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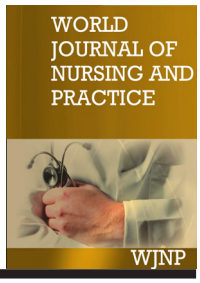

Effect of Nursing Strategies on Self-Care Practices, Radiation Induced Symptoms and Quality of Life Among Patients with Gynecological Cancer at Selected Hospital, Erode

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ABSTRACT

The aim of the study is to evaluate the effectiveness of nursing strategies on self-care practices, radiation induced symptoms and quality of life among patients with gynaecological cancer. True experimental post-test only design was used. The 212 patients with gynaecological cancers were selected by non-probability sampling technique at Erode cancer centre, Erode.The patients belong to both group were observed in 2 weeks, 1 month, 2 Months, 4 months and 6 Months after pelvic irradiation.
The result of the study represents that the patients who received nursing strategies on self-care practices (Perineal care, Kegel exercises and Vaginal dilation), radiation induced symptoms and quality of life have reduced radiation induced symptoms and acquired improved quality of life when compared to control group who received conventional care. Hence, it is effective in reducing side effects of pelvic radiation therapy among patients with gynaecological cancer.

Introduction:

Cancer is the foremost cause of death and an important barrier to increasing life expectancy of people in every country of the world. According to GLOBACON 2020, there were an estimated 19.3 million new cases and 10 million cancer deaths worldwide in 2020. The most commonly diagnosed cancer in women is dominated by two cancer sites: Breast cancer and Cervical cancer [1]. Incidence of patients with cancer in India is about 1 in 9 Indians develop cancer during their lifetime. The national cancer burden in 2020 is 98.7 per 1,00,000 populations (1,392,172 patients). The projected 5 most common cancers in 2020 for males (Lungs, Mouth, Prostate, Tongue and Stomach) constitutes 36% of all cancers and for females (Breast, Cervix uteri, Ovary, Corpus uteri and Lungs) constitutes 53% of all cancers [2]. Presently breast cancer and cervix uteri are leading sites of cancer among women in India, posing an important public health problem that needs important input from various health and other agencies to tackle. These cancers can be treated with surgery, pelvic radiation therapy, chemotherapy, or some combination of these three. All of these treatments may result in some of the side effects [3].

Background:

Gynaecologic cancer incorporates ovarian, uterine, endometrial, cervical, and vulval cancer. Radiotherapy plays a critical role in the management of gynecologic malignancies. Despite the lot of recent advances in radiation therapy, it can still damage surrounding normal tissue and cause many unwanted side effects. Short term adverse effects of radiation therapy include fatigue, upset stomach, diarrhea, nausea/vomiting, vaginal pain, vaginitis, menstrual changes and low blood counts. Long-term side effects of pelvic radiation can include vaginal stenosis or dryness, weakened bones and lymphedema (swelling) in the legs and urinary incontinence. With expanding number of patients with long term gynecological cancer, the prevention and alleviation of late adverse effects after pelvic radiation have become a priority [4].

Teresa L. Rutledge, et al (2014) conducted a pilot randomized control trial to evaluate pelvic floor muscle training for urinary incontinence among gynaecologic cancer survivors". This trial was aimed to evaluate the effectiveness of a simple intervention for treatment of urinary incontinence in this population. They recruited 40 gynaecologic cancer survivors who reported to have a urinary incontinence on a validated questionnaire and were randomized to either pelvic floor muscle training/behavioural therapy (treatment group) or conventional care (control group). The outcome measure assessed at 12 weeks of post intervention. It concluded that "Urinary incontinence negatively affects quality of life, and despite a high prevalence among gynaecologic cancer survivors, it is often under-assessed and undertreated. We found a simple intervention that included pelvic floor muscle training and behavioural therapy, which significantly improved cancer survivor's urinary incontinencen [5].

