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IMPACT OF CLINICAL PHARMACIST CARE ON QUALITY OF LIFE IN CERVICAL CANCER PATIENTS ON CHEMORADIATION

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ABSTRACT

The aim of the study was to evaluate the impact of clinical pharmacist care on Quality of life in cervical cancer patients treated with either Radiotherapy alone or in combination with Chemotherapy. An observational prospective study was conducted over a period of 6 months i.e., from January to July 2016 in the Department of Radiotherapy, GGH, Guntur. The EORTC QLQ-C30 3.0 version, EORTC QLQ CX24 was used to assess the patients quality of life at three different stages i.e., before, after treatment & during follow up. Patients were counseled about disease, therapy & its side effects management. The results were evaluated using one way ANOVA, unpaired t test in graph pad prism version (5.04). A total of 66 patients were enrolled in the study. The mean score of global health of cervical cancer patients during follow up was 85.66 ± 12.26 , which was significantly higher than the before treatment score 45.88 ± 12.24 (P value < 0.0001). There was also significant improvement in functional domain scales like physical function, role function, emotional function, social function and cognitive function. Mean symptoms score at follow up was 6.90 ± 23.03 was declined compared to before treatment scores 31.93 ± 23.5 (P value < 0.0001). Patients complain of substantial decline in sexual activity post radiotherapy. There was a significant improvement in quality of life in cervical carcinoma patients after treatment with radiotherapy and chemotherapy along with clinical pharmacist counseling.

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INTRODUCTION

Cervical cancer is one among the world's deadliest diseases but can be easily preventable. As per WHO, worldwide more than 2,70,000 deaths every year due to cervical cancer, 85% of cases were reported from developing countries.^[1] In India, annually 1, 22,844 women got diagnosed and 67,477 die from cervical cancer. India consists population about 432.2 million women aged 15 years and older are at risk.^[2]

It is often due to limited health care services, lack of awareness and availability of screening, vaccination and treatment programs. Women with low economic status and rural background in developing countries are at increased risk of invasive cervical cancer.^[1]

In 1993, the Centers for Disease Control and Prevention considered cervical cancer to the list of AIDS-defining neoplasms.^[3,4] HIV infection leads to 5 fold increase in the risk, probably because of weakened immune response to HPV infection.^[5] Unprotected sexual intercourse, multiple sex partners, sexual intercourse at early age, long term use of hormonal contraceptives, multiple births, poor hygiene, other sexually transmitted genital infections ex; *Herpes Simplex Virus-2*, *Chlamydia*.^[6]

At 1990's multiple studies provided evidence that addition of concurrent cisplatin containing chemotherapy to radiotherapy minimize risk of recurrence by 50 percentile.^[7] Chemotherapy & Radiotherapy are known to cause many side effects. Hence it is necessary to use adjuvant drugs.

The chronic nature of the disease can affect patients QOL as well as their families. Functional disorders can upshot after therapies like surgery, which could involve female genital anatomy; radiotherapy which may damage vaginal mucosa and epithelium and chemotherapy may induce side effects like nausea, vomiting, diarrhea, etc. More over psychological factors are usually complicated in these patients including incorrect beliefs about origin of cancer, changes in self image, low self esteem, marital tensions, fears and worries which all can affect the patients QOL.^[8] A good nutritional diet is required in return helps to lower the incidence rates of anorexia, diarrhea, and much lower likelihood of antiemetic or antidiarrheal medications during and after radiotherapy and chemotherapy.^[9]

The clinical pharmacists are mostly involved in administering chemotherapy to patients and also in counseling the patients about anti cancer drugs and its side effects.^[10] The aim of the study was to evaluate the impact of clinical pharmacist care in QOL in cervical cancer patients.

STUDY OBJECTIVES

1. To evaluate the impact of clinical pharmacist care on Quality of life in cervical cancer patients.
2. To find out the stages of cancer at which patient mostly get diagnosed.
3. To evaluate common risk factors associated with cervical cancer.
4. To provide patient counseling to enhance their QOL.
5. To list out most common ADR's observed in cervical cancer patients.
6. To list out the adjuvant drugs prescribed for patients.

