International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Fatigue Prevalence and Coping Strategies Among Cancer Patients Receiving Chemotherapy

Ms. Nongozonuo Khape[1], Ms. Longdichenla Longchar[2], Ms. Maibi Naiding[3], Ms. Megokieno Meru[4], Ms. Meriyani N Kikon[5], Ms. Neisedenuo[6], Ms. Nguyir Kadu[7], Ms. Nilovi A Chishi[8]

[1]Associate Professor, College of Nursing, Christian Institute of Health Sciences and Research, Dimapur: Nagaland

[2,3,4,5,6,7,8]B.Sc Nursing 3rd Year Students, College of Nursing, Christian Institute of Health Sciences and Research, Dimapur: Nagaland

ABSTRACT

Fatigue has been considered as one of the worst side effects for cancer patients receiving chemotherapy. Fatigue can be a symptom of the cancer itself or a side effect of the treatment and may interfere with the activities of daily living. Therefore, patients used various coping strategies in order to overcome this fatigue experience which can influence the period when receiving chemotherapy and the treatment outcomes. The goal of the study were to assess the fatigue prevalence and coping strategies among cancer patients receiving chemotherapy in oncology ward at CIHSR, Dimapur, as well as the relationships between their findings with selected demographic and clinical variables.

A cross sectional descriptive study design was used. The samples were selected using convenience sampling techniques. After the passing through proper ethical clearance Brief Fatigue Inventory and Brief Cope Inventory a standardized tools were used for data collection. Fisher's exact test was used to find the association between the findings between fatigue prevalence and coping strategies with their selected demographic and clinical variables. The findings of the study revealed that overall, 74.9% respondents experienced fatigue with 42.60% mild fatigue, 29.40% moderate fatigue and 2.90% had severe fatigue. According to the classified Brief Cope Inventory, the present studies shows that 57% had adequate problem focused coping and 43% had inadequate problem focused coping. For emotion focused coping, 47% had adequate coping and 53% had inadequate coping. And for avoidant focus coping, 97% had adequate coping and 3% had inadequate coping. The study reveals that there was significant association between fatigue and clinical (vomiting, loss of appetite, pain) variables and significant association between Coping strategies - problem focused and clinical variables (anaemia). There was also significant association between Coping strategies - emotion focused and demographic variables (gender, educational status, marital status).

The study concludes that there is a prevalence of fatigue among patients receiving chemotherapy and patients use different coping strategies. There is significant association between fatigue and and clinical variables and also association between coping with selected demographic and clinical variables. Therefore Nurses play a pivotal role in early identification and comprehensive management of fatigue and in

fostering effective coping strategies. By addressing both clinical symptoms and psychosocial factors, nurses can help improve patients' quality of life and overall treatment outcomes.

KEYWORDS: Fatigue Prevalence, Coping strategies, Cancer patients and Chemotherapy.

INTRODUCTION

Worldwide, there were an estimated 18.1 million cases and 9.6 million cancer deaths in 2018, with one in four men and one in five women developing the disease, and one in eight men and one in eleven women dying from it. In addition, there were 43.8 million persons living with cancer in 2018 who were diagnosed within the last 5 years. Half of the new cancer cases and cancer deaths in the world occur in Asia. [1]

Cancer treatments such as chemotherapy, radiation therapy, hormone therapy, bone marrow transplantation, and immunotherapy can cause fatigue. Fatigue is also a common symptom of some types of cancer. People with cancer describe fatigue as feeling tired, weak, worn-out, heavy, slow, or that they have no energy or get-up-and-go. Fatigue in people with cancer may be called cancer fatigue, cancer-related fatigue, and cancer treatment-related fatigue.

Fatigue is recognized as a common state in patients receiving chemotherapy, the prevalence rate is between 59% to 100%. Cancer-related fatigue (CRF) goes beyond the usual tiredness. As per National Library of Medicine cancer related fatigue is defined as a distressing, persistent, subjective sense of physical, emotional and/or cognitive tiredness or exhaustion related to cancer and or cancer treatment that is not proportional to recent activity and interferes with usual functioning. [2]

People who experience cancer fatigue often describe it as "paralyzing" and impacts their quality of life. Cancer fatigue is not completely relieved by sleep and rest, interferes with daily activities, and may last for a long time. Fatigue usually decreases after cancer treatment ends, but some people may still feel fatigue for months or years. [3]

It can be a symptom of the cancer itself or a side effect of the treatment and may interfere with the activities of daily living. Therefore, patients used various coping strategies in order to overcome this fatigue experience which can influence the period when receiving chemotherapy and the treatment outcomes.[2]

