some hoe be over with 42(42%)were used quite a bit,28(28%)were used a great deal,19(19%) were used somewhat,11(11%) were not used. Pertaining to if they hoped for a miracle 39(39%)were used some what,33(33%) were not used,22(22%)were used quit a bit, 6(6%)were used a great deal. Regarding to if they had fantasies or wishes about how things might turn out 36(36%) were used quit a bit, 35(35%) were used somewhat,7(7%) were not used .In reference to they tried to make our self feel better by eating, drinking plenty of fluids or medications 35(35%) were used quit a bit,28(28%)were used a great deal, 26(26%)were used somewhat, 11(11%) were not used. Pertaining if they generally avoided being with people , 32(32%) were not used,24(24%) were used quit a bit, 24(24%) were used a great deal, 20(20%)were used somewhat. In relation to they refused to believe that it had happened 37 (37%) were used a bit,34(34%) were used somewhat, 17(17%) were used a great, 12(12%) were not used. Accordance . if they took it out on other people , 38(38%) were used quit a bit, 29(29%) were used somewhat, 25(25%) were used a great deal,8(8%) were not used. Pertaining to if they slept more than usual , 32 (32%) were used quite a bit, 28(28%) were used a great deal, 28(28%) were used a great deal, 12(12%) were not used . considering to if they know what had to be done, so they doubled our efforts to make things work, 53(53%) were used quite a bit,19(19%) were used somewhat,18(18%)were used a great deal,10(10%) were not used. In relation they made a plan of action and followed it , 33(33%)were used quit a bit , 32(32%) were used a great deal, 29(29%) were used somewhat, 6(6%) were not used. Pertaining to they just concentrated on what they had to meet- the meet step , 31(31%) were used some what , 29(29%) were used a great, 31(31%) were used somewhat, 18(18%) were not used. In relation to if they changed something so things would turn out all right , 64(64%)were not used ,25(25%) were used somewhat,6(6%) were used quit a bit , used a great deal 5(5%) were used a great deal . Accordance to if they drew on my past experiences, they was in a similar situation before, 64(64%) were used somewhat,24(24%) were used quit a bit, 10(10%) were used a great deal, 2(2%) were not used, In related to they came up with a couple of different solution to the problems , 61(61%)were used quit a bit, 22(22%)were used a great deal,11(11%)were used somewhat, 6(6%)were not used ,Regarding the if they prayed, 56(56%) were used a great deal, 30(30%) were used quit a bit,9(9%) were used somewhat,5(5%) were not used , In reference to If they was insoired to do something creative , 56(56%) were used quit a bit. 32(32%) were used a great deal,7(7%) were used somewhat, 5(5%) were not used.

IV. Discussion:

The discussion of the present study was based on the A comparative study on coping strategies of cancer cervix patients receiving chemo and radiation therapies at SVIMS , Tirupathi. findings obtained from descriptive and inferential statistical analysis of collected data; it is presented in the view of the objectives of the study.

Cervical cancer begins when healthy cells on the surface of the cervix change and grow out of control , forming a mass called a tumor. A tumor can be cancerous or benign. A cancerous tumor is malignant. It can spread to other parts ofthebody , a benign tumor means the tumor will not spread .there are 2 main types of cervical cancer , named for the type of cell. Where the cancer started other type of cervical cancer rare

squamous cell carcinoma makes up about 80% to 90% of all cervical cancers. These cancers start in the cells on the outer surface covering of the cervix. Adeno carcinoma makes up 10% to 20% of all cervical cancers. These cancers start in the glandular cells that line the lower birth canal.

Coping strategies for emotional and social effect as well as physical effect after a cancer diagnosis. This may include dealing with difficult emotions, such as sadness, anxiety, anger or managing stress level. The coping strategies as identified in a included family support, positive reinterpretation, and palliative care. The families and the patient have developed strategies but here is still a lot that needs to be done in addressing the challenges of living with cervical cancer. Living with the stigma can make patients feel guilty, hopeless, embarrassed. Ashamed, and isolated, patients and their families should tell the health care team if they are affected by any of these emotion.