MATERIALS & METHOD

STUDY DESIGN:

A prospective observational study.

STUDY PERIOD:

The study was planned & carried out for a period of 6 months from January to June 2016.

STUDY SITE:

Department of Radiotherapy, Government General Hospital, Guntur, Andhra Pradesh.

STUDY CRITERIA: Inclusion Criteria:

Patients diagnosed with cervical cancer.
Cervical cancer patients of stages I – IV.
Patients with or without co morbid conditions.

Exclusion Criteria:

Pregnant & lactating women.
Patients with psychiatric disorders.
Patients who are not willing to give consent.

MATERIALS USED:

- Patient consent form
- Data collection form
- Patient Information Leaflets
- EORTC QLQ C30 questionnaire 3.0 version
- EORTC QLQ CX24
- Graph pad Prism version (5.04)

PLAN OF WORK

A prior permission was taken from the ethics committee to conduct the study. The whole study was conducted in various steps:

Step 1: Translation of the EORTC QLQ C30 questionnaire 3.0 version, EORTC QLQ CX24 form into regional language (Telugu) & their validation by Telugu professionals.

Step 2: Designing & validation of patient information leaflets by medical experts.

Step 3: Selection of subjects based on inclusion and exclusion criteria and an informed consent was taken from the patient and their care giver. Patient demographic details were collected.

Step 4: In selected patients QOL was evaluated by using EORTC QOL-C30 3.0 version & EORTC QOL-CX24 at three different stages:

Stage 1 - Before treatment, on admission,

Stage 2 - After treatment, at discharge, and

Stage 3 – During Follow up i.e. one month after completion of treatment.

Stage 4 - Study participants are counseled about disease, life style modifications, diet, side effects occurred during chemotherapy & radiotherapy and its management, importance of adherence to treatment, psychological counseling. Counseled at every stage after assessing the QOL.

Step 5: The data obtained was entered in advanced Microsoft excel spreadsheet & evaluated. One way ANOVA & unpaired t test was used to find statistical significance. Statistical calculations were executed using graph pad prism version (5.04) and the level of statistical significance was set at $P < 0.05$.

RESULTS:

TABLE 1: CLINICAL AND SOCIO DEMOGRAPHIC CHARACTERISTICS OF STUDY SUBJECTS.

CHARACTERISTICS	NO. OF PATIENTS (percentage)
AGE	
31-40	10 (15.15)
41-50	24(36.36)
51-60	22(33.33)
61-70	8(12.12)
Above 70	2(3.03)
FIGO staging	
I A	2(3.03)
II	5(7.57)
II A	15(22.72)
II B	28(42.42)
III	1(1.51)
III A	4(6.06)
III B	10(15.15)
IV	1(1.51)
Histology	
Squamous cell carcinoma	62 (93.93)
Adenocarcinoma	4 (6.06)
LOCATION	
Urban	15 (22.72)
Rural	51 (71.27)
LITERACY	
Illiterates	47 (71.21)
Primary education	10 (15.15)
Secondary education	8 (12.12)
Graduates	1(1.51)
SOCIAL HABITS	
Smoking	6(9.09)
Drinking	1(1.51)
Smoking & Drinking	1(1.51)
None	60(90.90)
FOOD HABITS	
Vegetarian	4 (6.06)
Mixed diet	62(93.93)
FAMILY HISTORY	
Yes	0

No	58 (87.87)
Not Known	8 (12.12)
OCCUPATIONAL STATUS	
Employee	8 (12.12)
Self employed	11(16.66)
Daily wage	24 (36.36)
Not working	23(34.84)
AGE OF MENSTRUATION	
11	5(7.57)
12	12(18.18)
13	19(28.78)
14	21(31.81)
15	8(12.12)
AGE AT MARRIAGE	
Below 18	48(72.72)
Above 18	18(27.27)
AGE AT 1ST PREGNANCY	
<18	35(53.03)
≥18	29 (43.9)
Nulliparous	2(3.03)
NO. OF CHILDREN	
None	2(3.03)
≤ 2	26(39.39)
≥ 3	38(57.57)
MARITAL STATUS	
Divorced/separated/widowed	18(27.27)
Married	48(72.72)
MENOPAUSE ATTAINED	
Yes	55(83.33)
No	11(16.66)
VIRAL STATUS	
HIV	10 (15.15)
HBs Ag	4(6.06)
None	52(78.78)
RECURRENCE	
Yes	3(4.54)
No	63(95.45)
SCREENING	
Yes	2(3.03)
No	64(96.97)
AWARENESS ON VACCINATION	
Yes	0
No	66(100)
COMORBIDITIES	
Yes	33(50)
No	33(50)