Patients' perceptions of stress and their use of coping strategies may influence fatigue severity. Fatigue is the most common and debilitating symptom experienced by oncology patients during chemotherapy treatment. The report reveals that there is an Inter-individual variability in fatigue severity is influenced by demographic, clinical, psychological, behavioural, and biological characteristics.[4]

A study was done on fatigue experience and coping strategies among cancer patients receiving chemotherapy. The results revealed that 82.5% of respondents had experienced fatigue and 50.8% respondents had used adequate coping strategies. [5]

The Times of India published on 19th August 2021 stated as "Northeast is Cancer capital of India". The estimated number of cancer cases in the northeast in 2020 was 50317 among whom 27503 were males and 22814 females, the report stated. [6] The number of cancer is scaling up each year even in CIHSR, Dimapur. In the last five years, the number of cancer patients visiting Oncology Unit, CIHSR from 2018 -2022 is 256, 370, 609, 664 and 839 respectively as per record. Out of these cases 70 -80% of patients have received chemotherapy.

Till date we could not find any studies on this topic in the whole state of Northeast region and also through clinical experience the researchers identified that many patient's complaint of fatigue in the course of chemotherapy. Therefore, the researchers are interested to assess the Fatigue Prevalence and Coping

strategies among Cancer patients receiving Chemotherapy in order to identify fatigue prevalence and improve the coping strategies among cancer patient receiving chemotherapy at CIHSR, Dimapur.

METHODS AND MATERIALS

The research design was non-experimental descriptive - cross sectional study. It was conducted in selected oncology wards of Christian Institute of Health Sciences and Research, Dimapur, Nagaland. The samples were patients who are 18 years of age and above,diagnosed and who completed two cycles of chemotherapy treatment including concurrent chemoradiation therapy. The convenience sampling technique was used. The sample size was 68 and it was estimated based on pilot study findings.

The instruments consist of section A: Part I was Demographic variables, it consists of Age, Gender, Religion, Educational status, Occupation, Income, and Marital status. Part II was clinical variables, it consists of Type of cancer, Stage of cancer, Duration of cancer, cycles of Chemotherapy, Symptoms of chemotherapy.

The section B was two freely accessible standardized instrument. Part 1 was the BRIEF FATIGUE INVENTORY(BFI) is a standardized freely accessible 3-item fatigue BFI- Fatigue right now, Usual fatigue in last 24 hours. Mood, Worst fatigue in last 24 hours. And 6-item BFI Interference- General activity, Mood, Walking ability, Normal work (including housework), Relations with other people and Enjoyment of life. Reliability of the instrument- Cronbach's alpha reliability ranges from **0.82 to 0.97.** Part 2 was the BRIEF COPE INVENTORY(BCI) is also a freely accessible standardized instrument. The Brief COPE is a 28-item multidimensional measure of strategies used for coping. Reliability of the instrument, Cronbach's alpha- **0.819.**

The study was approved by Nursing Research Committee and passed through IRB. Permission was also obtained from higher authorities. Subjects were identified from Hospital card and selected based on inclusion criteria. The written informed consent was obtained from the participants by the investigator. Confidentially and anonymity was maintained. The data was collected and analysed using descriptive and inferential statistics.

RESULTS

SECTION A: PART1- DEMOGRAPHIC VARIABLES

Table 1: Distribution of the demographic variables of the participants. (n-68)

DEMOGRAPHIC VARIABLE	FREQUENCY	PERCENTAGE (%)
Gender		
Male	40	58.8%
Female	28	41.2%
Religion		
Christian	61	89.7%
Hindu	4	5.9%
Muslim	3	4.4%
Age		
<35 years	7	10.3%
35 – 45 years	20	29.4%
45 – 55 years	21	30.9 %

55 – 65 years	13	19.1%
>65 years	7	10.3 %
Educational status		
Illiterate	4	5.9%
Primary	20	29.4%
Secondary	32	47.1%
Graduate and above	12	17.6%
Occupation		
Unemployed	31	45.6%
Businessman	9	13.2%
Private employee	10	14.7%
Government employee	12	17.6%
Retired	6	8.8%
Income		
<10000	37	54.4%
10001-20000	8	11.8%
20001-30000	8	11.8%
30001-40000	6	8.8%
>40000	9	13.2%
Marital status		
Married	50	73.5%
Single	10	14.7%
Widowed	8	11.8%

The above table shows that majority of the patients receiving chemotherapy were male 40 (58.8%), 61 (89.7%) were Christians, 20 (29.4%) were the age group 35-45 years and 21 (30.9%) were the age group 45- 55 years, 32 (47.1%) had secondary school qualification ,31 (45.6%) were unemployed, 37 (54.4%) had income of <10000, 50 (73.5%) were married.

