

## SELF-CARE PRACTICES IN TASTE AND SMELL ALTERATION AMONG PATIENTS ON CHEMOTHERAPY

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### ABSTRACT

**Background:** Taste and smell alteration is one of the significant problems of chemotherapy which has no single solution that suits everyone. This study explored the self-care practices adopted by the patients who receive chemotherapy. Studies have investigated strategies which patients personally initiate to enable them to cope with this symptom. **Methods:** The present study was undertaken among 100 patients receiving cancer chemotherapy selected by convenience sampling from a Cancer Institute in Kerala. The study aimed at identifying the commonly adopted self-care practices in patients receiving chemotherapy to manage taste and smell alterations. Data

were collected using self-developed questionnaire on self-care practices. The most commonly adopted self-care practices were nibbling of moist fruits (71%) such as berries or lemon to reduce metallic taste. Other practices were avoiding strong smelling foods (65%), removing oneself from food preparation areas (43%), eat small and frequent meals (28%) and asking family or friends to prepare food (18%). **Conclusion:** The study would enable the health team members to view taste and smell alteration as a serious issue of chemotherapy. The issue being unique to the individual, place emphasize on individualized self-care practice. Nurses need to identify, minimize, attenuate the treatment related problem and implement management strategies for taste and smell alteration.

**KEYWORDS:** Self-care, Self-care practices, chemotherapy, taste and smell alteration.

### INTRODUCTION

Chemotherapy agents can cause a wide range of adverse effects. Taste and smell change was reported by 38–77% of patients after chemotherapy.<sup>[1]</sup> Taste and smell changes appear to be a

complex subjective symptom with both physical and psychosocial dimension. It has an impact on patient's daily life. Study conducted among 518 patients on cancer chemotherapy to investigate distress and impact on daily life reported high level of distress and a marked effect on the quality of life. Alterations in taste or smell are not always reported to staff, even by those with high distress and high impact on daily life. The specific aspects of taste and smell changes (TSCs) resulting in distress and impact on daily life vary greatly, affecting both psychological and somatic aspects, with little consensus and great individual differences described in self-care strategies. The variety of distress, impact, and strategies used to alleviate TSCs clarifies the importance of situational meaning.<sup>[2]</sup>

Patients often use their own trial-and-error interventions or use measures suggested by nurses or physicians which has some clinical support to manage the taste and smell changes. Several anecdotal reports of intervention for taste and smell changes are available but the studies that examined the effectiveness and impact of such empirically selected interventions to provide nurses with an evidence base for patient education regarding self-management of taste and smell changes are only very few. The study was intended to identify the self-care practices among patients receiving chemotherapy to manage the alterations in taste and smell and to determine potentially useful strategies to manage specific taste and smell changes after chemotherapy.<sup>[3]</sup>

## **MATERIALS AND METHODS**

The study used a descriptive survey approach to identify the self-care practices among patients receiving chemotherapy to manage the alterations in taste and smell. The study was undertaken among 100 patients receiving chemotherapy selected by convenience sampling from a cancer speciality hospital, Kerala. Patients between the age of 20 and 65 years who received at least three cycles of chemotherapy were included in this study. The study was conducted after obtaining the approval from the Institutional Review Board (IRB) and informed consent from each of the subjects. Socio-demographic and clinical data and, the self-care practices adopted by the patients were collected using a semi-structured questionnaire developed by the researcher.

## **RESULTS AND DISCUSSION**

The data were analyzed using frequency and percentage.

***Socio-demographic data***

The mean age of the subjects was  $52.5 \pm 10.6$  years. Majority were males (61%), married (79%), and 54% were educated up to intermediate/post-high school and unemployed. Smokers constituted 17% and 21% who use alcohol and none had the habit of chewing tobacco or use of illicit drugs. Family history of cancer was reported by 13% of the patients and 45% (n=100) were in Stage IV of disease followed by 39% in Stage III. With regard to the treatment modality, 64% followed chemotherapy and 61% followed combination chemotherapy where maximum number of patients (32%) was in the fourth cycle of chemotherapy. Co-morbidities were present in 22%, out of which, majority (14, 63%) had hypertension and 7 (13%) had diabetes mellitus. With regard to brushing practices, almost all (99%) used paste for brushing, all the subjects brushed teeth twice daily, 16% used dentures, and (81% used tongue cleaner for cleaning the tongue. Majority of the patients (86%) were non-vegetarians and 63% had normal body mass index, while 24% were overweight.

