

# Knowledge Regarding Neutropenic Precautions among Caregivers of Patients Receiving Chemotherapy

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## ABSTRACT

**Background:** Cancer affects millions per year. The choice of therapy depends upon the location and grade of the tumour and the stage of the disease, as well as the general state of the patient. Chemotherapy is the treatment of cancer anticancer drugs that destroys cancer cells. Among side effects of chemotherapy, neutropenia is the most common and complicated. Chemotherapy suppresses the hematopoietic system, impairs host immune mechanisms and places the client in risk of life threatening infections. Patient, health personnel, caregivers are equally responsible in taking precautions to prevent infection during neutropenic state. Aim of the study is to assess the knowledge regarding neutropenic precautions of caregivers of patients receiving chemotherapy

The objectives of the study were,

- Assess the level of knowledge regarding neutropenia among caregivers.
- Assess the level of knowledge regarding neutropenic precautions among caregivers.
- Find out the association between level of knowledge regarding neutropenic precautions and selected demographic variables.

**Methods:** Quantitative research approach and descriptive research design was used. 100 caregivers of patients receiving chemotherapy oncology units of Aster MIMS Hospital, Calicut were selected using Non probability convenient sampling technique. Semi-structured questionnaire were used for collecting socio-demographic and clinical data, structured questionnaire were used to assess knowledge regarding neutropenia and neutropenic Precautions. Data was analyzed using descriptive and inferential statistics.

**Results:** Almost two-third of subjects (72%) had undergone 0-7 numbers of chemotherapy cycles.

Out of 100 sample, about 70% were planned for 1-2 years of chemotherapy.

The knowledge of caregivers regarding neutropenia was moderate in 54% of subjects,

The knowledge of caregivers regarding neutropenic precautions was moderate in 63% of subjects,

There is a statistically significant association ( $\chi^2 = 14.2036$ ) at 0.05 level of significance between marital status and neutropenia precautions knowledge score.

There is a significant statistical association between educational status and neutropenia precautions' knowledge score. ( $\chi^2 = 12.8715$ ) at 0.05 level

There is a statistically significant association ( $\chi^2 = 9.6929$ ) at 0.05 level of significance between occupational status and knowledge score.

**Key Words:** Neutropenia, Chemotherapy, Neutropenic precautions.

## INTRODUCTION

Cancer is a generic term for a large group of diseases that can affect any part of the body. [1] There are various modalities in cancer treatment. Chemotherapy is a widely used modality and commonest side effect is low concentration of neutrophil or neutropenia. Patients with febrile neutropenia are at high risk of increased mortality, and this neutropenic complication is considered to be an oncologic emergency. The most serious infections occur with gram-negative bacteria, which can be life-threatening. [2] Adequate precautions should be taken to prevent infection during neutropenic state after chemotherapy as these infections may threaten the life of patient. Knowledge regarding prevention of neutropenia is essential among chemotherapy patients and their caregivers.

## MATERIALS AND METHODS

Quantitative descriptive research design was used. 100 caregivers of patients receiving chemotherapy oncology units of Aster MIMS Hospital, Calicut were selected using Non probability convenient sampling technique. Technique used for the study is self-report.

Tools used are

Tool 1: Semi structured questionnaire to assess the Demographic and clinical variable

Tool 2: Structured questionnaire to assess the knowledge regarding neutropenia.

Tool 3: Structured questionnaire to assess the knowledge regarding neutropenic precautions.

In order to establish the content validity of the tool its Content validity of the tool was done by 6 experts including 1 medical oncologist and 5 nursing experts. The tool was found valid regarding the content and language. Content validity index of tools were 1. The reliability of the tool was checked by using split half method (Spearman Brown co-efficient) and internal consistency of tool 2 is 0.81 and tool 3 is 0.71

Ethical permission: Obtained from institution review board and Informed consent from study sample.

## RESULTS

- Most of the samples (42%) belonged to the age group >50 years.
- Among 100 samples 41% has only education up to higher secondary.
- 38% of the samples were homemakers.
- Of 100 samples had annual income above RS 50000.
- Majority (64%) of the sample were of Hindu religion.
- Most of the samples were from nuclear families.
- 63% of the total samples were from rural area.
- Majority of the sample (85%) are married
- 99.3% of the samples had not attended any classes related to breastfeeding.
- 35% of caregivers are their children.
- Majority had undergone 0-7 cycles of chemotherapy
- Majority have completed one year of chemotherapy.
- 26% of sample had gastrointestinal cancer, 4% Gynecological cancers, 10% has respiratory cancers and 43% has other type of cancers.



Figure 1: Distribution of subjects based knowledge regarding neutropenia.

The data depicted in figure 1 illustrates that 54(54%) of the subjects had moderate

knowledge, 39(39%) of the subjects had poor knowledge and 7(7%) of subjects had good knowledge.

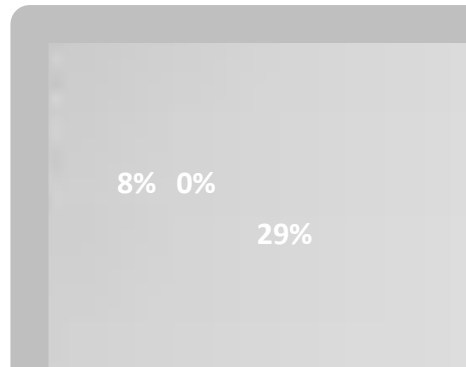


Figure 2: Distribution of subjects based on knowledge regarding neutropenic precautions.

The data presented in the figure 2 shows that 63% of subjects had moderate knowledge

Table 1: Association between level of knowledge regarding neutropenic precautions and selected socio-demographic variables. (n=100)

Sl no	Demographic Variable	df	$\chi^2$	Table value
1.	Age	4	3.4188	9.49
2.	Religion	4	8.7668	9.49
3.	Marital status	2	14.2036	5.99
4.	Educational status	6	12.8715	12.59
5.	Occupation	4	9.6929	9.49
6.	Residing area	2	0.6381	5.99
7.	Relation	6	5.3432	12.59
8.	Type of cancer	8	5.6801	15.51
9.	No. of chemotherapy cycles underwent	2	2.5896	5.99

(\*Significant 0.05 level)

Table 1 shows knowledge score is significant associated ( $\chi^2 = 14.2036$ ) at 0.05 level of significance with marital status. Regarding the occupational status, there was a statistically significant association ( $\chi^2 = 9.6929$ ) at 0.05 level of significance

between occupational status and knowledge score. It is also inferred that knowledge level of neutropenic precaution has a significant association (12.8715) at 0.05 level of significance with education of caregivers

## DISCUSSION

In the present study shows that 54% of subjects had moderate knowledge in prevention of neutropenia. This result is consistent with finding of a study conducted by Baden L.R and Bensinger W which revealed that Individualized risk evaluation for infections and incorporation of preventative measures are essential components of the overall spectrum of cancer care, and may contribute to optimizing treatment outcomes for patients. [3]

## CONCLUSION

Fatigue during postpartum is inevitable. But it can be reduced to some extent by controlling many factors like stress, sleep disturbances, positioning of infants while feeding. The study revealed that 39.33% the samples had severe fatigue and 44% of samples had moderate fatigue during breastfeeding. The study also found that breastfeeding fatigue is associated with physical factor such as sleep and pain.

## REFERENCES

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How to cite this article: Gireesh A, Baby A, Reji JP et.al. Knowledge regarding neutropenic precautions among caregivers of patients receiving chemotherapy. International Journal of Research and Review. 2019; 6(7):476-478.

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