Out of 66 study participants majority of the patients 24(36.36%) fall in the age group of 41-50years & only 2(3.03%) patients above age 70. About 28(42.42%) patients got diagnosed at stage – IIB & only 1(1.51%) patient got diagnosed at stage –IV. 93% of study population got diagnosed as squamous cell carcinoma. Majority were from rural area (77%). Among 66 patients 47(71.21%) were illiterates & only 1(1.51%) graduate patient. 10% of the study subjects have history of smoking or drinking. No patient had family history of cervical cancer. About 8(12.12%) patients don't know of their family history of cervical cancer. About 93% of patients follow mixed diet. Patients about 24(36.36%) are daily wagers and only about 8(12.12%) patients are employees. In the study subjects mean age of menstruation was 13 years (± 1.12). Around 48(72.72%) patients got married at age below 18yrs and 18(27.27%) patients at above 18yrs of age. Nearly half of the study subjects 35(53.03%) age of primi were below 18yrs. 2(3.03%) were nulliparous. From among 66 patients approximately 38(57.57%) patients had history of more than 3 child births. The marital status of the patients was mostly married (n=48, 72.72%) & few were divorced/separated/widowed (n= 18, 27.75%). Almost three fourth of the patients 55 (83.33%) attained menopause. 10(15.15%) of patients are HIV positive and 4(6.06%) of patients are HBs Ag positive. 3(4.54%) had history of recurrence of cancer. Only 2(3.03%) patients underwent screening and 64 patients do not undergo any screening procedures. No single patient had awareness on availability of vaccines against cervical cancer. Around 33(50%) patients are suffering with comorbidities.

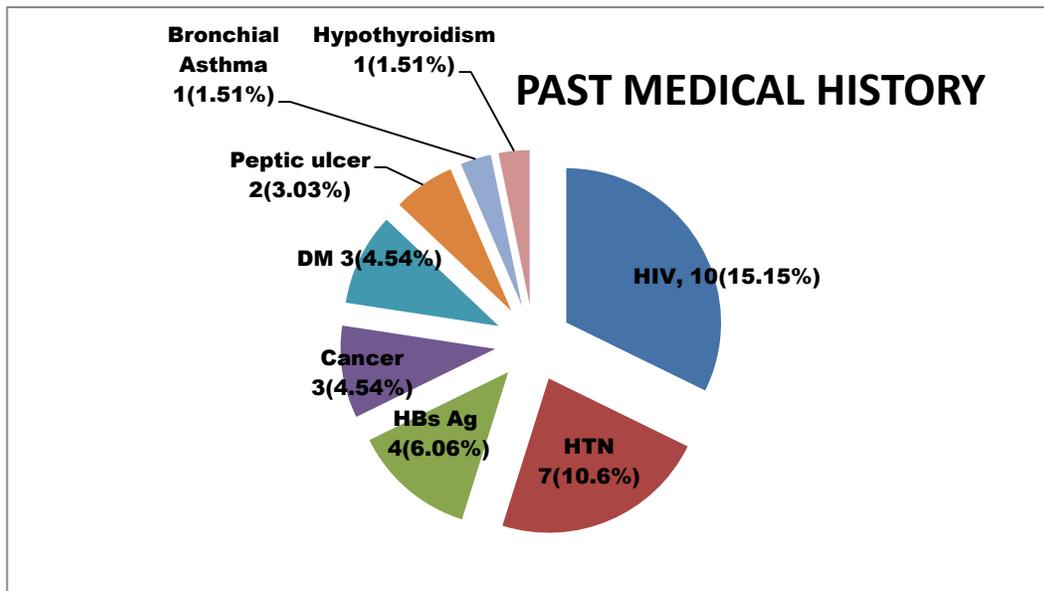


FIGURE 1: CATEGORIZATION OF PATIENTS BASED ON PAST MEDICAL HISTORY.

