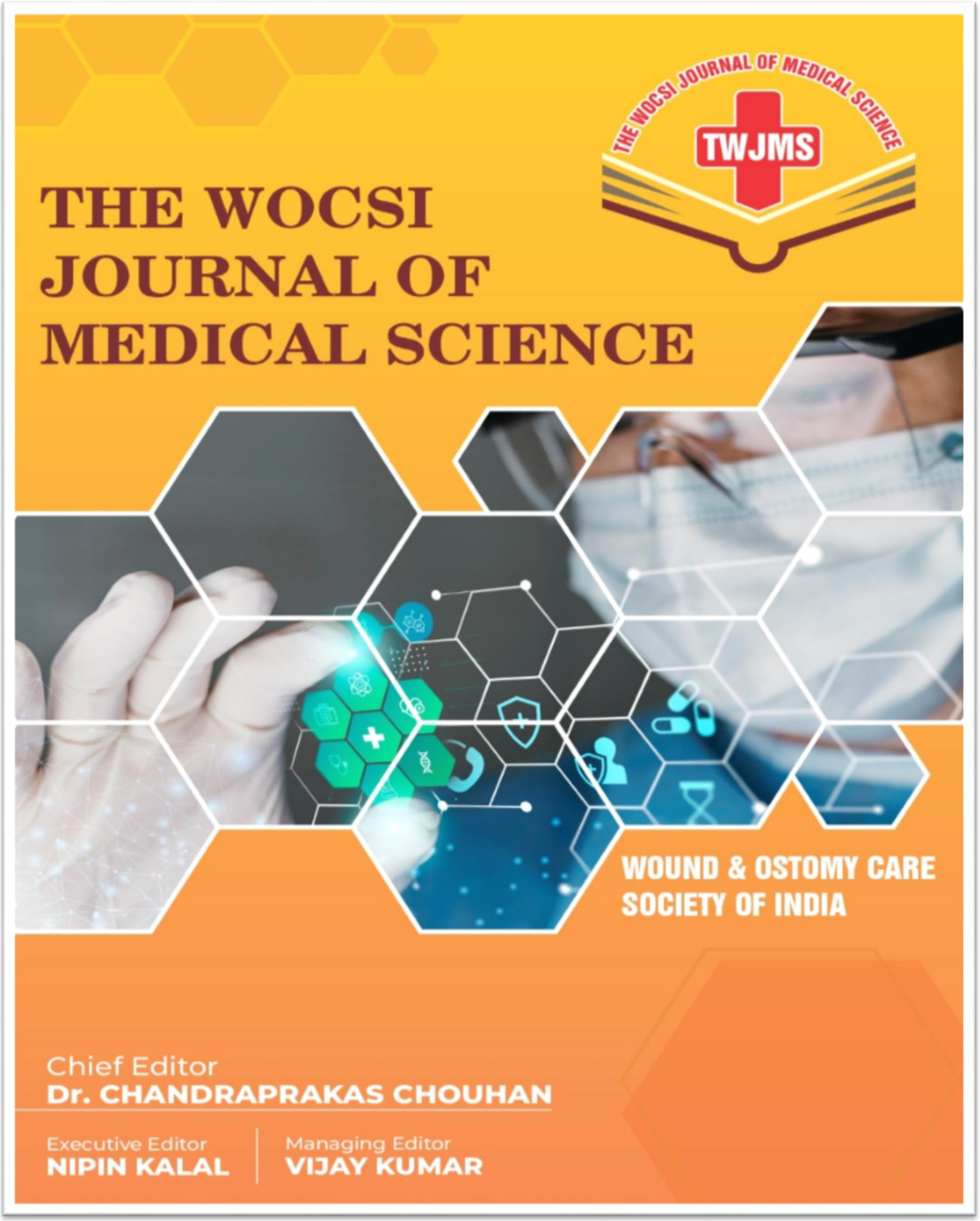
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To Assess The Knowledge Regarding Radiation Dermatitis Among Patient Relatives of Oncology Patients : A Original Article

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Abstract: Aims and objective: The present study aimed to assess the levels of practices towards Radiotherapy induced skin reactions among attendants of cancer patients.

Methodology: In present study, quantitative approach and descriptive research design were found suitable to answer the research question. The sample size was 100 attendants of cancer patients who receiving radiotherapy. The purposive sampling technique was applied for sample selection.

Results: The study highlighted that the majority of attendants (29%) were from 31-40 years. The most of attendants (63%) were male while remaining 37% were female. As per relationship with patient, majority of the attendants (35%) were spouse followed by 32% were children. The findings communicated that out of 100 samples, majority of them (60%) were having average practice followed by 32% have good practices towards radiotherapy induced skin reactions. Only 8% were having below average practice towards radiotherapy induced skin reactions. Additionally educational qualification, previous experience of attendant, attendant working in health care sector and duration of illness of the patient were significantly associated with levels of practice.

Conclusion: The majority of attendants were having average practices. There is need to enhance the existing practices of attendants of cancer patients towards radiotherapy induced skin reactions.

