Research Article

EFFECTIVENESS OF PSYCHOEDUCATIONAL INTERVENTION TO IMPROVE THE QUALITY OF LIFE OF CANCER PATIENTS

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A R T I C L E   I N F O

A B S T R A C T

Introduction: Cancer is a major public health problem worldwide and it acts as a negative stressor threatening lives, exerting serious impact on the patients' physical and mental health and it affects the quality of life of the individual. **Objective:** The study was undertaken with the objective to assess the effectiveness of psychoeducational intervention to improve the quality of life of cancer patients. **Material and Method:** Randomized control trial was undertaken for the patients with head and neck cancer undergoing radiotherapy treatment. Post test only control group design was adopted and 50 patients were randomized into the intervention group (n = 25) and the control group (n = 25). In addition to routine radiotherapy, patients in the intervention group received a purposely designed weekly psychoeducational intervention for 5 weeks i.e. once a week for one hour session, whereas those in the control group underwent radiotherapy only. Quality of life of the patients was assessed using the standardized questionnaire "European Organization for the Research and Treatment of Cancer (EORTC) QLQ-C30." **Results and conclusion:** In the functional scale of quality of life, the emotional functioning ($p=<0.0001$) and social functioning ($p=0.004$) were significantly higher in the intervention group compared with those in the control group which represents a high / healthy level of functioning in that area. In the Symptom scales/ items, financial difficulties ($p=<0.0001$) was more in the control group than the intervention group. The overall quality of life scores in all the other areas also were significantly improved in patients who received the psychoeducational intervention compared with those in the control group.

INTRODUCTION

Cancer is a major public health problem worldwide, and the burden caused by cancer continues to increase. [1] Cancer is one of the major causes of morbidity and mortality around the world. It is the second leading cause of death after cardiovascular diseases (CVDs). [2]

About one in six deaths is due to cancer [3] and as per the latest GLOBOCAN 2018 data, the global cancer burden is estimated to have risen to 18.1 million new cases and 9.6 million deaths in 2018. [4] India is also experiencing a simultaneous increase in cancer cases with increased detection and advances in cancer care. In India, in 2018 over 1.1 million new cancer patients were registered and 0.78 million people died of cancer. [5] The age-standardized mortality rate due to cancer

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for women and men is 90 and 65.8, respectively, per lakh population in India. [6]

North East states of India have the highest number of cancer incidence as compared to other parts of the country. [7] Of 10 high incidence regions in India, 7 in male and 4 in female are observed from North East states namely Aizawl, Papum Pare district, East Khasi Hills, Mizoram state, Kamrup Urban districts and Meghalaya. [8]

Cancer acts as a negative stressor threatening lives, exerting serious impact on the patients' physical and mental health and it affects the quality of life of the individual. Patients diagnosed with cancer have many needs with regard to relief from physical and psychosocial distress and to improve their quality of life. Some of the most important needs concern the possibility to be cured or to have their life prolonged, the control of symptoms and a stress free living which can be achieved through a proper and well designed psycho educational support.

Psycho education refers to a treatment modality that provides information for self-management within a supportive social context and embeds both education and psychological care into routine care. [9-11] Psychoeducational group intervention has been recently shown to be very effective for reducing the psychological distress and enhancing the coping ability of the cancer patients and thereby improving the patients' quality of life.

Psycho education including the health education regarding cancer and psychological support to the patients for the emotional wellbeing is a group intervention which is beneficial for cancer survivors, especially by providing information about the disease and treatments, which is assumed to be sufficient to overcome their difficulties. [12] The need for psychosocial support is an important aspect in the treatment of cancer patients undergoing radiotherapy (RT), which appeared to be powerfully predicted by the patients' health-related QoL. [13]
The goal of this study was to adapt a randomized control design to investigate whether psycho educational intervention during RT could make the patient strong to cope with the disease and treatment and thereby improving the patients' quality of life. During the course of cancer treatment, about two-thirds of patients undergo radiation therapy as an essential component of a treatment program aimed at curing the disease, prolonging life or palliating symptoms. [14]

The researcher, being in nursing profession, felt the need to evaluate the effectiveness of psycho educational intervention for improving the quality of life of head and neck cancer patients undergoing radiotherapy. For this purpose, this experimental study has been undertaken. The study results may be employed in the nursing practice so as to help the patients in improving the physical health with managing the side effects and improving the health condition and keeping the mental health strong with less stress and anxiety to cope with the disease and treatment effectively.

Although this type of studies have been carried out in other countries and also very few in India, but no studies have been reported to conduct in this region, where the incidence of cancer and mortality is very high due to lack of knowledge regarding prevention, detection and treatment of the disease and increasing mental strength for fighting with the disease condition. Therefore, the investigators have undertaken this study with the aim to evaluate the effectiveness of psycho educational intervention to improve the quality of life of cancer patients undergoing radiotherapy. This study also will give an evidence based measure to implement psychoeducational intervention in the hospital setting to improve the cancer patients' physical as well as mental health and give them a better life of living.

MATERIAL AND METHODS

Study design

The study was designed as post test only control group design. After the intervention time period of 5 weeks, post test was done for both the groups (on the last day of intervention).