Above figure describes the past medical history of study subjects. A total 66 study participants 33(50%) patients are suffering with diseases like HIV, HTN, HBsAg, Recurrence of cancer, Diabetes Mellitus, Peptic ulcer, Bronchial asthma. All of them are on respective medication.

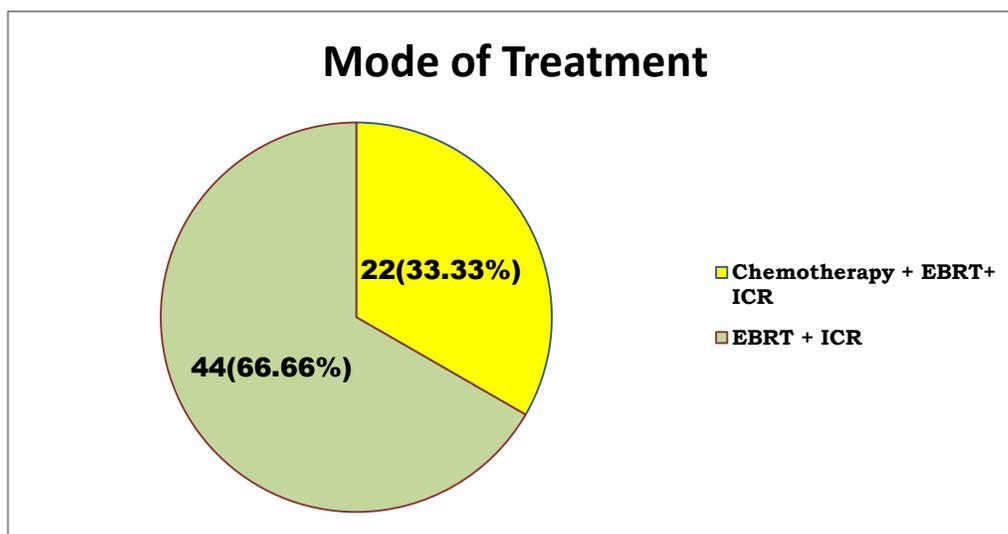


FIGURE 2: CATEGORIZATION OF PATIENTS BASED ON MODE OF TREATMENT.

The above figure describes that about 44 patients received radiation therapy alone & remaining 22 patients received concurrent chemotherapy and radiation therapy. All 66 Patients received External beam radiation 50 GY in the way of 2GY per fraction in total 25 fractions by use Radiotherapy cobalt 60 machine. Followed by Intra cavity radiation emitting sources like cesium at low dose of 30 GY.

Where as for concurrent chemotherapy patients received Cisplatin (Cis- Dichlorodiamine platinum) at dose of 40mg/m² weekly (not exceeding 70mg per week) for 4 weeks. Here in the study only 22 patients received concurrent cisplatin.

TABLE 2: ADJUVANT DRUGS USED IN STUDY POPULATION.

