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A study to assess the effectiveness of Indian ginger tea in management of chemotherapy-induced nausea and vomiting among cancer patients in a selected cancer hospital at Guntur, Andhra Pradesh".

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ABSTRACT

Chemotherapy is considered as an effective treatment and therapeutic option for certain cancers. Nausea and vomiting remain as the most common adverse effects by chemotherapy in spite of the administration of antiemetic. Various alternative, adjuvant and complementary therapies are widely used to prevent the side effects of chemotherapy. This study aimed to evaluate the effectiveness of Indian ginger tea in management of chemotherapy induced nausea and vomiting among cancer patients. A true experimental pre-test post-test control group design was adopted in this study. Sixty women were selected through simple random sampling technique (30 experimental and 30 control group of cancer patients). The data were collected before and after ingestion of Indian ginger tea by using Structured MASCC (Multinational Association for Supportive Care in Cancer) antiemesis tool (mat) for measuring chemotherapy induced nausea and vomiting. The major findings of the study revealed that the mean pre - test score of chemotherapy induced nausea and vomiting was 45.17 with SD of 16.09 and it decreased to 27.33 with SD of 13.83 in the post test. It can be interpreted that decrease in the post test scores than the pre - test chemotherapy induced nausea and vomiting scores. Where as in the control group the mean pre-test 38.83 with SD of 16.64 and it was slightly decreased to 36.93 with SD of 14.94 in the post test. The paired 't' test was computed to find the effectiveness of Indian ginger tea in management of chemotherapy induced nausea and vomiting among cancer patients. The calculated value of 't' was 12.57 which was greater than the tabulated value of 't' 3.66 with 29 degree of freedom was found to be highly significant at 0.001 level of significance. The demographic variables such as age, gender, marital status, education, family history of cancer and habits were found to be significant at 0.05 level of significance. The clinical variables such as diagnosis, signs and symptoms, duration of treatment, type of cancer and source of information were found to have significant association with chemotherapy induced vomiting at 0.05 level of significance. Indian Ginger tea was effective in relieving chemotherapy induced nausea and vomiting among cancer patients.

Keywords: *Effectiveness, Indian Ginger Tea, Cancer Patients, Chemotherapy*

1. INTRODUCTION

Cancer is a term used for diseases in which abnormal cells divide without control and are able to invade other tissues. It is a major health problem that occurs in people of all ethnicities. Cancer is a leading cause of death worldwide. It accounted for 13.1 million deaths by 2030 (WHO). Although cancer is also considered as a disease of aging, with the majority of cases (76%) diagnosed in those over the age of 55 years, it occurs in people of all the ages.[2] The worldwide incidence of cancer is estimated at seven million with an annual mortality of five million. It is projected that by the year 2050, two third of all cancer cases will occur in the developing world (SEARO-98).[4]

Chemotherapy is now a main stay of cancer therapy used in the treatment of most solid tumours and hematologic malignancies eg: leukemia's, lymphomas, and myeloma and Myelodysplastic syndrome During chemotherapy one will have so many side effects. The kinds of side effects depend on the type and dose of chemotherapy. Side effects vary but common once are nausea, vomiting, pain and hair loss.[7] Mechanism of chemotherapy induced nausea and vomiting is chemotherapeutic agents stimulate enterochromattin cells in the gastrointestinal tract to release serotonin, which activates serotonin receptors. Activation of the receptors activates the vagal afferent pathway, which activates the vomiting centre and causes an emetic response.[7]

Chemotherapy combination of anti-emetic medicines has significantly reduced the incidence of vomiting, but nausea has been not successfully controlled. Ginger supplements are effectively reducing the occurrence of chemotherapy-related nausea and vomiting by hindering 5-HT3 receptors.

2. METHODOLOGY

Ethical committee Permission was obtained from American Oncology Institute, Chinnakakani, Mangalagiri, Guntur. Informed consent was obtained from the subjects verbally and written form after explained about purpose of the study and maintaining confidentiality of the collected data. In the present study, a sample of 60 cancer patients was selected using simple random technique by lottery method. Even numbers were allotted to experimental group and odd numbers were allotted to control group. Structured MASCC (Multinational Association for Supportive Care in Cancer) antiemesis tool (MAT) was used to collect data. Paired-t test was used to know the effectiveness of Indian ginger tea in the management of chemotherapy induced nausea and vomiting among cancer patients. Chi-square was used to assess the pre-test score of chemotherapy induced nausea and vomiting among cancer patients with selected demographic variables

Procedure

Indian ginger tea can be made by peeling off the skin of ginger and cut **1** gm into thin slices. Then add the ginger slices in 200ml of boiled water cover with lid and simmer for 15-20 minutes. Strain the tea and serve it. Indian ginger tea was administered orally for experimental group one hour before chemotherapy, during chemotherapy (1 hour after starting chemotherapy-200 ml ginger tea) and post chemotherapy treatment (immediate after completion of chemotherapy-200 ml ginger tea) and no intervention was done for the control group. Post-test was conducted after the intervention (ninety-six hours) and assessed the nausea and vomiting for both groups.