The first objective of the study was to assess coping strategies of cancer cervix patients on chemo and radiation therapies.

- Overall level of coping strategies on cancer cervix patient receiving chemo and radiation therapies majority, 52(52%) had medium coping, 27(27%) had high coping and 21(21%) had low coping.
- The confrontive coping the majority 6.56 possess high, 6.17 had moderate, 5.19 low, distancing possess 8.67 having high, 7.92 had moderate, 7.38 low, self controlling possess 8.37% high, 7.83 had moderate, 6.9 had low, seeking social support possess 11.19 having high, 9.42 had moderate, 7.86 had low, accepting responsibility possess 2.59 had high, 2.06 having moderate, 1.33 had low, escape avoidance possess 14.07 having high, 13.13 had moderate, 11.1 had low. Plan full problem solving possess 10.33 had high, 9.17 having moderate, 8.24 had low, positive reappraisal 5 having high, 4.81 had moderate, 3.19 have low level of coping strategies in cancer cervix patients receiving chemo and radiation therapies

The results of the present study supported by the earlier study carried out by

SoniyaBhore, Aparna kale, et. al 2015. Conducted a study on assessment of the coping strategies among cervix cancer patients in sangali at India. During 2013-2015, they used non experimental descriptive research design and sample size (n=60) by using non probability, purposive sampling technique were used. The data were collected by used a checklist to assess coping strategies adopted by patient receiving therapies for cancer of cervix. And analyzed by chi-square test were done. The result shows that out of 60 screened patients in relation to variables occupation and monthly family income, chi-square and fresher's exact test value obtained was 0.006 and 0.021 respectively. Which showed significance at $p < 0.05$ level. Majority of the patient coping strategies were in emotional problem followed by physical problems. The study concluded that majority of the clients coping strategies about 84.50%. was in emotional problem and 80.67% clients coping strategies was in physical problems were as 71.67% clients coping strategies was in financial problems.⁴⁰

The second objective of the study was to compare coping strategies of cancer cervix patients on chemo therapy and radiation.

The coping strategies in chemo therapy mean value was 1.94 with standard deviation 2.526 where as among radiation therapy the mean value was 14.60 with standard deviation 6.834. The comparative "t" value was 16.687** indicates significance difference between coping strategies in cervical cancer patients receiving chemotherapy and radiation therapy

The result of the present study supported the earlier study carried out by

Dewishinta, Didik Gonawantomtoma, et al, 2019. Conducted a study on factors affecting occurrence of coping strategies among cervical cancer at DR. Maewardi hospital Surakarta. During 2018-2019. They used a cross-sectional research design and sample size (n=200) by using simple random sampling technique were used. The data were collected by using medical record and questionnaire and analyzed by path analysis run on STATA 13 were done. the result showed that severe depression in cervical cancer patients was directly increased by the frequency of chemotherapy 3 times (95%) advanced stage 95% severe depression was directly decreased by high coping strategy. The study concluded that sever depression in cervical cancer patients is directly increased by the frequency of chemotherapy 3 times advanced stage and length of illness from diagnosis >11 months.⁴²

The third objective of the study was to find out association between the coping strategies with their selected demographic variables.

There was significant association between level of coping with selected demographic variable as age, marital status, educational status, occupational status, place of residence, family income, patient habits, stage of cancer, number of chemo cycles, number of radiation fractions and type of cervical cancer surgery where as no significant association with religion, type of family, family history and long term medications

The result of the present study supported the earlier study carried out by

Ganulkurt et al, 2019. Conducted a study on evaluating the association and effectiveness of intervention on increasing participation among cervical cancer in Istanbul at turkey. During 2018-2019. They used a interventional study design and sample size (n=356) by using convenience sampling technique were used. The data were collected by visits home were done. The result showed that 91.6% were married, 49% listed their highest level of education as primary school, and 89.3% were unemployed. The study concluded that invitation to screening that are made by providing training accompanied with a brochure were found to be effective in increasing the participant of women in cervical cancer screening.⁴³

V. Conclusion:

The comparative “t” value was 16.687 which clearly indicates that there was significant difference in coping strategies among cervical cancer patients receiving chemo and radiation therapy.