DRUG NAME	INDICATION	ROUTE OF ADMINISTRATION	NO. OF PATIENTS (%)
ONDANSETRON	CINV	Oral & Intravenous	66 (100%)
DEXAMETHASONE	CINV	Intravenous	30(45.45%)
MANNITOL	Osmotic Diuretic	Intravenous	24(36.36%)
RANITIDINE	Gastritis	Intravenous	24(36.36%)
		Oral	66(100%)
METRONIDAZOLE	Anaerobic Bacterial Infections	Intravenous	30(45.45%)
		Oral	46(69.69%)
CIPROFLOXACIN	Intra-Abdominal Infections	Intravenous	30(45.45%)
		Oral	46(69.69%)
PARACETAMOL	Analgesia & Fever	Intramuscular	5(7.57%)
		Oral	20((30.30%)
DICLOFENAC	Analgesia	Intramuscular	30(45.45%)
		Oral	38(57.57%)
DERIPHYLLINE	Dyspnea	Intravenous	9(13.63%)
POTASSIUM SULPHATE	Electrolyte Abnormalities	Intravenous	22(33.33%)
MAGNESIUM SULPHATE	Electrolyte Abnormalities	Intravenous	22(33.33%)
HYOSCINE BUTYL BROMIDE	Abdominal Cramps	Intramuscular	12(18.18%)
ETHAMSYLATE	Menorrhagia	Intramuscular	42(63.63%)
TRANEXAMIC ACID	Menorrhagia	Intramuscular	31(46.96%)
CHLORPHENIRAMINE MALEATE	Allergic Reactions	Intramuscular	14(21.21%)
		Oral	17(25.75%)
PROMETHAZINE	Pre-Operative Sedation	Intravenous	64(96.96%)
B-COMPLEX	Vitamin Supplement	Oral	66 (100%)
LOPERAMIDE	Diarrhea	Oral	35(53.03%)
AMOXICILLIN + CLAVULANIC ACID	Bacterial Infections	Oral	66(100%)
FUROSEMIDE	Edema	Oral	2(3.03%)
MUCAINE GEL (syp)	Gastritis	Oral	56(84.84%)
CETRIZINE	Allergic Reactions	Oral	13(19.69%)
POVIDONE OINTMENT	Skin Lesions	Topical	45(68.18%)
LIQUID PARAFFIN (syp)	Constipation	Oral	24(36.36%)
BISACODYL	Constipation	Oral	11(16.66%)
LACTULOSE (syp)	Constipation	Oral	25(37.87%)
IRON FOLIC ACID	Iron & Folic Acid Supplement	Oral	66(100%)
GENTIAN VIOLET	Fungal Infections	Topical	56(84.84%)

The displayed table mentions the list of adjuvant drugs including route of administration and the percentage of administered patients. Adjuvant drugs are used in patients to overcome adverse effects of cancer treatment. For example; nephrotoxicity is serious side effect of cisplatin, it can be treated by excess hydration with mannitol, electrolyte disturbances by Magnesium sulfate & potassium sulphate. Antiemetic to prevent chemotherapy induced nausea and vomiting. Abnormal vaginal bleeding is common symptom in cervical cancer it can be avoided by administration of Ethamsylate or tranexamic acid. Like this each drug mentioned above has specification for its use in cancer patients either to minimize side effects or treatment of disease.

TABLE 3: ADVERSE DRUG REACTIONS IN THE STUDY POPULATION.

S.NO	ADR	NO.OF.PATIENTS (percentage) (n=22)
1.	Nausea & Vomiting	13(59.09%)
2.	Nephrotoxicity	1(4.54%)
3.	Anaphylactic Reactions	2(9.09%)

Adverse Drug Reactions in Concurrent Chemotherapy Patients (n=22).

The table depicts about adverse drug reactions reported by patients. Nausea and vomiting was the most common ADR identified in the study participants (54.1%). Single patient experienced nephrotoxicity with elevated sr.cr levels and declined GFR. Two patients suffered with anaphylactic reactions during cisplatin administration.

TABLE 4: ADVERSE EFFECTS OF RADIO THERAPY IN STUDY PARTICIPANTS.

S.NO.	SIDE EFFECTS	NO. OF. PATIENTS (percentage)
1.	Diarrhea	35(53.03%)
2.	Fatigue	56(84.84%)
3.	Nausea	12(18.18%)
4.	Proctitis	12(18.18%)
5.	Dysuria	8(12.12%)
6.	Dermatitis	16(24.24%)
7.	Urinary Incontinence	2(3.03%)

Adverse Effects due to Radiation (n=66).

The most common radiation induced adverse effects reported are diarrhea (n=35, 53.03%), fatigue (n=56, 84.84%), nausea (n=12, 18.18%), proctitis (n=12, 18.18%), dysuria (n=8, 12.12%), dermatitis (n=16, 24.24%), urinary incontinence (n=2, 3.03%) observed in the study participants.

