

Original Article

Understanding the Multifaceted Challenges Faced by Patients Receiving Radiation Therapy: A Focus on Emotional, Social, and Physical Health Problems

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ABSTRACT

Objectives: Radiation therapy is considered an essential component of cancer management, and approximately 50% of all cancer patients undergo this therapy during their course of treatment. This study aimed to understand the patient-reported experience of emotional, social, and physical health problems during radiation therapy.

Material and Methods: A descriptive survey design was adopted to assess the perceived emotional, social, and physical health problems among patients (n = 82) receiving radiation therapy conducted at a tertiary care hospital in South India. Data were collected using demographic, clinical proforma, and Nottingham health profiles.

Results: The study results showed that an equal percentage (37.8%) of study participants were 31-40 years and 41-50 years old. Most participants were males (62.2%) and married (65.9%). The age of onset of cancer for most (65.9%) participants was between 36 and 45 years (31.7%). Most (45.1%) had stage 2 cancer. About 79.3% didn't have a history of cancer in their family. The patients reported that their present health status, living with cancer and its treatment, affected their work (56.1%), home making (72%), social life (78%), home life (97.6%), sex life (46.3%), interests/hobbies (42.7%), and vacations (13.4%).

Conclusion: This study revealed that patients receiving radiation therapy experience significant emotional, social, and physical health problems, including anxiety, depression, social isolation, fatigue, and pain. These challenges adversely impact their overall quality of life, highlighting the need for comprehensive psychosocial support services to improve well-being during and after the treatment period.

Keywords: Cancer, Challenges, Patients, Health, Radiation therapy

INTRODUCTION

In recent years, remarkable progress has been made toward understanding cancer development, diagnosis, and treatment.^[1,2] Radiation therapy remains an essential element of cancer treatment, and more than half of all cancer patients receive radiation therapy during their course of illness.^[3,4] In recent years, radiotherapy has been considered a vital specialty in cancer management.^[5-7] Complications of radiotherapy are well-known and very common among patients.^[8] Previous research has shown that approximately 50-70% of patients receive radiation therapy and experience emotional and physical health problems during treatment. Many studies have shown that patients will experience side effects, and these vary from patient to patient and depend on the area where the radiation is delivered.^[9,10]

Cancer treatment modalities can have a substantial impact on the physical and emotional health and well-being of patients. The studies have explored patients' pain, emotional status, and overall health during radiation therapy.^[11,12] Another study identified the factors for the development of psychological issues among cancer patients. These factors include diagnosis experience, treatment modalities, treatment burden, and cost of treatment.^[13] Depression and anxiety are the most critical psychological comorbidities that are common among cancer patients. These conditions may lead to severe problems in patients who are receiving radiation therapy.^[14] Current challenges and needs of patients undergoing radiation therapy need to be identified to develop preventive strategies for short and long-term complications related to radiation therapy. Hence, the present study was conducted to identify

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the emotional, social, and physical difficulties experienced by the patients receiving radiation therapy in a South Indian context.

MATERIAL AND METHODS

Study design

This cross-sectional research survey was conducted to identify the perceived emotional, social, and physical health problems experienced by the patients (n=82) receiving radiation therapy at a tertiary care hospital in South India. A purposive sampling technique was used to select the study participants.

Sample selection criteria

Patients aged 30 to 60 years, with any stage of cancer and receiving internal or external radiation therapy, were selected as the study participants. Patients who were mentally disturbed, had impaired consciousness, or were critically ill were excluded from the study.

Sample size estimation

To estimate the anticipated proportion of perceived emotional, physical, and social health problems among patients receiving radiation therapy with a 95% confidence level and 10% marginal error, the sample consisted of 82 patients receiving radiation therapy.

The following formula was used to compute the sample size.

$$n = \frac{Z^2 p(1-p)}{E^2}$$

Z = 1.96, the standard normal score

p = 69% the anticipated prevalence of psychological distress

E = 10%, the margin error

Data collection tools

The data collection tools used for this study were a demographic proforma, a clinical proforma, and the Nottingham Health Profile.

Demographic and clinical proforma

Data were collected using a demographic proforma, which consisted of age, sex, religion, family income, and type of family. The clinical characteristics included the type of cancer, duration of illness, type, duration, and frequency of radiation therapy.