NOTE: All tables enclosed next to references.

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TABLE -1: DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF CERVICAL CANCER PATIENTS

		(N= 100)			
		No. of Patients	%	Mean	SD
Age in years	30- 40 Years	10	10.0	2.75	1.158
	41 – 50 Years	42	42.0		
	51 - 60 Years	21	21.0		
	61 – 70 Years	17	17.0		
	70 & Above	10	10.0		
Religion	Hindu	84	84.0	1.23	0.566
	Muslim	9	9.0		
	Christian	7	7.0		
Marital Status	Unmarried	5	5.0	1.97	0.264
	Married	93	93.0		
	Widow	2	2.0		
	Divorced/Separated	0	0.0		
Educational status	Illiterate	49	49.0	1.74	0.872
	Primary	32	32.0		
	Higher Primary	16	16.0		
	Secondary	2	2.0		
	Intermediate	1	10.0		
Occupational Status	Degree	0	0.0	1.88	1.104
	Home maker	49	49.0		
	Coolie	25	25.0		
	Self Employee	21	21.0		
	Govt. Employee	0	0.0		
	Private Employee	4	4.0		
Place of Residence	Retired	1	1.0	2.50	1.040
	Rural	20	20.0		
	Semi urban	31	31.0		
	Urban	28	28.0		

Family Income	Urban semi	21	21.0	1.24	0.553
	Below 5000	82	82.0		
	5001 - 10000	12	12.0		
	Above 10000	6	6.0		
Type of Family	Nuclear	31	31.0	1.69	0.465
	Joint	69	69.0		
	Extended	0	0.0		
Patients of habits	No Habits	19	19.0	2.45	1.452
	Drinking alcohol	8	8.0		
	Cigarette smoking	2	2.0		
	Betel chewing	58	58.0		
	Multiple Sex partners	6	6.0		
	Contraceptives	7	7.0		
Stages of Cancer	Stage I	21	21.0	1.99	0.659
	Stage II	60	60.0		
	Stage III	18	18.0		
	Stage IV	1	1.0		
Family History	Yes	4	4.0	1.96	0.197
	No	96	96.0		
Chemo cycles	Below 2 times	59	59.0	1.51	0.674
	3 – 5 times	31	31.0		
	Above 5 times	10	10.0		
Radiation Fractions	Below 5	10	10.0	3.37	1.346
	6 – 10	18	18.0		
	11 – 15	27	27.0		
	16 – 20	15	15.0		
	Above 20	30	30.0		
Type of Cervical	No Reponses	4	4.0	3.69	0.940
	Radical Hysterectomy	1	1.0		
	Simple Hysterectomy	6	6.0		
	Cryo surgery	0	0.0		
	Hysterectomy	89	89.0		
Long term medication	Yes	4	4.0	1.97	0.171
	No	6	6.0		

TABLE – 2 : DISTRIBUTION OF LEVEL OF COPING STRATEGIES ON CERVICAL CANCER PATIENTS RECEIVING CHEMO AND RADIATION THERAPIES.

n=100

Folkman and Lazarus ways of coping scale Components	Level of Coping			F-value (p-value)
	Low	Moderate	High	
Confrontive coping	5.19 ± 1.08	6.17 ± .98	6.56 ± 1.31	9.531** (0.000)
Distancing	7.38 ± 1.56	7.92 ± 1.30	8.67 ± 1.24	5.427* (0.006)
Self Controlling	6.90 ± 1.04	7.83 ± 1.08	8.37 ± 1.18	10.402** (0.000)
Seeking Social Support	7.86 ± 1.49	9.42 ± 1.50	11.19 ± 1.55	28.061** (0.000)
Accepting Responsibility	1.33 ± 1.11	2.06 ± .67	2.59 ± .64	15.044** (0.000)