EORTC QLQ-C30 Questionnaire consists of 30 questions. Includes functional scales (physical, role, cognitive, emotional, and social), symptom scales which assess common symptoms encountered by the cancer patients, financial difficulties due to disease and includes domain of overall Global health status/QOL. These are framed with response categories "Not at all", "A little", "Quite a bit" and "Very much". QLQ-C30 domains was scored on a 0–100 scale, higher scores on the functional scales indicates better HRQOL, In contrast higher scores on the symptom scales are reflective of worse symptoms. Level of significance was determined by one way ANNOVA test^[11].

TABLE 5: ASSESSMENT OF QUALITY OF LIFE.

S.NO.	DOMAINS	MEAN ± STANDARD DEVIATION			P VALUE
		Before Treatment	After Treatment	Follow Up	
Global Health Status / QOL					
1.	GHS/QOL	45.88 ± 12.24	63.77 ± 13.34	85.66 ± 12.26	< 0.0001
Functional Scales QOL					
2.	Physical Functioning	71.19 ± 16.73	85.47 ± 12.87	94.01 ± 8.58	< 0.0001
3.	Role Functioning	69.80 ± 16.26	86.95 ± 14.42	93.80 ± 15.46	< 0.0001
4.	Emotional Functioning	61.27 ± 17.26	80.95 ± 13.86	94.25 ± 9.67	< 0.0001
5.	Cognitive Functioning	75.15 ± 19.27	81.27 ± 18.13	86.27 ± 18.13	0.0030
6.	Social Functioning	65.47 ± 24.9	81.34 ± 19.7	90.37 ± 19.85	< 0.0001
Symptom Scales / Items					
7.	Fatigue	40.98 ± 20.67	22.04 ± 17.74	8.21 ± 21.29	< 0.0001
8.	Nausea & Vomiting	4.53 ± 12.21	13.13 ± 19.72	1.25 ± 6.71	< 0.0001
9.	Pain	34.62 ± 22.2	21.49 ± 25.27	7.65 ± 22.4	< 0.0001
10.	Dyspnea	15.87 ± 30.49	14.36 ± 31.49	11.86 ± 28.33	0.7401
11.	Insomnia	33.26 ± 30.36	26.29 ± 28.34	11.30 ± 25.01	< 0.0001
12.	Appetite Loss	38.35 ± 26.3	26.71 ± 24.94	10.77 ± 22.75	< 0.0001
13.	Constipation	9.27 ± 22.7	12.64 ± 45.11	4.24 ± 18.03	0.3181
14.	Diarrhea	1.50 ± 6.96	20.68 ± 21.66	2.01 ± 7.98	< 0.0001
15.	Financial Difficulties	26.73 ± 26.27	15.79 ± 25.61	5.63 ± 16.19	< 0.0001

The above table describes that there was significant improvement in the functional scales like physical, role, emotional & social functioning except cognitive functioning. Symptoms scores were high before treatment, later resolved significantly except dyspnea and constipation. The overall QOL at the beginning 45.88 ± 12.24, at the end of the study improved to 85.66 ± 12.26.

EORTC QLQ-CX 24 consists of 24 questions including three multi-item scales on symptom experience, body image, and sexual/vaginal functioning and six single-item scales covering statements on lymphedema, peripheral neuropathy, menopausal symptoms, sexual worry, sexual activity, and sexual enjoyment. It should be complemented by the QLQ-C30. QLQ-CX 24 domains was scored on a 0–100 scale, higher scores on the functional scales being indication of better HRQOL, whereas higher scores on the symptom scales are reflective of worse symptoms^[12].

TABLE 6: EORTC CX-24– QUALITY OF LIFE.