Shruti M. Velaskar et al (2007) conducted research on use of indigenous vaginal dilator in radiation induced vaginal stenosis. The aim of the research was to assess the efficacy of vaginal dilator in stage III cervical cancer post radiation patients. Hundred patients who were found to have vaginal adhesions of varying severity on follow up were referred and assessed in occupational Therapy department for vaginal dilatation exercises post radiation. Counselling on vaginal hygiene, sexual

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activity and vaginal dilatation procedure was given. Vaginal length on first dilatation and regular follow up every 4 months for the period of one year were documented. There was substantial increase in the vaginal length between 1st and 4th follow up, "p" value was <0.001 and presumed that vaginal dilator prevents and ameliorates post radiotherapy vaginal stenosis [6].

Adverse effects of pelvic radiation can cause harm to women's sense of self-worth and quality of life including sexuality. Henceforth, prevention and management of these negative events can play a pivotal role in enhancing or protecting the patient's QOL during and after treatment, empowering women to withstand and complete the most effective therapy. Caring for the patient as well as her cancer necessitates that measures to preserve or upgrade the quality as well as the quantity of life are incorporated into the patient's treatment plan [7].

Objectives:

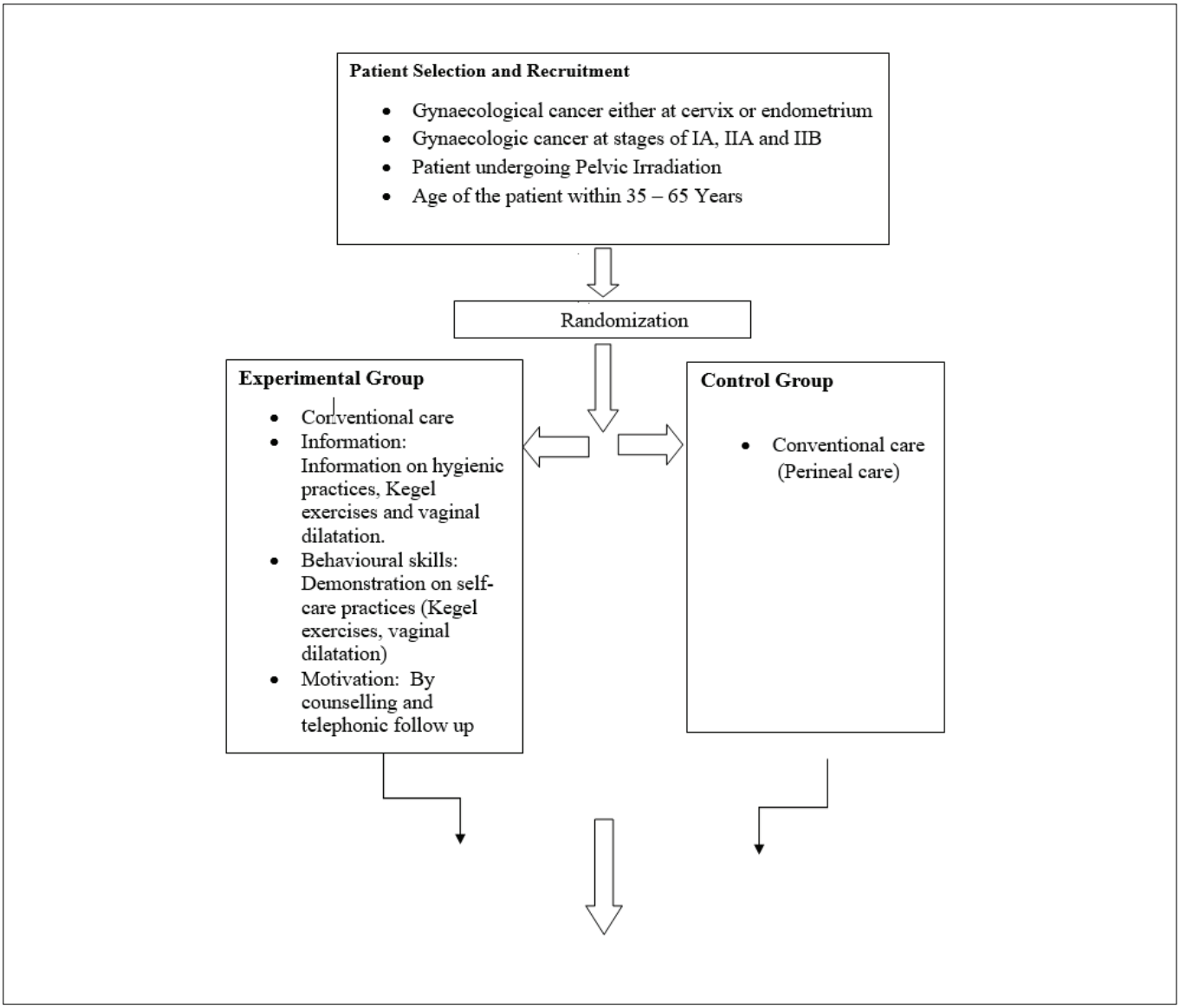
- To assess the self-care practices, radiation induced symptoms, and quality of life among patients with gynecological cancer at selected hospital, Erode.
- To determine effect of nursing strategies on self-care practices, radiation induced symptoms, and the quality of life among patients with gynecological cancer at selected hospital, Erode.
- To identify the relationship between self-care practices, radiation induced symptoms and quality of life among patients with gynecological cancer at selected hospital, Erode.
- To find out the association between self-care practices, radiation induced symptoms, quality of life and selected demographic and clinical variables among the patients with gynecological cancer at selected hospital, Erode.