Nottingham health profile

The perceived emotional, physical, and social health problems among patients receiving radiation therapy were identified by

Nottingham Health Profile, which is divided into two sections: Part A & Part B. Part A consists of 38 questions, and Part B has seven life areas affected by the patients. Each question had the 'Yes' or 'No' options. The tool was tested for reliability by the test-retest method and found to be reliable (r=0.8).

Ethical considerations

Approval was obtained from the Scientific Review Board of the institution, and clearance was obtained from the ethics committee (Protocol no YEC-1/2023/264, dated 09th November 2023). Permission was obtained from the institution's authority to conduct the research study, and informed consent was obtained from all the participants.

Statistical analysis

Data were analysed using SPSS software (SPSS Inc., Chicago, IL) version 29.0.10. The p-value <0.05 was considered significant. Frequency and percentage were used to present the descriptive data. Chi-square or Likelihood Ratio test was used to analyse the association between demographic and study variables.

RESULTS

Demographic characteristics

A total of 82 participants were included in the study, with an average age of 43.67 ± 8.3 years. The demographic profile depicted in Table 1 revealed a relatively equal distribution across the 31-40 and 41-50 age groups (37.8% each), while males constituted the majority (62.2%). Regarding cancer characteristics, the most frequent age of cancer onset was 36-45 years (31.7%). Stage 2 cancer was the most prevalent (45.1%), and a significant proportion (79.3%) reported no family history of cancer. Regarding treatment, 45.1% of patients received radiation therapy in the past 3 years [Table 2].

The burden of illness: Patient perspectives

The description of perceived emotional problems experienced by the patients is shown in Table 3. The majority (79.3%) of participants reported that things have been feeling down in their lives. The perceived social problems experienced by the patients revealed that most (72.0%) patients felt burdened by others [Table 4]. The perceived physical problems experienced by the patients showed that the majority (86.6%) reported tiredness all the time and soon ran out of energy [Figure 1]. Most patients reported that the present state of illness affected their family (97.6%) and social (78%) lives [Table 5].

Table 1: Demographic characteristics of study participants

n = 82

Sr. no.	Demographic variables		Frequency (%)
1	Age (Years)	31-40	31 (37.8)
		41-50	31 (37.8)
		51-60	20 (24.4)
2	Sex	Male	51 (62.2)
		Female	31 (37.8)
3	Educational status	Primary	19 (23.2)
		Higher secondary	33 (40.2)
		PUC	16 (19.5)
		Graduate	13 (15.9)
		Post-graduate	01 (01.2)
4	Monthly income (Rupees)	< 10000	17 (20.7)
		10001-25000	43 (52.7)
		25001-75000	20 (24.4)
		> 75001	02 (02.4)
5	Type of family	Joint	38 (46.3)
		Nuclear	44 (53.7)
6	Area of residence	Urban	34 (41.5)
		Rural	48 (58.5)
7	Marital status	Single	12 (14.6)
		Married	54 (65.9)
		Widow/widower	13 (15.9)
		Living separate	03 (03.7)

Table 2: Clinical profile of study participants

(n = 82)

Sr. no.	Clinical characteristics		Frequency (%)
1	Age at onset of cancer (Years)	30-35	25 (30.5)
		36-45	26 (31.7)
		46-55	22 (26.3)
		56-60	09 (11.0)
2	Duration of receiving radiation therapy	< 3 Years	38 (46.3)
		4-6 Years	30 (36.6)
		7-9 Years	12 (14.6)
		> 10 Years	02 (02.4)
3	Stage of cancer	Stage 1	20 (24.4)
		Stage 2	37 (45.1)
		Stage 3	15 (18.3)
		Stage 4	10 (12.2)
4	History of cancer in the family	Yes	17 (20.7)
		No	65 (79.3)

Table 3: Assessment of perceived emotional problems experienced by the patients

(n = 82)

Emotional problems	Yes		No	
	Frequency	%	Frequency	%
Things are getting me down	65	79.3	17	20.7
Forgotten to enjoy	49	59.8	33	40.2
Feeling on edge	36	43.9	46	56.1
The days seem to drag	53	64.6	29	35.4
Lose my temper easily	55	67.1	27	32.9
Losing control	41	50.0	41	50.0
Worry is keeping me awake at night	55	67.1	27	32.9
Life is not worth living	57	69.5	25	30.5
Wake up feeling depressed	56	68.3	26	31.7