3. RESULTS

The major findings of the study revealed that the mean pre - test score of chemotherapy induced nausea and vomiting was 45.17 with SD of 16.09 and it decreased to 27.33 with SD of 13.83 in the post test. It can be interpreted that decrease in the post test scores than the pre - test chemotherapy induced nausea and vomiting scores. Where as in the control group the mean pre-test 38.83 with SD of 16.64 and it was slightly decreased to 36.93 with SD of 14.94 in the post test. The paired 't' test was computed to find the effectiveness of Indian ginger tea in management of chemotherapy induced nausea and vomiting among cancer patients. The calculated value of 't' was 12.57 which was greater than the tabulated value of 't' 3.66 with 29 degree of freedom was found to be highly significant at 0.001 level of significance. The association between level of chemotherapy induced and vomiting with age in years (χ^2= 4.59), Gender (χ^2=1.98), religion (χ^2= 4.22), Educational status (χ^2 = 2.27), Marital status (χ^2 = 3.64), Family history of cancer (χ^2= 1.44), and Habits / addictions (χ^2=9.15) were found to be significant at 0.05 level of significance. The association between level of chemotherapy induced and vomiting with at what age cancer was diagnosed (χ2=7.86), Since how many years are under chemotherapy treatment(χ2=14.45), Type of Cancer (χ2= 4.26), signs and symptoms of (x_2 = 14.45), duration of chemotherapy treatment (χ^2=2.72), and Source of Information(χ^2=4.26) were found to be significant at 0.05 level of significance. Dietary pattern (χ^2=0.54) was not found to be significant at 0.05 level of significance.

4. DISCUSSION

Ginger is an ancient herb used widely in history for its many natural medicinal properties and particularly as an antiemetic. The best available evidence demonstrates that ginger is an effective and inexpensive treatment for nausea and vomiting and is safe. Based on the prevalence of cancer and availability of Indian ginger tea the investigator was motivated to conduct an evaluation study to observe the effectiveness of the Indian ginger tea in management of chemotherapy induced nausea and vomiting among patients with cancer. There is an important role for nurses to help people to understand the risks and set realistic goals in improving goals[15]

Current research suggests that management of chemotherapy-induced nausea should focus on treating the symptoms before they occur rather than after they develop. This review highlights evidence-based interventions for the treatment of chemotherapy-related nausea. Cancer patient's rate nausea the most distressing side effect of chemotherapy. Despite the extensive use anti-emetics, chemotherapy-induced nausea continues to be reported by up to 70% of adult patients receiving moderately and highly emetogenic chemotherapy agents.[17]

The oral administration of Indian ginger tea will help to reduce the chemotherapy induced nausea and vomiting. This study adds one more evidence to the fact that Indian ginger tea is effective in management of chemotherapy induced nausea and vomiting among cancer patients. Adequate control of nausea and vomiting is an essential factor in a client's compliance with treatment.[18] Ginger has a very long history of use in various forms of traditional/alternative medicine. It has been used to help digestion, reduce nausea and help fight the flu and common cold.[18]

Milzeyyen Arslan, leylaOzdemir (2015) conducted study on: Chemotherapy induced nausea and vomiting (CINV) is among the most common and distressing symptoms experienced by patients receiving cancer treatment. This experimental randomized,

controlled trial was done to assess the effect of ginger on chemotherapy-related nausea and vomiting. Sample size 60 in the study. Nausea severity was evaluated using a numeric scale ranging from 0 (no nausea) to 10(very severe nausea). The researchers analysed the five-day mean score of nausea severity and the number of vomiting and retching episodes. Based on this comparison, nausea severity and the number of vomiting episodes were significantly lower in the intervention group than in the control group ($p < 0.05$). However, the change in the number of retching episodes between the intervention and control groups was not statistically significant ($p > 0.05$)[19].

Wolfgang et al (2013) conducted a study on Chemotherapy-induced nausea and vomiting (CINV) is a common side-effect of cytotoxic treatment. It continues to affect a significant proportion of patients despite the widespread use of antiemetic medication. In traditional medicine, ginger (Zingiberofficinale) has been used to prevent and treat nausea in many cultures for thousands of years. To determine the potential use of ginger as a prophylactic or treatment for CINV, a systematic literature review was conducted.[20]

5. CONCLUSION

Through ginger has been used in traditional medicines around the world as natural treatments for chemotherapy induced nausea and vomiting and other digestive aliments, studies shows that people who receiving ginger combined with antiemetics reported less nausea than those who did not receive ginger along with anti-emetics.[11] On the basis of the study, the researcher concluded that there was a need to relieve the chemotherapy induced nausea and vomiting among cancer patients with natural and alternative methods rather than pharmacological methods. The clients need to be aware of the alternative method of treating chemotherapy induced nausea and vomiting by using Indian ginger tea. As it is easily available and affordable by all to relieve chemotherapy induced nausea and vomiting without any side effects.

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