SECTION A: PART 2- CLINICAL VARIABLES

Table 2: Distribution of the clinical variables of the participants. (n-68)

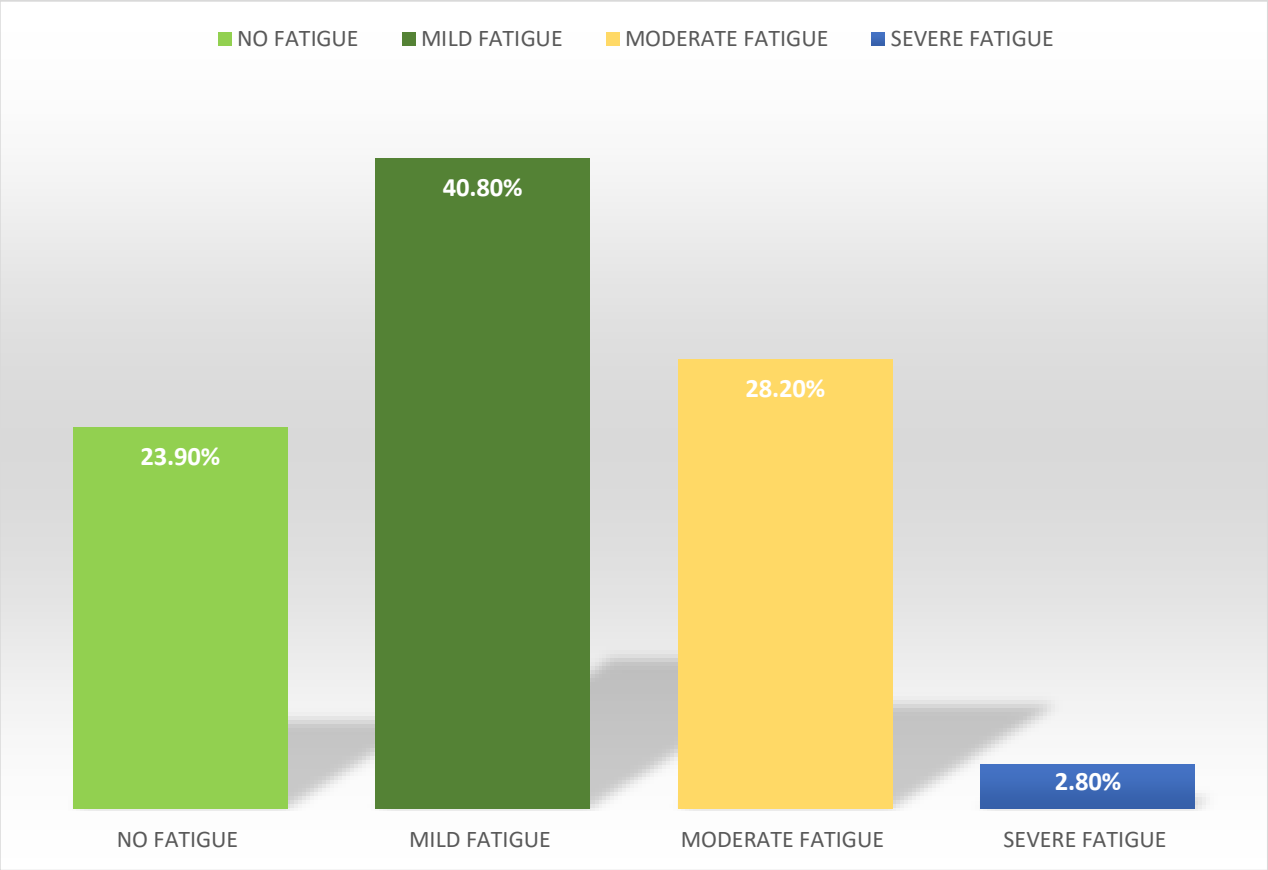
CLINICAL VARIABLES	FREQUENCY	PERCENTAGE (%)
Type of cancer		
Breast cancer	9	13.2 %
Cervix cancer	6	8.8%
Stomach cancer	5	7.3%
Nasopharynx cancer	15	22.1%
Colon cancer	11	16.2 %
Others	22	32.4%