Escape Avoidance	11.10 ± 1.34	13.13 ± 1.50	14.07 ± 1.17	27.150** (0.000)
Planful problem Solving	8.24 ± 1.30	9.17 ± 1.35	10.33 ± 1.90	11.328** (0.000)
Positive reappraisal	3.19 ± 1.21	4.81 ± .56	5.00 ± .62	41.200** (0.000)

**TABLE -3: DISTRIBUTION OF OVERALL LEVEL OF COPING STRATEGIES OF CERVICAL CANCER PATIENTS RECEIVING CHEMO AND RADIATION THERAPIES.
n=100**

Level of coping strategies in cervical cancer patients	Frequency	Percentage	Mean	SD
Low	21	21.0	2.06	0.694
Medium	52	52.0		
High	27	27.0		

**TABLE NO-4 : DISTRIBUTION OF MEAN AND STANDARD DEVIATION OF LEVEL OF COPING STRATEGIES IN CANCER CERVIX PATIENTS RECEIVING CHEMO AND RADIATION THERAPIES.
n=100**

Descriptive						
Chemotherapy	N	Mean± S.D	Std. Error	95% Confidence Interval for Mean		F-value (p-value)
				Lower Bound	Upper Bound	
Below 2 times	59	61.58 ± 5.200	.677	60.22	62.93	4.642* (0.012)
3 - 5 Times	31	57.71 ± 7.555	1.357	54.94	60.48	
Above 5 times	10	62.20 ± 5.308	1.679	58.40	66.00	

Radiation fractions	N	Mean ± S.D	Std. Error	95% Confidence Interval for Mean		F-value (p-value)
				Lower Bound	Upper Bound	
Below 5	10	55.10 ± 5.021	1.588	51.51	58.69	3.025* (0.021)
6 – 10	18	59.61 ± 6.147	1.449	56.55	62.67	
11 – 15	27	60.07 ± 6.878	1.324	57.35	62.79	
16 – 20	15	62.33 ± 5.367	1.386	59.36	65.31	
Above 20	30	62.10 ± 5.671	1.035	59.98	64.22	

TABLE NO -5: COMPARISON OF COPING STRATEGIES OF CANCER CERVIX PATIENTS ON CHEMO AND RADIATION THERAPIES.

Coping strategies	N	Mean	S.D	t-test	Sig.
Chemo	50	1.94	2.526	16.687**	0.000
Radiation	50	14.60	6.834		

**TABLE NO 6: ASSOCIATION BETWEEN LEVEL OF COPING AND SELECTED DEMOGRAPHIC VARIABLE OF CANCER CERVIX PATIENTS RECEIVING CHEMO AND RADIATION THERAPY
n=100**

knowledge on coping strategies of cancer cervix patients receiving chemo and radiation therapies		Coping scores						Chi-square
		Low		Medium		High		
		F	%	F	%	F	%	
Age	30 - 40 Years	2	9.5	6	11.5	2	7.4	χ ² =16.546* (p = 0.035) ; df= 8;
	41 - 50 Years	11	52.4	21	40.4	10	37.0	
	51 – 60 Years	5	23.8	11	21.2	5	18.5	
	61 – 70 Years	0	0.0	9	17.3	8	29.6	
	Above 70 Years	3	14.3	5	9.6	2	7.4	
Religion	Hindu	20	95.2	41	78.8	23	85.2	χ ² = 6.981 (p = 0.137) ; df= 4;
	Muslim	0	0.0	5	9.6	4	14.8	
	Christian	1	4.8	6	11.5	0	0.0	