Participants and setting

All the head and neck cancer patients coming for radiotherapy treatment (both men and women) were the study population. Head and neck radiotherapy patients are used in the study as

they are continuously available for more days (usually 7 weeks) for their treatment purpose.

50 adult patients with head and neck cancer of all stages undergoing radiotherapy treatment were selected from the population via purposive sampling technique and were randomly assigned into the intervention group (n = 25) and the control group (n = 25) using odd and even numbers. Inclusion criteria for the sample were: a) Patients who are willing to participate in the study, b) have the awareness of the diagnosis of cancer and c) an ability to understand the local language. The exclusion criteria were patients with a) distant metastasis, b) serious other health problems or disease including cardio vascular disease, tuberculosis, diabetes mellitus, liver disease and kidney disease and c) severe mental or cognitive disorders (e.g. uncontrolled schizophrenia, dementia and delirium).

Participants who received the intervention were compared with the control group who received radiotherapy treatment only. Assessing quality of life of the cancer patients was the primary out come and to compare the quality of life between intervention and control group was the secondary outcome.

Intervention

In addition to routine radiotherapy, patients in the intervention group received a purposely designed psycho educational intervention where the members (25 no.s) were made 5 groups of 5 members each and each group received 5 weeks of intervention i.e. once a week for one hour session along with the usual care and the control group received only the usual care.

In the present study it was planned to increase patients' emotional ability to cope with their disease and to improve their knowledge about disease and therapy. Psycho educational intervention in the present study consists of following 4 components:

- Information about the illness,
- Health education to manage the side-effects and problems
- Nutritional guidance and
- Psychological support including
  1. Problem-solving and
  2. Group discussion

Tool for data collection:

Demographic proforma including gender, education, occupation, marietal status, community and income (per month) was used for colleting the demographic information from the sample.

Quality of life assessment

The quality of life (QoL) of the patients was assessed using the European Organization for the Research and Treatment of Cancer (EORTC) QLQ-C30. The QLQ-C30 is a 30 item, self reported questionnaire covering Global Health Status, functional aspects (physical functioning, role functioning, emotional functioning, cognitive functioning and social functioning) and symptom-related aspects (fatigue, nausea and vomiting, pain, dyspnea, insomnia, appetite loss, constipation, diarrhea and financial difficulties) of QoL in cancer patients. A high functional score represents a high QoL. A high symptom score indicates a strong symptom. The reliability of the tool EORTC QLQ-C30 have been analyzed using Cronbach's Alfa

and it was found to be 0.79 which means that the tool is reliable for the use in local language.

Procedures

The study was approved by the Institutional Ethics Committee (Ref. No.: Misc-01/MEC/233/2020). All participants were provided written informed consent prior to enrolment. The objectives of the study have been explained to the sample and their consent has been taken and they have been assured of confidentiality of the data obtained.

Statistical analyses

All analyses were conducted using IBM SPSS version 21. Descriptive statistics were used to describe the sample characteristics. 't' test was used depending on fulfillment of normality assumption and ANOVA was used to compare more than two groups for continuous data. A P value less than 0.05 is considered as statistically significant at 5% level of significance.

For assessing the quality of life, linear transformation scale was used. All of the scales and single-item measures range in score from 0 to 100. A higher score represents a higher ("better") level of functioning, or a higher ("worse") level of symptoms.

RESULTS

Table 1 shows the sample characteristics of the intervention group and the control group. In distribution of sample according to their gender, 60% of all participants were men in the intervention group compared to 56% in the control group. Majority of the patients were educated up-to only primary level. In the intervention group it is observed that 84% patients were educated up-to primary level whereas in the control group 80% patients studied up to primary level. In relation to occupation, in the intervention group majority 40% and in the control group majority 36% were house wife. According to marital status, in the intervention group majority 88% whereas in the control group majority 92% were married. In relation to community, in the intervention group majority 88% and in the control group majority 84% were from rural community. In relation to income (per month), 68% the intervention group and 60% in the control group were with less than 20,000 per month.

Table 1 Sample characteristics of the intervention group and the control group

Sample characteristics		Intervention group		Control group	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Gender	Men	15	60%	14	56%
	Women	10	40%	11	44%
Education	Primary schooling	21	84%	20	80%
	High school and above	4	16%	5	20%
Occupation	House wife	10	40%	9	36%
	Farmer	6	24%	5	20%
	Business	4	16%	4	16%
	Unemployed	1	4%	1	4%
	Job	4	16%	6	24%
Marital status	Married	22	88%	23	92%
	Unmarried	2	8%	1	4%
	Married but single	1	4%	1	4%
Community	Rural	22	88%	21	84%
	Urban	3	12%	4	16%
Income (per month)	20,000	17	68%	15	60%
	20,000	8	32%	10	40%

The table 2 shows that the mean Global Health Status is observed as higher among intervention group (58.33±9.62) as compared to control group (56.33±12.79), $p=0.535$. In the functional scale of quality of life, the emotional functioning was significantly higher in the intervention group (76.67±10.49) than the control group (41.33±21.04), $p=<0.0001$. The social functioning (60.67±29.22) was significantly higher in the intervention group compared with those in the control group (38±24.31), $p=0.004$ which represents a high / healthy level of functioning in that area. The financial difficulties in the symptom scale was significantly more in the control group (74.67±22.11) than the intervention group (45.33±31.74), $p=<0.0001$ which represents that the intervention group got benefit with the intervention in financial areas. Other items scores on the EORTC QOL instrument in the intervention group indicated a trend towards improvement in comparison with the control arm. The overall quality of life scores in all the 3 broad areas were significantly improved in patients who received the psychoeducational intervention compared with the control group.