S.NO	DOMAINS	MEAN ± STANDARD DEVIATION			P VALUE
		Before Treatment	After Treatment	Follow Up	
Functional Scales					
1.	Body image	77.26±23.38	89.93 ± 16.4	97.21 ±6.77	< 0.0001
2.	Sexual activity	67.03±24.97	60.00±20.88	65.63 ±36.49	<0.0001
3.	Sexual enjoyment	64.68±24.84	-	-	<0.0001(t –test)
4.	Sexual /vaginal functioning	88.89±16.99	-	-	<0.0001(t-test)
Symptom Scales					
5.	Symptom experience	31.93±23.5	12.38 ± 18.68	6.90 ±23.03	<0.0001
6.	Lymphedema	4.54±15.32	4.54±11.51	1.00 ±5.75	0.1309
7.	Peripheral Neuropathy	26.41±23.83	21.29 ± 43.13	4.03 ±10.95	<0.0001
8.	Menopausal symptoms	7.57±16.32	5.12±12.10	0	<0.0010
9.	Sexual worry	34.28 ±23.31	11.65 ± 16.98	2.01 ± 9.91	<0.0001

The patient experienced enhanced body image from 77.26±23.38 at beginning to 97.21 ± 6.77 by stage-3, statistically significant (< 0.0001). However sexual functions like sexual activity and sexual/ vaginal functioning were decreased, statistically significant. (P value < 0.0001). Some scores are left blank since patients were not advised sexual activity immediately after treatment. Symptoms experience, lymphedema, peripheral neuropathy, menopausal symptoms and sexual worry of the patients aggravated at the beginning which were subsided later.

DISCUSSION

A total of 66 eligible cervical cancer patients participated in the study. Out of these, majority of patients were in the age group of 41-50 years. Mean age was 51.78(± 10.34). The majority of cases were squamous cell carcinoma. According to FIGO staging, majority of the patients got diagnosed at stage II B & stage II A. Half of the patients attained menopause. Similar results are observed in other studies conducted by LucelyCetina et al^[13] & Satwant Kumar et al^[14].

Nearly half of the study population are having more than three children (n=38, 57.57%) & the results differ from the studies conducted by Satwant Kumar et al^[14] & Swangvaree S et al^[15]. It was due to the reason in our study majority of the participants are from rural areas. It was found that majority of the patients were illiterates (n=47, 71.21%). The occupational statuses of the study participants were daily wagers or not working, very few were employee. The same findings were observed in other studies by Satwant Kumar et al^[14] & ShahnazTorkzahrani et al^[16] that majority were illiterates & unemployed.

In our study no patient had family history of cervical cancer. In the study subjects mean age of menstruation was 13 years (± 1.12). Majority of the patients got married at age below 18 (n=48, 72.72%). Our study results had correlation with the studies done by IA Yakasai et al^[17] & Swangvaree S et al^[15].

Many patients age at first pregnancy was below 18 years (n=35, 53.03%). Only few patients underwent cervical cancer screening (n=2, 3.12%). No information related to these demographics in other studies.

Out of 66 members, 33 patients are found to have co morbidities and are on Concomitant medications. Only one study Swangvaree S et al^[15] gave information related to underlying diseases but not indicated what those diseases were.

Overall, 98.39% of patients completed external beam, and intracavitary therapy. Few patients (30%) received the planned four courses of weekly cisplatin. The obtained results correlated to other studies conducted by Satwant Kumar et al^[14], Swangvaree S et al^[15] & ShahnazTorkzahrani et al^[16] in their studies majority of participants received radiotherapy.

Most common ADRs observed in chemo radiation patients were Nausea & vomiting with highest incidence. Radiation induced side effects are diarrhea, fatigue, nausea, proctitis, dysuria, dermatitis, urinary incontinence observed in the study participants. similar results observed in other studies done by Maaik J et al^[18] & Shuang Li et al^[19] that bowel related side effects are the most common.

In the present study parenteral, oral, topical formulations of 28 adjunctive drugs were commonly used. Out of the total drugs ondansetron, ranitidine, Mannitol 20%, Dexamethasone are highly used. A part from them Iron folic acid, B-complex, Antibiotics, Analgesics, Antiseptics, NSAIDS, Laxatives, Antidiarrheal are also prescribed in the study patients. Similar findings were observed in the studies conducted by G. Sneha et al^[20] & Darshan J. Dave et al^[21] regarding Adjunctive Drug Utilization Pattern in Oncology Department of a Tertiary Care Hospital in South India.