Marital Status	Others	0	0.0	0	0.0	0	0.0	$\chi^2=13.135^*$ (p = 0.011) ; df= 4;
	Unmarried	4	19.0	0	0.0	1	3.7	
	Married	16	76.2	51	98.1	26	96.3	
	Widow	1	4.8	1	1.9	0	0.0	
	Divorced /separated	0	0.0	0	0.0	0	0.0	
Educational Status	Illiterate	17	81.0	18	34.6	14	51.9	$\chi^2=15.847^*$ (p = 0.045) ; df= 8;
	Primary	4	19.0	19	36.5	9	33.3	
	Higher Primary	0	0.0	12	23.1	4	14.8	
	Secondary	0	0.0	2	3.8	0	0.0	
	Intermediate	0	0.0	1	1.9	0	0.0	
	Degree	0	0.0	0	0.0	0	0.0	
Occupational status	Home Maker	13	61.9	21	40.4	15	55.6	$\chi^2=18.672^*$ (p = 0.017) ; df= 4;
	Coolie	4	19.0	13	25.0	8	29.6	
	Self Employee	3	14.3	15	28.8	3	11.1	
	Govt. Employee	0	.0	0	0.0	0	.0	
	Private employee	1	4.8	2	3.8	1	3.7	
	Retired	0	0.0	1	1.9	0	0.0	
Place Of Residence	Rural	0	0.0	9	17.3	11	40.7	$\chi^2= 94.817^{**}$ (p = 0.000) ; df= 6;
	Semi urban	0	.0	22	42.3	9	33.3	
	Urban	1	4.8	20	38.5	7	25.9	
	Urban slim	20	95.2	1	1.9	0	0.0	
Family Income	Below 5000	19	90.5	43	82.7	20	74.1	$\chi^2= 9.827^*$ (p = 0.043) ; df= 4;
	5001 - 10000	0	0.0	5	9.6	7	25.9	
	Above 10000	2	9.5	4	7.7	0	0.0	
Type Family	Nuclear`	21	100.0	34	65.4	14	51.9	$\chi^2 = 13.464$ (p = 0.001) ; df= 2;
	Joint	0	0.0	18	34.6	13	48.1	
	Extended	0	.0	0	0.0	0	0.0	
Patient Habits	No Habit	10	47.6	7	13.5	2	7.4	$\chi^2=27.892^*$ (p = 0.002) ; df= 10;
	Drinking alcohol	4	19.0	4	7.7	0	0.0	
	Cigarate smoking	0	0.0	2	3.8	0	0.0	
	betel chewing	5	23.8	32	61.5	21	77.8	
	Multiple sex partners	1	4.8	2	3.8	3	11.1	
	Contraceptives	1	4.8	5	9.6	1	3.7	

Stage Cancer	Stage I	18	85.7	1	1.9	2	7.4	$\chi^2= 72.519^{**}$ (p = 0.000) ; df= 6;
	Stage II	1	4.8	38	73.1	21	77.8	
	Stage III	2	9.5	13	25.0	3	11.1	
	Stage IV	0	.0	0	0.0	1	3.7	
Family History	Yes	0	.0	4	7.7	0	.0	$\chi^2 = 3.846$; (p = 0.146) ; df= 2;
	No	21	100.0	48	92.3	27	100.0	
Number of Chemo Cycles	Below 2 times	6	28.6	33	63.5	20	74.1	$\chi^2= 16.746^{**}$; (p = 0.002) ; df= 4;
	3 - 5 times	14	66.7	13	25.0	4	14.8	
	Above 5 times	1	4.8	6	11.5	3	11.1	
	Total	21	100.0	52	100.0	27	100.0	
Number of Radiation Fractions	Below 5 times	7	33.3	2	3.8	1	3.7	$\chi^2= 22.135^*$; (p = 0.005) ; df= 8;
	6 – 10 times	4	19.0	11	21.2	3	11.1	
	11 – 15 times	4	19.0	18	34.6	5	18.5	
	16 – 20 times	2	9.5	7	13.5	6	22.2	
	Above 20 times	4	19.0	14	26.9	12	44.4	
Type Cervical cancer surgery	No response	3	14.3	1	1.9	0	0.0	$\chi^2= 12.595^*$; (p = 0.050) ; df= 6;
	Radical Hysterectomy	0	0.0	0	.0	1	3.7	
	Simple Hysterectomy	0	0.0	5	9.6	1	3.7	
	Cryo surgery	0	0.0	0	.0	0	.0	
	Hysterectomy	18	85.7	46	88.5	25	92.6	
Longterm Medication using	Yes	0	.0	2	3.8	1	3.7	$\chi^2 = 0.823$; (p = 0.663) ; df= 2;
	No	21	100.0	50	96.2	26	96.3	

