

Effectiveness of Nutritional Supplement Therapy and Ambulation on the Level of Fatigue and Physical Activity of Hospitalized Cancer Patients Undergoing Radiation Therapy in a Selected Private Hospital at Neyyor

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Abstract

Aim: The aim of the study was to assess whether nutritional supplement therapy and ambulation made any difference in the severity of fatigue, and level of physical activity of cancer patients receive radiation therapy compared to those who did not receive the nutritional supplement therapy and ambulation. **Introduction:** Radiation therapy is well established and effective method of treating malignant disease. The patients receiving radiation therapy were suffering from ill effects of cancer as well as the side effects of radiation therapy. They confined to bed and did not show any interest in surroundings and meeting their personal needs. Physical inactivity brings more fatigue as a result it affects nutritional intake. Maintaining optimal nutrition during cancer treatment is essential to enhance the effectiveness of treatment. **Methods & materials:** The sample consisted of 60 hospitalized cancer patients of a private hospital receiving radiation therapy (30 samples in experimental group and 30 in control group), selected by non probability purposive sampling method. The experimental group was served with porridge (150 ml) three times a day (morning 8.00am, forenoon 11.30am, and evening 5.00pm) followed by walking in the hospital premises for 15–20 minutes, every day for 30 days in the presence of investigator. Pre and post intervention assessment of fatigue was done using a modified brief fatigue inventory scale by interview method and data on level of physical activity was collected, using an observation schedule. **Results:** Before the intervention, majority of the samples 28 (93.30%) in the experimental group experienced moderate level of fatigue. After the intervention, the

number of samples reduced to mild level of fatigue was 7 (23.30%) and for 23 (76.70%) samples remained the same and also, the mean fatigue score reduced from 51.93 to 38.63. In the baseline observation, majority 23 (76.70%) in the control group had moderate fatigue. On subsequent observation, 3 (10.00%) sample's fatigue level was increased to severe. In the experimental group before the intervention 23 (76.70%) samples had poor and 7 (23.30%) samples had moderate physical activity and no one with good physical activity. After the intervention, 9 (30.00%) samples showed good physical activities. In the experimental group, before the intervention the mean score of physical activity was 05.16. After the intervention the mean score of physical activity improved to 12.30. There was a significant association between age, education, occupation, frequency of taking health drink and level of fatigue shown by the cancer patients, ($t=20.49^*$; $p<0.05$; $d f=2$). **Conclusion:** Nutritional supplement therapy and ambulation had a significant effect in reducing the severity of fatigue and improving the performance of physical activity among the hospitalized cancer patients receiving radiation therapy.

Keywords: Nutritional Supplement Therapy; Ambulation; Fatigue; Physical Activity; Radiation therapy.

Introduction

Radiation therapy is well established and effective method of treating malignant disease. The patients receiving radiation therapy were suffering from ill effects of cancer as well as the side effects of radiation therapy. They confined to bed and did not show any

interest in surroundings and meeting their personal needs. Physical inactivity brings more fatigue as a result it affects nutritional intake. Maintaining optimal nutrition during cancer treatment is essential to enhance the effectiveness of treatment.

Statement of the problem

A study to assess the effect of nutritional supplement therapy and ambulation on the level of fatigue and physical activity of hospitalized cancer patients undergoing radiation therapy in a selected private hospital at Neyyor.

Aim

The aim of the study was to determine whether the nutritional supplement and ambulation made any difference in the level of fatigue and physical activity of cancer patients receiving radiation therapy compared to patients not receiving nutritional supplement and ambulation.

Objectives of the study

- To assess and compare the level of fatigue among control and experimental group before and after the intervention.
- To assess and compare the level of physical activity of control and experimental group before and after the intervention.
- To determine the association between the demographic variables and the level of fatigue.

Hypotheses

- **H₁**–There will be a significant difference between the mean fatigue score of experimental group and control group after intervention.
- **H₂**–There will be a significant difference between the mean score of physical activity of experimental group and control group after intervention.
- **H₃**–There will be a significant correlation between level of fatigue and level of physical activity.