Table 2 Quality of life of both control and intervention group using linear transformation scale

Sub scales	Intervention group Mean ± SD	Control group Mean ± SD	P value
Global Health Status	58.33±9.62	56.33±12.79	0.535
Functional scale			
Physical functioning	41.33±19.44	41.6±18.08	0.960
Role functioning	48±29.78	42±23.13	0.430
Emotional functioning	76.67±10.49	41.33±21.04	<0.0001
Cognitive functioning	41.33±23.63	39.33±24	0.768
Social functioning	60.67±29.22	38±24.31	0.004
Symptom scales/ items			
Fatigue	64±19.85	62.67±16.32	0.796
Nausea and vomiting	19.33±32.16	18.67±27.35	0.937
Pain	70±19.84	60±18	0.068
Dyspnea	24±20.46	30.67±27.08	0.331
Insomnia	64±27.08	60±36	0.659
Appetite loss	65.33±20.37	58.67±32.32	0.387
Constipation	26.67±67.36	56±41.63	0.070
Diarrhea	5.33±18.46	16±33.5	0.170
Financial difficulties	45.33±31.74	74.67±22.11	<0.0001

While assessing the association between the quality of life of cancer patients with their demographic variables, for gender, emotional functioning is strongly associated with both men and women group where p is less than 0.001. Financial difficulties associated with both men ($p=0.004$) and women ($p=0.054$) gender, Social functioning ($p=0.014$), and pain ($p=0.042$) are associated with women.

For association with community, in urban community (n=7), significant association was found in the Physical functioning ($p=0.034$), Emotional functioning ($p=0.004$) Nausea and vomiting ($p=0.059$) and in rural community (n=43), significant association was found in the Emotional functioning ($p=0.000$), Social functioning ($p=0.004$) and financial difficulties ($p=0.002$). In the other demographic variables no significant association was found.

DISCUSSION

In the present study, we investigators aimed to evaluate the benefits of psycho educational interventions for patients with cancer. These interventions were never previously investigated in this region, and this study acts as a source of evidence of their benefits for improving patient's psychological well-being, quality of life and treatment compliance. It is known that individual or group psychological interventions can

facilitate the patient's adaptation to cancer, alleviating the possible associated side effects and consequences. [15] The present study also demonstrated that 5 weeks of psycho educational programme can improve the patients quality of life. Previous one research suggested that psycho education had a positive effect on patients' quality of life where the intervention group reported improved QoL at three months and continued maintenance of QoL at six months, whereas the wait control group reported a significant decline in QoL. [16] In a similar type of study the psychological, physical, and social function, and the overall QoL scores were significantly improved in patients who received the psycho educational intervention compared with those in the control group. [17]

In the present study it is seen that the intervention group has received vast benefits in the area of emotional functioning, social functioning and financial status. The study also showed little improvement in intervention group in the area of global health status. The other studies have shown similar type of results like psychological, physical, and social function, and the overall QoL scores were significantly improved in patients who received the psychoeducational intervention. [18,19]

Whereas in a similar type of study the depressive symptoms, social support or quality of life, no significant changes over time or differences were seen between the intervention and control group. [20,21]

For the present study, some improvements are seen in intervention group in some other areas of functional scale like role functioning, cognitive functioning and social functioning. In the symptom scale including improvement in financial status the intervention group has showed improvement in the areas of dyspnea, constipation and diarrhea. The other areas like fatigue, nausea and vomiting, pain, insomnia and appetite loss no improvement has been seen in the intervention group.

In a study, psychoeducation improved the psychological distress of patients and their adjustment to cancer. Consequently, overall better health status and quality of life were found at 2 weeks after the conclusion of chemotherapy. [22] This finding is consistent with previous studies indicating that psychoeducation and consultation indeed lower the incidence of complications and the severity of side effects, thus improving quality of life and decreasing the psychological-symptom-related difficulties of patients with cancer. [23]

Psychoeducational intervention program is a very effective psychosocial intervention for the cancer patients for coping, stress reduction, better adjustment and improving overall quality of life. It shows improvements in self-efficacy and leads to positive effects on cancer survivors. These interventions can positively affect the patients' physical and psychological state and thereby affect the overall health status.

CONCLUSION

Optimal care of the patient with cancer incorporates effective physical and psychological care. All members of the treatment team may also play a role in strengthening the patient's own resources by providing additional emotional, informational and practical assistance and appropriately fostering a sense of hope or optimism and improve the patients' Quality of Life (QoL).

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