TABLE NO 7: ITEM WISE ANALYSIS OF COPING STRATEGIES OF CANCER CERVIX PATIENT RECEIVING CHEMO AND RADIATION THERAPIES.

Folkman and Lazarus ways of coping scale		No. of Patients	%
Q1) I expressed anger to the person who caused the problem	Not Used	29	29.0
	Used Somewhat	69	69.0
	Used quit a bit	1	1.0
	Used a great deal	1	1.0
Q2) I let my feeling out some how	Not Used	14	14.0
	Used Somewhat	21	21.0
	Used quit a bit	59	59.0
	Used a great deal	6	6.0
Q3) I took a big chance or did something Very risky	Not Used	11	11.0
	Used Somewhat	11	11.0
	Used quit a bit	33	33.0
	Used a great deal	45	45.0
Q4) I did something which I did not think,Would work, but at least I was doing something	Not Used	19	19.0
	Used Somewhat	25	25.0
	Used quit a bit	29	29.0
	Used a great deal	27	27.0
Q5) I made light of the situation; I refused to get too serious about it.	Not Used	19	19.0
	Used Somewhat	38	38.0
	Used quit a bit	31	31.0
	Used a great deal	12	12.0
Q6) I went on as if nothing had happened	Not Used	7	7.0
	Used Somewhat	33	33.0
	Used quit a bit	42	42.0
	Used a great deal	18	18.0
Q7)I didn't let it get to me; I refused to think too much about it	Not Used	13	13.0
	Used Somewhat	27	27.0
	Used quit a bit	35	35.0
	Used a great deal	25	25.0
Q8) I tried to forget the whole thing	Not Used	16	16.0
	Used Somewhat	27	27.0
	Used quit a bit	31	31.0
	Used a great deal	26	26.0
Q9) I looked for the silver lining, so to speak;i tried to look on the bright side of things	Not Used	65	65.0
	Used Somewhat	28	28.0
	Used quit a bit	7	7.0
	Used a great deal	0	.0
Q10) I went along with fate; sometimes I just have bad luck	Not Used	13	13.0
	Used Somewhat	65	65.0
	Used quit a bit	18	18.0
	Used a great deal	4	4.0
Q11) I tried to keep my feelings to myself.	Not Used	14	14.0
	I tried to keep my feelings to myself.	44	44.0
	Used quit a bit	34	34.0
	Used a great deal	8	8.0
Q12) I kept others from knowing how bad things were	Not Used	8	8.0
	Used Somewhat	12	12.0
	Used quit a bit	46	46.0
	Used a great deal	34	34.0
13) I tried not to burn my bridges, but leave things open some what	Not Used	21	21.0
	Used Somewhat	25	25.0
	Used quit a bit	22	22.0
	Used a great deal	32	32.0
Q14)I tried to keep my feelings about the problem from interfering with other things.	Not Used	25	25.0
	Used Somewhat	35	35.0
	Used quit a bit	22	22.0
	Used a great deal	18	18.0
Q15) I thought about how a person I admire would handle this situation and used that as a model	Not Used	17	17.0
	Used Somewhat	34	34.0
	Used quit a bit	43	43.0
	Used a great deal	6	6.0

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Q16)I talked to someone to find out more about the situation.	Not Used	7	7.0
	Used Somewhat	20	20.0
	Used quit a bit	40	40.0
	Used a great deal	33	33.0
Q17 I talked to someone who could do something concrete about the problem	Not Used	39	39.0
	Used Somewhat	43	43.0
	Used quit a bit	17	17.0
	Used a great deal	1	1.0