Materials and Methods:

True experimental post-test only design has been used in this study. After institutional ethical committee clearance, the patients with gynaecological cancer those who fulfilled the inclusion criteria were selected from Erode Cancer Centre, Erode by Non- probability purposive sampling. Sample size was determined using power analysis and effect size. 106 participants assigned to experimental and 106 participants assigned to control group by simple randomization.

The patient with gynaecologic cancer (Cervical and Endometrial Cancer) at stages of IB, IIA and IIB were selected for the study. The patients with gynaecologic cancer who are receiving either oestrogen therapy or topical application of oestrogen, patients with mental or physical challenge that would prohibit them from full participation of the study and patients with evidence of metastatic cancer were excluded from the study.

Permission obtained from the Principal and HOD of Medical Surgical Nursing, KMCH and from Managing director of Erode Cancer Centre to conduct study. Further permission has been obtained from IEC, KMCH. Written consent obtained from each participant of the study before data collection. The investigator used IMB (Information, Motivation and Behavioural skills) model for nursing strategies on self-care practices, vaginal dilatation and radiation induced symptoms.



Post-test evaluation I: First day of third week after pelvic irradiation	Assessment of: • Radiation induced symptoms • Self-care practice - Perineal care • Quality of life
Post-test evaluation II: First day of fifth week after pelvic irradiation	Assessment of: • Self-care practice - Perineal care • Radiation induced symptoms • Quality of life
Post-test evaluation III: 2 months after the completion of irradiation	**Assessment of:** • Self-care practices - Kegel exercises, vaginal dilatation and perineal care • Radiation induced symptoms • Quality of life
Post-test evaluation IV: 4 months after the completion of irradiation	**Assessment of:** • Self-care practices-vaginal dilatation, Kegel exercises, perineal care • Radiation induced symptoms • Quality of life
Post-test evaluation V: 6 months after the completion of pelvic irradiation	**Assessment of:** • Self-care practices-vaginal dilatation, Kegel exercises, perineal care • Radiation induced symptoms • Quality of life

OUTCOME

Study Protocol

Nursing strategies on self-care practices were implemented to the patients with gynecological cancer those who belong to experimental group. After the demonstration of self-care practices, the researcher assessed the practice of perineal care, Kegel exercise and vaginal dilatation based on the criteria [9] and asked them to continue in their home care practice. They were given with log of self-care practices. The clients who belong to both groups were assessed in 2 weeks, 1, 2, 4, 6 months' interval with the same questionnaire and evaluated their self-care practices, quality of life, radiation induced symptoms such as interstitial cystitis symptoms and vaginal and sexual dysfunction. Level of adherence to self-care practices with log of self-care practice, quality of life with City of hope Quality of life – CS Questionnaire, radiation induced symptoms with Michael O' Leary interstitial cystitis symptoms scale and vaginal and sexual dysfunction scale. Among the selected samples, there was 2 drop outs from each group during the data collection. Anonymity and confidentiality were maintained throughout the study.