Table 4: Assessment of perceived social problems experienced by the patients

(n = 82)

Social problems	Yes		No	
	Frequency	%	Frequency	%
Feeling lonely	32	39.0	50	61.0
Finding it hard to make contact with people	42	51.2	40	48.8
Feel a burden on other people	59	72.0	23	28.0
Feel there is nobody that I am close to	49	59.8	33	40.2
I find it hard to get along with people	58	70.7	24	29.3

Table 5: Description of the present state of health causing problems among patients

(n = 82)

The present state of health is causing problems with:	Yes		No	
	N	%	n	%
Work	46	56.1	36	43.9
Looking after the home	59	72.0	23	28.0
Social life	64	78.0	18	22.0
Home life	80	97.6	2	2.40
Sex life	38	46.3	44	53.7
Interests and hobbies	35	42.7	47	57.3
Vacations	11	13.4	71	86.6

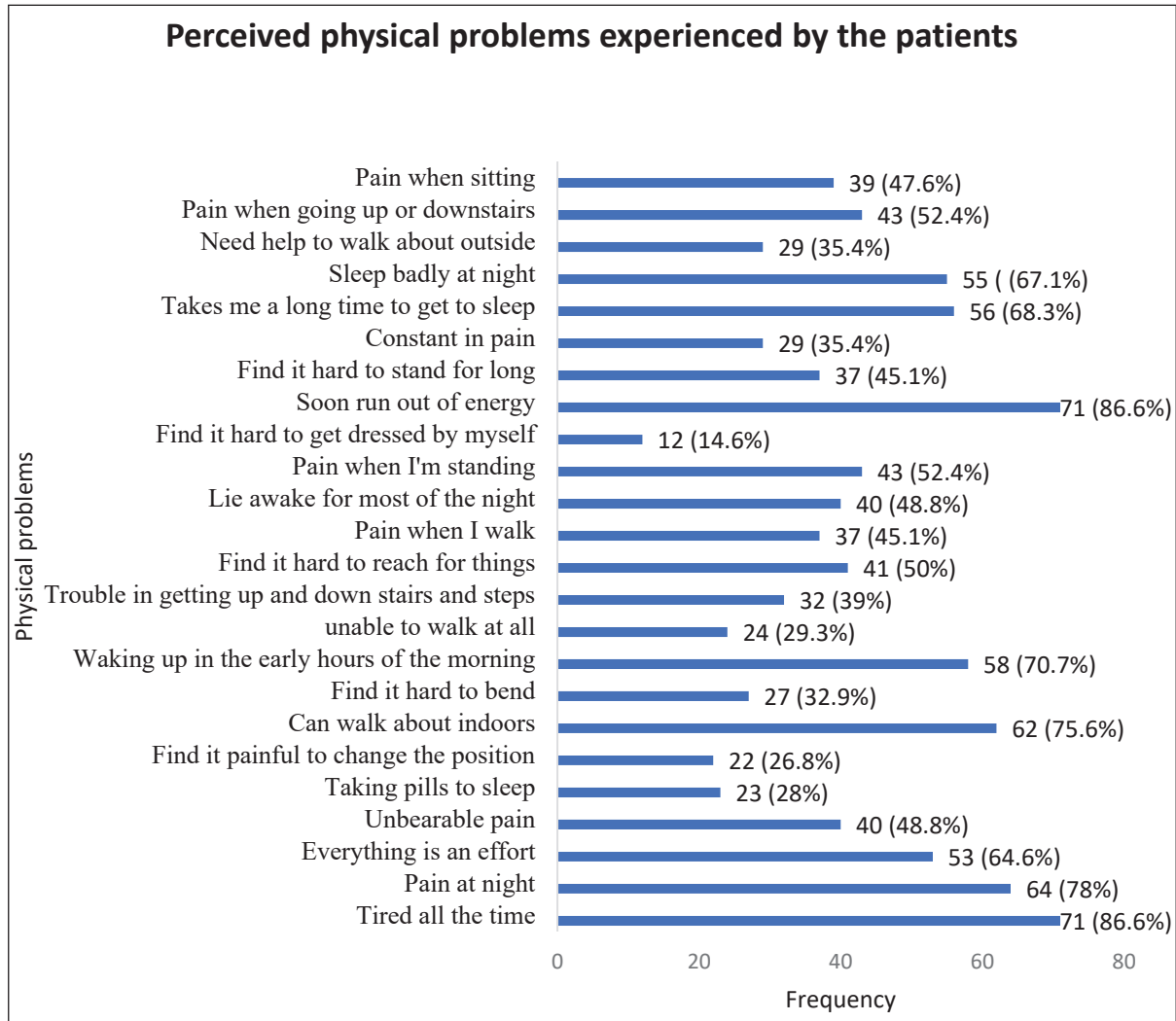


Figure 1: Assessment of physical problems experienced by the patients.