Q18) I asked advice from a relative or friend I respected.	Not Used	3	3.0
	Used Somewhat	40	40.0
	Used quit a bit	43	43.0
	Used a great deal	14	14.0
Q19) I talked to someone about how I was feeling.	Not Used	16	16.0
	Used Somewhat	11	11.0
	Used quit a bit	43	43.0
	Used a great deal	30	30.0
Q20) I accepted sympathy and understanding from someone.	Not Used	24	24.0
	Used Somewhat	23	23.0
	Used quit a bit	26	26.0
	Used a great deal	27	27.0
Q21 I got professional help.	Not Used	9	9.0
	Used Somewhat	37	37.0
	Used quit a bit	33	33.0
	Used a great deal	21	21.0
Q22)Realized that I had brought the problem on my self.	Not Used	7	7.0
	Used Somewhat	14	14.0
	Used quit a bit	47	47.0
	Used a great deal	32	32.0
Q23) I wished that the situation would go away or somehow be over with.	Not Used	11	11.0
	Used Somewhat	19	19.0
	Used quit a bit	42	42.0
	Used a great deal	28	28.0
Q24 I hoped for a miracle.	Not Used	33	33.0
	Used Somewhat	39	39.0
	Used quit a bit	22	22.0
	Used a great deal	6	6.0
Q25 I had fantasies or wishes about how things might turn out.	Not Used	7	7.0
	Used Somewhat	35	35.0
	Used quit a bit	36	36.0
	Used a great deal		
Q26 I tried to make myself feel better by eating, drinking plenty of fluids, or medications	Not Used	11	11.0
	Used Somewhat	26	26.0
	Used quit a bit	35	35.0
	Used a great deal	28	28.0
Q 27) I generally avoided being with people.	Not Used	32	32.0
	Used Somewhat	20	20.0
	Used quit a bit	24	24.0
	Used a great deal	24	24.0
Q28 I refused to believe that it had happened	Not Used	12	12.0
	Used Somewhat	34	34.0
	Used quit a bit	37	37.0
	Used a great deal	17	17.0
Q29 I took it out on other people	Not Used	8	8.0
	Used Somewhat	29	29.0
	Used quit a bit	38	38.0
	Used a great deal	25	25.0
Q30 I slept more than usual	Not Used	12	12.0
	Used Somewhat	28	28.0
	Used quit a bit	32	32.0
	Used a great deal	28	28.0

Q31) I know what had to be done, so I doubled my efforts to make things work.	Not Used	10	10.0
	Used Somewhat	19	19.0
	Used quit a bit	53	53.0

Q32 I made a plan of action and followed it	Used a great deal	18	18.0
	Not Used	6	6.0
	Used Somewhat	29	29.0
	Used quit a bit	33	33.0
Q33 I just concentrated on what I had do Next – the next step	Used a great deal	32	32.0
	Not Used	18	18.0
	Used Somewhat	31	31.0
	Used quit a bit	22	22.0
Q 34) I changed something so things would turn out all right.	Used a great deal	29	29.0
	Not Used	64	64.0
	Used Somewhat	25	25.0
	Used quit a bit	6	6.0
Q35 I drew on my past experiences; I was in a similar situation before.	Used a great deal	5	5.0
	Not Used	2	2.0
	Used Somewhat	64	64.0
	Used quit a bit	24	24.0
Q36 I came up with a couple of different solutions to the problems.	Used a great deal	10	10.0
	Not Used	6	6.0
	Used Somewhat	11	11.0
	Used quit a bit	61	61.0
Q 37) I prayed	Used a great deal	22	22.0
	Not Used	5	5.0
	Used Somewhat	9	9.0
	Used quit a bit	30	30.0
Q38 I was inspired to do something creative	Used a great deal	56	56.0
	Not Used	5	5.0
	Used Somewhat	7	7.0
	Used quit a bit	56	56.0
	Used a great deal	32	32.0
	Not Used		

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