Result and Discussion:

The aim of the study is to evaluate the effect of nursing strategies on self-care practices, radiation induced symptoms, and quality of life among patients with gynaecological cancer at selected hospital, Erode. The inference of the results portrays that there is significant difference in level of adherence to perineal care at 2(P=0.01), 4(P=0.03) and 6(P=0.01) months after pelvic irradiation between experimental and control group.

In 2nd month, 4th month and 6th month after pelvic irradiation there is a significant difference in mean interstitial cystitis symptoms among patients with gynaecological cancer between experimental and control group. Among control group, repeated measures

ANOVA F-test shows that mean Interstitial cystitis symptoms were statistically significant between 2nd week and 6th month (F = 303.72, P < 0.001). Although the interstitial cystitis symptoms have been increased at 6 months than 2 weeks after pelvic irradiation among patients with gynaecological cancer belongs to experimental group, the level of interstitial cystitis symptom is very lesser than the patients belong to control group.

With regard to vaginal and sexual dysfunction, there is a significant difference in vaginal and sexual dysfunction in 2 months, 4 months and 6 months (P = 0.001) after pelvic irradiation. Repeated measures analysis of variance shows that there is significant difference in vaginal and sexual dysfunction (**F=364.33 p=0.001*****) among patients with gynaecological cancer belong to experimental group rather among control group, vaginal and sexual dysfunction is not statistically significant.

There is a significant difference in quality of life (P=0.001) in all domains of quality of life at 2 months, 4 months and 6 months after pelvic irradiation among the experimental group. It was confirmed using student independent t-test.

Also the inference shows that there is significant fair positive correlation between Interstitial cystitis symptoms and Quality of life among patients with gynecological cancer belong to experimental group whereas among control group, there is poor correlation between Interstitial cystitis and Quality of life among patients with gynecological cancer after pelvic irradiation.

Accord to correlation between Vaginal & sexual dysfunction and Quality of life among patients with gynecological cancer after pelvic irradiation, there is a significant fair negative correlation between vaginal and sexual dysfunction and quality of life among patients with gynecological cancer belong to experimental group after pelvic irradiation whereas among control group, there is a significant poor negative correlation between vaginal and sexual dysfunction and quality of life.

The result of the present study has proven that nursing strategies on self-care practices, radiation induced symptoms and quality of life are effective in uplifting quality of life among patients with gynaecological cancer.

Conclusion

The result of the study shows that the effect of nursing strategies on self-care practice, quality of life, interstitial cystitis and vaginal and sexual function will be effective in improving quality of life. Henceforth, the oncology nurse who is taking care of patients with gynaecological cancer need to be knowledgeable regarding the physical and emotional side effects that are likely to have an impact on their patients. Through teaching, advocacy and support the oncology nurse assumes an imperative role in helping women to retain their sexuality and the highest quality of life as much as conceivable.

Assessment of Interstitial cystitis symptom on (AfterPelvic Irradiation)	**Group**				**Mean difference**	**Student independent t-test**
	Experimental Group (n=104)		**Control Group (n=104)**			
	Mean	**SD**	**Mean**	**SD**		
2 weeks	1.97	.70	1.90	.86	0.07	t=0.61 P=0.54 (NS)
1 month	2.24	.79	2.34	.92	0.10	t=0.80 P=0.42 (NS)
2 months	2.43	.96	3.23	1.28	0.80	**t=5.08 P=0.001*** (S)**
4 months	2.82	1.59	6.02	1.88	3.20	**t=13.25 P=0.001***(S)**
6months	2.96	1.63	7.52	2.50	4.56	**t=15.55 P=0.001***(S)**

Table 1: Comparison of interstitial cystitis symptom among patients with gynecological cancer between experimental and control group after pelvic irradiation.

Assessment of QOL on (After Pelvic Irradiation)	Experimental Group (n = 104)		Control Group (n = 104)		Mean difference	Student Independent t-test
	Mean score	SD	Mean score	SD		
2 weeks	20.92	2.56	20.71	4.29	0.21	t=0.43 P=0.66(NS)
1month	19.57	2.73	20.23	4.12	-0.66	t=1.37 P=0.17(NS)
2 months	15.41	2.20	20.15	4.13	-4.74	**t=10.33 P=0.001***(S)**
4 months	13.14	2.14	19.98	3.02	-6.84	**t=18.83 P=0.001***(S)**
6 months	12.12	2.24	19.69	3.21	-7.57	**t=19.73 P=0.001***(S)**

Table 2: Comparison of vaginal and sexual dysfunction in 2 Weeks, 1 Months, 2 Months, 4 Months and 6 Months after pelvic irradiation among patients with gynecological cancer belong to experimental and control group.