A quarter (n = 25) had breast cancer and others include cancers such as carcinoma colon (12%), rectum (10%), and lungs (9%). Persistent dry mouth (60%), pain or soreness in the mouth (42%) and dental cavities or dental caries (38%) were the main problems experienced by these patients. Frequent nasal congestion was reported by 21% and cold or flu longer than a month by 15% of the subjects.

**Table 1: Self-care practices related to taste and smell alterations among patients receiving chemotherapy.**

n=100				
Self-care practices	Did not try	Tried but did not help	Helped a little	Helped a lot
Prepares food with more added spices improves taste and smell	53	10	21	16
Prepares food with less spices	87	7	6	0
Boils food to make them more bland	24	6	44	26
Uses more added salt in foods	85	9	3	3
Uses less added salt while preparing food	77	9	10	4
Eats food which is cold or at room temperature than eating warm or hot foods	62	5	28	5
Eats mints (or sugar-free mints), chew gum or chew ice to mask the bitter or metallic taste	98	0	2	0
Flavours foods with herbs, spices, sugar, lemon and taste sauces	92	0	7	1
Drinks more water with food helped in rinsing the bad taste from mouth	21	41	26	12
Eat more protein containing foods other than meat like egg, dry fruits, baked beans, etc.	39	2	55	4

**Table 1: Self-care practices related to taste and smell alterations among patients receiving chemotherapy (contd...)**

n=100				
Self-care practices	Did not try	Tried but did not help	Helped a little	Helped a lot
Nibbling on moist fruits such as berries or lemon reduces metallic taste	6	1	22	71
Eats small and frequent meals	11	7	54	28
Brushes the teeth before meals	95	1	3	1
Avoids eating 1-2 hours before chemotherapy up to 3 hours after chemotherapy	89	9	2	0
Asks your friends or family to prepare food for you	16	2	64	18
Uses exhaust fan, cover the pots with lid or cook outdoor	32	3	54	11
Removes yourself from food preparation areas	12	0	45	43
Avoids strong smelling foods	1	0	34	65

The data presented in table 1 regarding the self-care practices to manage taste and smell alterations indicated that 71% of the subjects practiced nibbling of moist fruits such as berries or lemon to reduce metallic taste which helped a lot to improve taste and smell alterations. Other practices that helped the patient a lot to improve the taste and smell alterations were avoiding strong smelling foods (65%), removing oneself from food preparation areas (43%), eat small and frequent meals (28%) and asking family or friends to prepare food (18%). Even though 41% of the subjects tried drinking more water with food to remove the bad taste from the mouth it did not help them in improving the taste and smell alterations following chemotherapy.

Further, it was also noted that the majority of subjects did not try many possible measures to improve the taste and smell alterations like brushing teeth before meals (95%), flavours food with herbs, spices, sugar, lemon and taste sauces (92%), eating small frequent meals, chew gum and ice to mask the bitter or metallic taste (98%), avoid eating 1-2 hrs before chemotherapy up to 3 hrs after chemotherapy (89%).

## DISCUSSION

In the present study, nibbling of moist fruits such as berries or lemon to reduce metallic taste was used by 71% of the subjects which helped them a lot to improve taste and smell alterations. Other self-care practices that helped them were avoiding strong smelling foods, removing oneself from food preparation areas, eat small and frequent meals and asking family or friends to prepare food. Even though 41% of the subjects tried drinking more water

with food to remove the bad taste from mouth, it did not help them in improving the taste and smell alterations following chemotherapy. Study<sup>[4]</sup> on the self-care measures used to cope with taste changes after chemotherapy among cancer patients who received at least two cycles of chemotherapy reported that taste and smell had affected their ability to eat. The treatment regimen also had an influence on the taste alteration and the measures adopted by the patients. Patients tried to avoid strong smelling or tasting food, ate bland foods, consumed more water with foods, practiced oral care before eating and small, more frequent meals which were reported to help<sup>4</sup> them to manage TSCs. The strategies like drinking more water with food, eating small and frequent meals, eating bland diet, were reported to be helpful to the patients in this study also. But in the present study, no attempt was made to compare between different chemotherapy agents or regimen.

Study conducted among 25 patients with breast cancer treated with taxane chemotherapy in the University of Pennsylvania showed that women experienced taste alterations, decided not to eat, ate on an irregular schedule and or lost interest in preparing meals for themselves and on their family. Various other alternatives like trying out new recipe, eating strongly flavoured foods, honouring specific food cravings, eating candy before meals, cutting food with lemon, drinking sweetened drinks, using plastic eating utensils, drinking from a straw, brushing their teeth and tongue before meals and using baking soda and salt wash or antibacterial mouth wash were followed by these women.<sup>[5]</sup> In the present study also, 93% of patients reported that nibbling on moist fruits such as berries or lemon reduced the metallic taste. More than one third of patients in this study feel improved taste and smell with added spices where as 87% did not try with less spices. The sample size in the reported study is only one fourth of the present study which would also make a difference in the result.