Keywords: Radiotherapy induced skin reactions, Practices, Attendants, Cancer patients

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Introduction

Head and neck cancer is the eighth common type among all cancer types all over the world.[1] The treatment comprises surgery, radiotherapy, chemotherapy or a combination escorted by restoration therapy, and social support.[2] Radiotherapy leads to irreversible loss of the reproductive integrity, the cell cycle necessary for cell growth, apoptosis, and necrosis of cancer cells.[3] Conventional fraction size ranges from 1.8 to 3 Grays (Gy) per fraction over 4–6 weeks.[4] The accumulative dose of radiation for the primary treatment of head and neck cancer treatment is 60–70 Gy, depending on the irradiation of the tumor.[5] Ionizing Radiotherapy is used along with concurrent chemotherapy is the standard treatment in locally advanced head and neck cancers. Radiation treatment is commonly delivered in the form of high energy photons through an external beam. This results in ionization of electrons that cause direct strand breaks of cellular DNA and the release of free radicals, resulting in cellular damage to both normal and tumor cells. [6] A complex, coordinated process that occurs in three overlapping stages: inflammation, proliferation and remodeling . Radiation disrupts the normal process of wound healing at various stages. Pathologic changes include cellular depletion, extracellular matrix changes, and microvascular damage resulting in local tissue hypoxia. [7] Although effective in treating head and neck cancers, irradiation of overlying normal tissues can result in severe complications. Tissues with high-cell turnover, including the skin, are most frequently affected. Radiation dermatitis is the commonest side effect encountered during definitive radiotherapy. Radiation depletes the basal cell layer of skin and initiates a complex sequence of events leading to dose-dependent acute or late sequelae. The incidence and severity of radiation dermatitis depends upon multiple patient and treatment related factors. With the use of megavoltage radiation and implementation of conformal radiotherapy, the incidence of severe radiation dermatitis has reduced significantly. [8] The treatment is associated with radiation dermatitis which causes severe symptoms to the patient, leads to treatment breaks, decreases disease control rates and impairs the quality of life of the patients. We here in describe a case report of locally advanced carcinoma of larynx that developed grade III Radiation Dermatitis while receiving radical chemoradiation.

Table-1: frequency and percentage distribution of sociodemographic variables of the attendants.

N=100

S. No.	Demographic variables		Frequency	Percentage
1.	Age groups	21-30 Years	23	23%
		31-40 Years	29	29%
		41-50 Years	26	26%
		51-60 Years	22	22%
2.	Gender	Male	63	63%
		Female	37	37%
3.	Relationship with	Spouse	35	35%

	patient	Siblings	25	25%
		Children	32	32%
		Others	18	18%
4.	Education	Primary	17	17%
		Secondary	26	26%
		Higher secondary	25	25%
		Graduation	32	32%
5.	Occupation	Government	16	16%
		Private	26	26%
		Self employed	31	31%
		Unemployed	27	27%
6.	Duration of illness of the patient	Less than one year	20	20%
		1-3 years	37	37%
		4-5 years	30	30%
		Above 5 years	13	13%
7.	Patient is sole earner	Yes	46	46
		No	54	54
8.	Previous experience	Yes	32	32%
		No	68	68%
9.	Information availability	Yes	74	74%
		No	26	26%
10.	Source of information	Doctor	30	40.54%
		Health care personnel	28	37.84%
		Health magazine	09	12.16%
		Mass media	7	9.46%
11.	Working in healthcare sector	Yes	16	16%
		No	84	84%
12.	Alternative availability of caretakers	None	18	18%
		1	33	33%
		2	38	38%
		3 or more	11	11%
13.	Alteration in role of attendant	Yes	59	59
		No	41	41

Table-2: Levels of practice towards radiotherapy induced skin reactions among the attendants.

N=100

S. No.	Level of practice	Frequency	Percentage
1.	**Below average practice**	**08**	**08%**
2.	**Average practice**	**60**	**60%**
3.	**Good practice**	**32**	**32%**

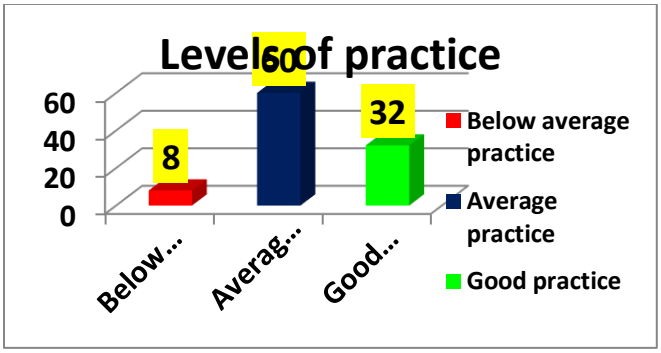

Figure-1: Levels of practice towards radiotherapy induced skin reactions among the attendants.

Table-3: Mean , SD and standard deviation of practice score towards radiotherapy induced skin reactions among the attendants.