Conceptual frame work

The conceptual framework used in this study is based on Titter et al (2004) effective model. In this

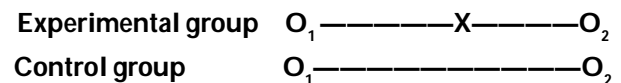
study the two categories of independent variables are patient's characteristics such as age, occupation, educational status, monthly income, and ability to cope up with side effects of radiation therapy like fatigue. The intervening variables: nutritional supplement and ambulation provided by investigator and benefits of these interventions by assessing the fatigue level and physical activity level. Effectiveness: indicates the benefits of nutritional supplement and ambulation on patient with fatigue and poor physical activity.

Research Methodology

An evaluative approach was used in this study. The study was conducted in a selected private Multi Specialty Hospital. The sample consisted of 60 hospitalized cancer patients of a private hospital receiving radiation therapy (30 samples in experimental group and 30 in control group), selected by non probability purposive sampling method. The independent variables included in the study were, nutritional supplement therapy and ambulation. The dependent variables were the level of fatigue and the level of physical activity. The experimental group was served with porridge (150 ml) three times a day (morning 8.00am, forenoon 11.30am, and evening 5.00pm) followed by walking in the hospital premises for 15–20 minutes, every day for 30 days in the presence of investigator. Pre and post intervention assessment of fatigue was done using a modified brief fatigue inventory scale by interview method and data on level of physical activity was collected, using an observation schedule.

Research Design

A quasi-experimental pre-test and post-test non-equivalent control group design was used



O₁ = Assessment of level of fatigue and level of physical activity of experimental and control group before intervention.

O₂ = Assessment of level of fatigue and level of physical activity of experimental after 25 days of intervention and control group without intervention.

X= Nutritional supplement therapy and ambulation for experimental group. (Nutritional supplement in the form of porridge (150ml) three times a day (morning 8.00 am, forenoon 11.30 am and

evening 5.00 pm), followed by walking in the hospital premises for 15–20 minutes.

Data collection method

The samples were taken in dressing room one by one and provided comfortable position and privacy was maintained. Some patients were preferred to sit and some were preferred to lie down while collecting the data. The level of fatigue was assessed with modified brief fatigue inventory and interview schedule. The level of physical activity was checked by using the observation schedule. The porridge was provided to the patients in experimental group three times a day (morning 8.00 am, forenoon 11.30 am and also evening 5.00 pm) by the researcher. After 30

minutes of consumption of porridge, the patients in the experimental group were asked to walk around the hospital premises. First, helped the patient to get up from the bed and helped them to sit in a bed for some time, and assisted the patient to walk for some distance. No intervention was provided to control group. In both groups, after 25 days the investigator conducted the post test by using the same tool. The reliability of the tool was checked by Karl Pearson (0.8) and inter-rater (0.9) method respectively.

Data analysis and interpretation

The data obtained was analyzed using descriptive and inferential statistics.

Fig.1: Mean fatigue score percentage of experimental and control group before and after intervention.

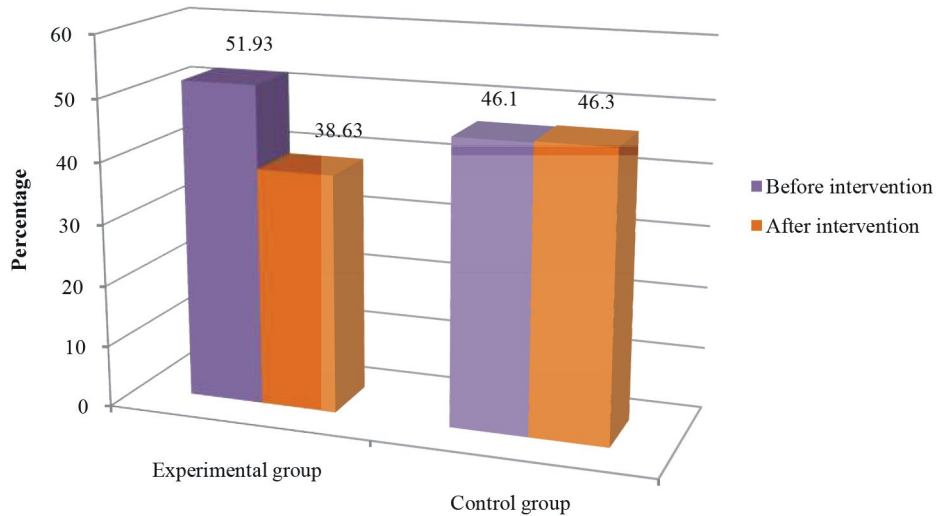


Fig. 2: Percentage of samples in experimental and control group according to level of physical activity before and after intervention.