Study<sup>2</sup> (n=198 of the 340 patients who responded) regarding the strategies on food and eating reports of how to avoid or choose specific foods or seasonings show that fruit was readily eaten (n = 9) and had complaints about the changed taste of water (n = 10) and coffee (n = 7). Sweet tastes were avoided by eight participants, whereas three chose to eat sweet products more often. Of the 12 participants referring to the salty tastes, half reported a preference for salt, whereas the other six avoided salt. Some participants changed their routines in serving food (n = 5), for example, they ate only cold food or set the table differently, whereas others found it important to keep familiar routines. Asking for help in cooking (n = 9) or seasoning food was also a common strategy. Making use of taste and smell memories (n = 3) was

described as helpful by a few as they responded by sniffing down close to the food, and look at it, and think about how it should taste.

Evidences suggest that there is no single and universally accepted strategy to deal with taste and smell changes. Several factors are responsible for the choice or preferences to food and the strategies chosen for dealing with taste and smell changes. It varies from individual to individual.<sup>[6-7]</sup> This finding is in tune with the European Food Information Council (EUFIC)<sup>[8]</sup> which says that choice to eat or not to eat is not determined only by the physiological or nutritional needs. Determinants such as biological determinants like hunger, appetite, and taste; economic determinants such as cost, income, availability; physical determinants such as access, education, skills (eg: cooking) and time; social determinants such as culture, family, peers and meal patterns; psychological determinants such as mood, stress and guilt and attitudes, beliefs and knowledge about food also influence the choice of food. The present study has not included these determinants and its influence on the preference to food.

The most helpful self-care strategies identified by the patients to overcome the altered taste were increasing seasonings, fats and sauces, or eating blander foods.<sup>[9]</sup> The studies mentioned showed that the self-care practices adopted were different for different individuals. The present study suggests that nibbling of moist fruits, avoiding strong smelling foods, oral care, frequent and small meals were very helpful for many of the subjects.

Nursing care of individuals with cancer and cancer therapy should be directed towards identifying the disease related problems as well as those related to the side effects of treatment. It is observed that the issue of taste and smell changes though a significant one, are seldom communicated to the health care providers as many believe that it is part of the treatment and there is no clear treatment to manage these issues. So there is an intense need to establish a good communication system between the nurses and the patients.

As certain amount of taste and smell alterations are part of chemotherapy, the patients must be made aware about the importance of identification and reporting of the taste and smell alterations and also to try various self care strategies to overcome the TSAs. So the nurses must include patient education to promote self-care management options and help the patients to choose the best options that suits each one.

The nurses have a specific role in educating the patients who will help them to anticipate taste and smell alterations and should focus on self-care to cope with actual taste and smell change perceptions. On comparing the results of the present study with the related literature, it is found that the results were more or less consistent in nature with previous studies. The study indicated that it is important to identify taste and smell alterations among patients as early as possible and nurses should include patient education<sup>[9-11]</sup> tools that support self-care practices on management of TSAs with known factors that could affect taste and smell alterations early in their chemotherapy. Patients can utilize complementary and alternative therapies too.<sup>[12-13]</sup> Family members also must be included in patient education programme<sup>[14]</sup> as their support and caring is essential during the course of therapy as well as managing the side effects and associated discomforts.

Studies report that only very few patients had thorough discussion with doctors and nurses regarding how to manage or deal with TSAs, though many had discussed about the treatment side effects.<sup>[10]</sup> A systematic review<sup>[15]</sup> conducted with 22 studies including three randomized controlled trials, reported that the results obtained from the studies do not allow firm conclusions regarding the occurrence, severity and quality of TAs and SAs. Frequent monitoring<sup>[11]</sup> of TSA by the patients is mandatory as it has an impact on the quality of life of these patients.<sup>[16-17]</sup> Therefore, appropriate management of the TSA is an important the responsibility of both the patients and the health care professionals<sup>[18]</sup> to maintain the quality of life of the patients on chemotherapy.

## CONCLUSION

The present study helped in identifying the various self-care practices adopted by the patients receiving chemotherapy in order to manage the taste and smell related changes. Additional researches by the nursing faculty or the oncology nurses are recommended to focus on the taste and smell issues and learn the nature of self care practices adopted by the patients on chemotherapy. Studies must also focus on different drugs and their specific problems so that drug specific, problem specific strategies can be adopted. Studies that evaluate interventions beginning with the first chemotherapy and the patient education is necessary during each cycle of chemotherapy.

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