N=100

S.No.	Value	Practice score
1.	Mean	9.75
2.	Median	10
3.	Standard Deviation	2.54

Table-4: Association between selected socio-demographic variables and levels of practice among the attendants. **N=100**

Demographic variables		Levels of Practice			Calculated χ^2 value	Significance
		Below average	Average	Good		
Age (in years)	21-30 Years	02	12	09	4.479 df-6	Not significant
	31-40 Years	02	15	12		
	41-50 Years	03	17	06		
	51-60 Years	01	16	05		
Gender	Male	05	41	17	2.072 df-2	Not significant
	Female	03	19	15		
Educational qualification	Primary	02	12	03	20.636 df-6	Significant
	Secondary	03	18	05		
	Hr. secondary	02	19	04		
	Graduation	01	11	20		
Relationship with patient	Spouse	02	22	11	9.141 df-6	Not significant
	Siblings	02	15	08		
	Children	01	19	11		
	Others	03	04	02		
Occupation	Government	01	09	06	3.330 df-6	Not significant
	Private	02	14	10		
	Self employed	02	18	11		
	Unemployed	03	19	05		
Previous experience of attendant	Yes	02	12	18	12.799 df-2	Significant
	No	06	48	14		
Attendant working in health care	Yes	02	05	09	6.606 df-2	Significant
	No	06	55	23		

sector						
Duration of illness of the patient	Less than one year	03	16	01	15.513 df-6	Significant
	1-3 years	02	25	10		
	4-5 years	01	14	15		
	Above five years	02	05	06		

DISCUSSION

The present study aimed to assess the levels of practices towards Radiotherapy induced skin reactions among attendants of cancer patients. The findings communicated that out of 100 samples, majority of them (60%) were having average practice followed by 32% have good practices towards radiotherapy induced skin reactions. Only 8% were having below average practice towards radiotherapy induced skin reactions. Kole AJ et al (2017) revealed that understanding the anticipated onset and timing of symptoms, as well as the appropriate scoring methods for tracking symptom intensity over time, is essential for managing patients with radiation dermatitis.

When possible, therapy recommendations should be based on evidence. In context to our findings, Pareek S et al (2017) conducted a study to identify the knowledge and practices of cancer patients for management of Radiation induced skin reactions. The research communicated that cancer patients have limited knowledge towards radiotherapy induced skin reaction. The findings revealed that age, gender, relationship with patient and occupations were not significantly associated with levels of practice. Additionally educational qualification, previous experience of attendant, attendant working in health care sector and duration of illness of the patient were significantly associated with levels of practice.

CONCLUSION:

The present study aimed to assess the levels of practices towards Radiotherapy induced skin reactions among attendants of cancer patients. Skin reactions can range from a small redness to ulceration. So an effective management is necessary to prevent the skin from hazards of radiation. It is clear that radiation induced skin reactions cannot be avoided but if we take some positive efforts than it can be managed. So we have to provide a meticulous skin care to patient, during and after the radiotherapy to protect the skin from radiation induced skin reactions. There is need to enhance the existing practices of attendants of cancer patients towards radiotherapy induced skin reactions.

LIMITATIONS

The study was conducted among limited sample size. The study was conducted at single setting with a limited duration. In this study, only practices towards radiotherapy induced skin reactions were assessed. The self-expressed practice checklist was developed as no standardized tools were available.

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Interest of conflict: Nil

References

[1] Pai SI, Westra WH. Molecular pathology of head and neck cancer: Implications for diagnosis, prognosis, and treatment. Annu Rev Pathol. 2009;4:49–70.

[2] Baxi SS, Sher DJ, Pfister DG. Value considerations in the treatment of head and neck cancer: Radiation, chemotherapy, and supportive care. Am Soc Clin Oncol Educ Book. 2014;16:e296–303.

[3] Jella KK, Garcia A, McClean B, Byrne HJ, Lyng FM. Cell death pathways in directly irradiated cells and cells exposed to medium from irradiated cells. Int J Radiat Biol. 2013;89:182–90.

[4] Dimri K, Pandey AK, Trehan R, Rai B, Kumar A. Conventional radiotherapy with concurrent weekly cisplatin in locally advanced head and neck cancers of squamous cell origin –A single institution experience. Asian Pac J Cancer Prev. 2013;14:6883–8.

[5] Krstevska V, Crvenkova S. Altered and conventional fractionated radiotherapy in locoregional control and survival of patients with squamous cell carcinoma of the larynx, oropharynx, and hypopharynx. Croat Med J. 2006;47:42–52.

[6] Devalia HL, Mansfield L. Radiotherapy and wound healing. Int Wound J. 2008;5:40e44.

[7] Nehal R. Khanna, Deepak P. Kumar, Sarbani Ghosh Laskar, Siddhartha Laskar, Radiation dermatitis: An overview in Indian Journals of Burns 10.4103/0971-653X.121877.

[8] Simard EP, Torre LA, Jemal A. International trends in head and neck cancer incidence rates: differences by country, sex and anatomic site. Oral oncology. 2014 May 31;50(5):387-403.