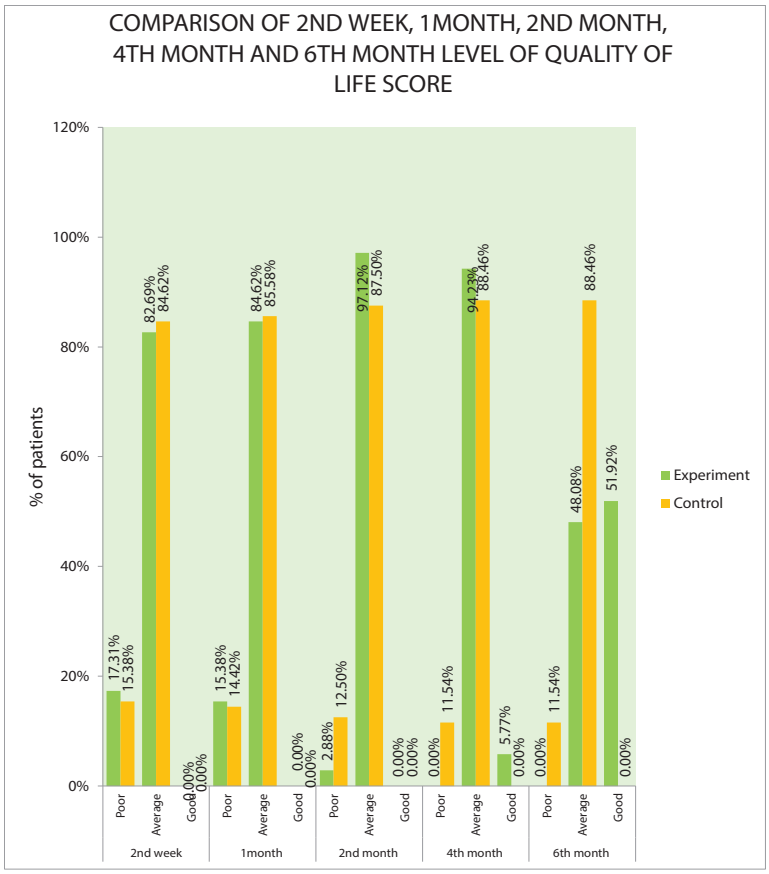


Figure 1: Percentage distribution of quality of life among patients with gynecological cancer belong to experimental and control group.

Assessment of QOL on (After Pelvic Irradiation)	Experimental Group (n=104)		Control Group (n=104)		Mean difference	Student independent t-test
	Mean	SD	Mean	SD		
2nd weeks	226.03	25.67	226.27	24.62	0.24	t=0.07 P=0.95(NS)
1 month	227.11	25.56	226.66	24.26	0.45	t=0.13 P=0.89(NS)
2 months	249.45	18.64	227.87	22.09	21.58	t=7.61 P=0.001***(S)
4 months	281.45	18.64	229.43	22.39	52.02	t=52.01 P=0.001***(S)
6months	308.14	17.46	231.31	22.66	76.83	t=76.83 P=0.001***(S)

Table 3: Comparison of quality of life among the patients with gynecological cancer between experimental and control group after pelvic irradiation.

Variables	After pelvic irradiation		Mean difference ±SD	Karl Pearson Correlation Coefficient
	2 months	6 months		
	Mean±SD	Mean ± SD		
Kegel exercise Score	26.70±2.23	57.72±4.25	↑31.02±3.32	r=0.18 {P=0.05(S)}
Interstitial cystitis symptom	1.97±0.70	2.96±1.63	↑0.99±1.53	

Table 4: Correlation between Kegel exercise and level of Interstitial Cystitis Symptom among patients with gynaecological cancer belong to experimental group after pelvic irradiation.

Conflict of interest: None

Ethical Consideration: None

Acknowledgements: None

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