The EORTC QLQ-C30 questionnaire (v.3) was used to evaluate the patients' quality of life. Physical functioning was assessed the worst before the radiation treatment(71.19 ±16.73) and increased gradually throughout further stages (94.01±8.58) all inter stage differences proved to be significant(p <0.0001). In contrast, emotional functioning was scored the highest after treatment (94.25±9.67) and was the lowest at initiation of treatment (61.27±17.26) a difference that proved to be significant (p <0.0001). Role functioning was highest immediately after the treatment (93.80±15.46) and the lowest prior to the treatment (69.80±16.26). Differences between stages proved to be significant (p <0.0001). Financial problems increased their negative impact on the quality of patients' lives significantly throughout consecutive stages of this study. There was also significant difference in the cognitive

functioning at different stages (p value 0.0030) improved by last stage. Social functioning also least at beginning (65.47±24.9) and improved finally (90.37±19.85), significant difference was observed at all stages (p <0.0001).

Single item symptom scales fatigue, nausea & vomiting, diarrhea was worst during treatment at discharge the scores are 40.98±20.67, 13.13±19.72, 20.68±21.66 respectively & which were decreased finally to 8.21±21.29, 1.25±6.71, 2.01±7.98 respectively, statistically significant. Similar results were observed in the studies conducted by Satwant Kumar et al^[14] & Shuang Li et al^[19]. There was no statistical significance for dyspnea (p value 0.7401) these results differ from other studies since some patients with h/o HIV complain of dyspnea.

The overall global health status significantly improved from beginning 45.88 ± 12.24 to 85.66 ± 12.26 at follow up. This is possible by the cancer therapy along with the proper counseling at different stages (p value < 0.0001). The obtained results were correlated with other studies conducted by Pasek M et al^[22] & Lari Wenzel et al^[23].

The EORTC QLQ CX-24 cervical cancer specific module was used to evaluate cervical cancer patients at different stages. The patient experienced enhanced body image from 77.26±23.38 at beginning to 97.21 ± 6.77 by stage-3, statistically significant (< 0.0001). However sexual functions like sexual activity and sexual/ vaginal functioning were decreased, statistically significant. (P value < 0.0001). Symptoms experience, lymphedema, peripheral neuropathy, menopausal symptoms and sexual worry of the patients aggravated variably post treatment scores are 12.38 ± 18.68, 4.54 ± 11.51, 26.41±23.83, 7.57±16.32, 34.28 ± 23.31 respectively. After 1 month of treatment the Symptoms experience, lymphedema, peripheral neuropathy, menopausal symptoms and sexual worry score was reduced to 6.90 ±23.03, 1.00 ± 5.75, 4.03 ± 10.95, 0, 2.01 ± 9.91 respectively. All the domains were statistically significant (p value < 0.0001) except domain lymphedema (p value 0.1309). Similar results were also observed in study done by Shuang Li et al^[19] & ShahnaznTorkzahrani et al^[16]. This is possible by the cancer treatment efficacy & effective counseling proved in study done by Ummavathy Periasamy et al^[24].

CONCLUSION

Our study has shown that most common cancer among women was cervical cancer. Majority of the patients in the study are unaware about disease signs & symptoms, etiology, risk factors & preventive measures. Early age marriages, multiple child births, viral infections, improper hygienic conditions, not encountered with vaccination against HPV are some of the risk factors. Screening campaigns as the most effective means for reducing cervical cancer morbidity & mortality. Initially the patients QOL was worse, which was gradually improved after treatment & effective patient counseling. Pre medication is required before chemotherapy administration. Radiation induced side effects like bowel & bladder problems are most common. These problems can be overcome by using modernized radiation emitting machines.

ABBREVIATIONS:

EORTC	– European Organization for Research and Treatment of Cancer
HPV	– Human Papilloma Virus
HRQOL	– Health Related Quality of life
DM	– Diabetes Mellitus
HTN	– Hypertension
Sr.cr	– Serum Creatinine
FIGO	– International Federation of Gynecology and Obstetrics
QOL	– Quality Of life

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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