Influence of demographics on perceived challenges

Chi-square or likelihood ratio tests were employed to examine the association between study variables (emotional, social, and physical problems) and demographic characteristics (age and educational status). Emotional issues were significantly associated with age and educational status ($p < 0.05$). Similarly, social issues were significantly related to the age of the patients ($p < 0.05$), and physical problems were also significantly associated with both age and educational status ($p < 0.05$).

Clinical predictors of emotional, social, and physical problems

The emotional problems were associated with clinical characteristics such as age at onset of cancer, duration of receiving radiation therapy, as well as stage of cancer ($p <$

0.05). The social problems were associated with the age at onset of cancer, as well as the stage of cancer ($p < 0.05$). The physical issues were associated with the age at onset of cancer, duration of receiving radiation therapy, and stage of cancer ($p < 0.05$).

DISCUSSION

This study on the South Indian population explored several aspects of health problems, such as physical, emotional, and social, as experienced by patients undergoing radiation therapy. Similar results were reported by studies that studied patients with head and neck cancer, reporting health issues due to chronic pain that had a significant impact on their treatment, well-being, and recovery.^[15] In the present study, the mean age of study participants was 43.67 ± 8.3 years. The demographic profile of participants showed that an equal proportion (37.8%) of study participants belonged to the age groups of

31-40 years and 41-50 years, and the majority (62.2%) were males. In another study, participants under 55 years reported almost all physical symptoms.^[16] In the present study, most patients had a low socioeconomic status. A study reported that participants with low income experienced significant issues with their health and signs of financial distress.^[17]

Participants reported feeling tired and running out of energy. Similarly, another study reported that many cancer survivors identify fatigue as one of the most frequent and distressing cancer-related symptoms.^[18] Fatigue can be a distressing symptom for every patient, interfering with daily life. Most of the study participants revealed that they felt burdened by other people. These patients thought they were causing inconvenience or additional work for others around them. A previous study reported that physical and psychological disturbances can lead to substantial social problems, such as the inability to work and accept social roles.^[19]

In the present study, most participants reported that things are getting them down in life. These patients are experiencing a significant amount of negativity, stress, or challenges in their lives that are affecting their overall well-being, leading to feelings of sadness, frustration, or hopelessness. A previous research study reported higher levels of psychological distress among the patients, such as uncertainty about the future, concerns about cancer spreading to other parts of the body, feelings of sadness, and fear about death and dying.^[20] It reported that the challenges faced by cancer patients can vary significantly across different cultural contexts.^[20]

This study is limited to a smaller sample size. Hence, it is recommended that extensive sample studies be conducted in different settings, comparing the various types of cancer patients and stages of cancer. Interventional studies can be performed to evaluate the effectiveness of evidence-based nursing interventions on patients' physical, social, spiritual, and emotional problems. Multidimensional approaches, including physical, psychological, spiritual, and social factors and individualised interventions to address these issues, are also needed to improve cancer patients' QoL.^[21,22] Future studies can be aimed at understanding the need for collaboration with interdisciplinary healthcare teams to help patients face the challenge of managing health problems. Further research could explore specific interventions to mitigate these challenges and improve quality of life. These studies can help to design effective protocols in hospitals and healthcare settings.

CONCLUSION

The present study findings showed that most patients undergoing radiation therapy reported emotional distress, felt like a burden to others, and were consistently tired all the

time. The patients reported that the present state of illness demonstrated a negative impact on their home and social lives. The findings of the study underscore the importance of addressing patients' holistic well-being during radiation therapy.

Ethical approval: The research/study approved by the Institutional Review Board at Yenepoya Ethics Committee 1, number YEC-1/2023/264, dated 9th November 2023.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent.

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