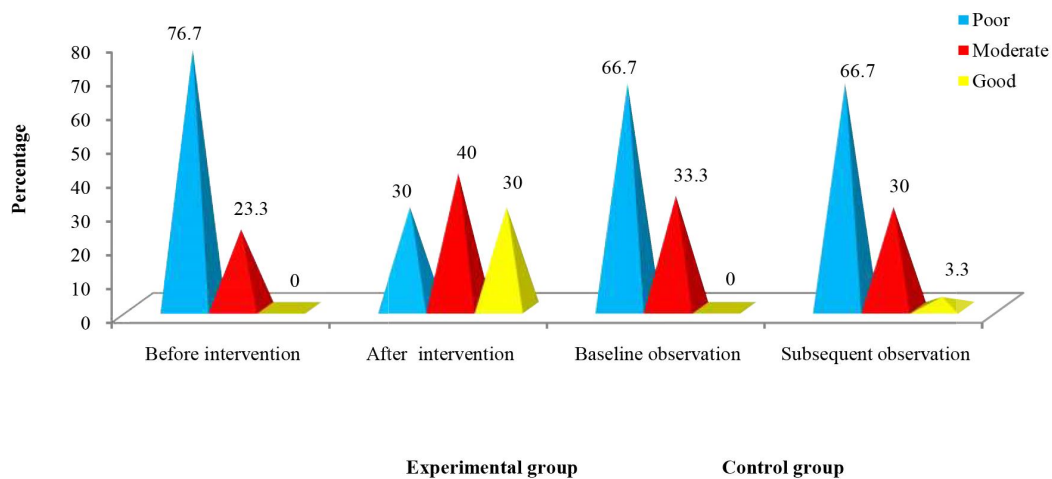


Table 1: Correlation between fatigue and physical activity of experimental group, before and after intervention. N=30

Intervention	Fatigue		Physical Activity		'r' value	Paired 't' value P<0.05 df=29
	Mean score	M.S%	Mean score	M.S%		
Before intervention	51.93	51.93	05.16	21.50	-00.61	03.96*
After intervention	38.63	38.63	12.30	51.25	-00.64	04.10*

Table 2: Correlation between fatigue and physical activity of control group, at baseline and subsequent observation. N=30

Observation	Fatigue		Physical Activity		'r' value	Paired 't' value P<0.05 df=29
	Mean score	M.S%	Mean score	M.S%		
Base line observation	46.10	46.10	05.26	21.91	-00.91	08.90*
Subsequent observation	55.00	55.00	05.86	24.41	-00.89	05.35*

Interpretation

Before the intervention, majority of the samples 28 (93.30%) in the experimental group experienced moderate level of fatigue. After the intervention, the number of samples reduced to mild level of fatigue was 7 (23.30%) and for 23 (76.70%) samples remained the same and also, the mean fatigue score reduced from 51.93 to 38.63. In the baseline observation, majority 23 (76.70%) in the control group had moderate fatigue. On subsequent observation, 3 (10.00%) sample's fatigue level was increased to severe. In the experimental group before the intervention 23 (76.70%) samples had poor and 7 (23.30%) samples had moderate physical activity and no one with good physical activity. After the intervention, 9 (30.00%) samples showed good physical activities. In the experimental group, before the intervention the mean score of physical activity was 05.16. After the intervention the mean score of physical activity improved to 12.30. There was a significant association between age, education, occupation, frequency of taking health drink and level of fatigue showed by the cancer patients, ($\chi^2=20.49^*$; $p < 0.05$; $df=2$).

Conclusion

Nutritional supplement therapy and ambulation had a significant effect in reducing the severity of

fatigue and improving the performance of physical activity among the hospitalized cancer patients receiving radiation therapy.

Implications

1. Nutritional supplement and ambulation are cost-effective. So it can be implemented in nursing practice in all the settings.
2. The importance of nutritional supplement and ambulation during the radiation therapy period can be taught to the nursing students and graduate nurses and this can be incorporated in the care of cancer patients.
3. The nursing administrators can arrange in service, education, regarding nutrition supplement therapy and ambulation during radiation therapy to the nursing personnel.

Recommendations

1. The study can be replicated on a larger sample for generalization of the findings.
2. The study can be conducted in different settings for different populations.
3. A study can be conducted to find out the effectiveness of self instructional learning through media.
4. A comparative study can be conducted with males and females.

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