Stages of Cancer		
1 stage	4	5.9 %
2stage	14	20.6 %
3stage	28	41.2 %
4stage	22	32.3 %
Duration of Cancer		
<3 months	25	36.8%
3 – 6 months	24	35.3%
>6 months	19	27.9%
Cycles of Chemotherapy		
3 – 4 cycles	38	55.9%
5 – 6 cycles	21	30.9%
>7 cycles	9	13.2%
Signs & Symptoms		
Nausea	4	5.9 %
Vomiting	5	7.4 %
Loss of appetite	15	22.1 %
Diarrhoea	11	16.2 %
Pain	20	29.4 %
Insomnia	17	25 %
Alopecia	34	50 %
Anaemia	45	66.2%
Treatment type		
Chemotherapy	53	77.9 %
CCRT	15	22.1 %

The above table shows that majority of the patients receiving chemotherapy had nasopharynx cancer 15 (22.1%) , 28 (41.2%) were in stage 3 , 25 (36.8%) had a duration of <3months and 21 (30.9%) had a duration of 5-6 months , 38 (55.9%) were in 3 – 4 cycles of chemotherapy , 4(5.9%) had nausea, 5 (7.4%) had vomiting , 15 (22.1%) had loss of appetite , 11 (16.2%) had diarrhoea , 20 (29.4%) had pain , 17 (25%) had insomnia , 34 (50%) had alopecia , 45 (66.2%) had anaemia , 53 (77.9%) were receiving chemotherapy while 15 (22.1 %) were receiving concurrent chemoradiation.

SECTION B: Part 1: BRIEF FATIGUE INVENTORY

Figure 1 Frequency distribution of overall fatigue prevalence based on Brief Fatigue Inventory.



The above figure shows that 42.60% had mild fatigue, 29.40% had moderate fatigue and 2.90% had severe fatigue

SECTION B: Part 2: BRIEF COPE INVENTORY

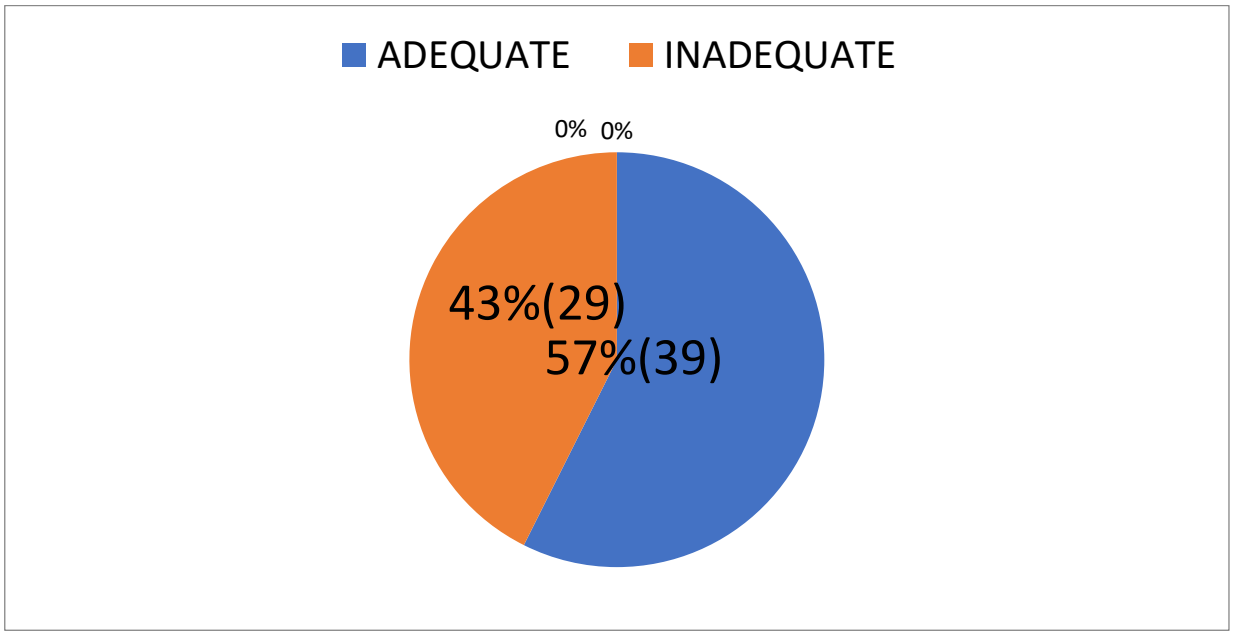


Figure 2 Frequency distribution of Problem Focussed Coping based on Brief Cope Inventory.

The above figure shows that in Problem Focused Coping 57% (39) had adequate coping and 43 % (29) had inadequate coping.

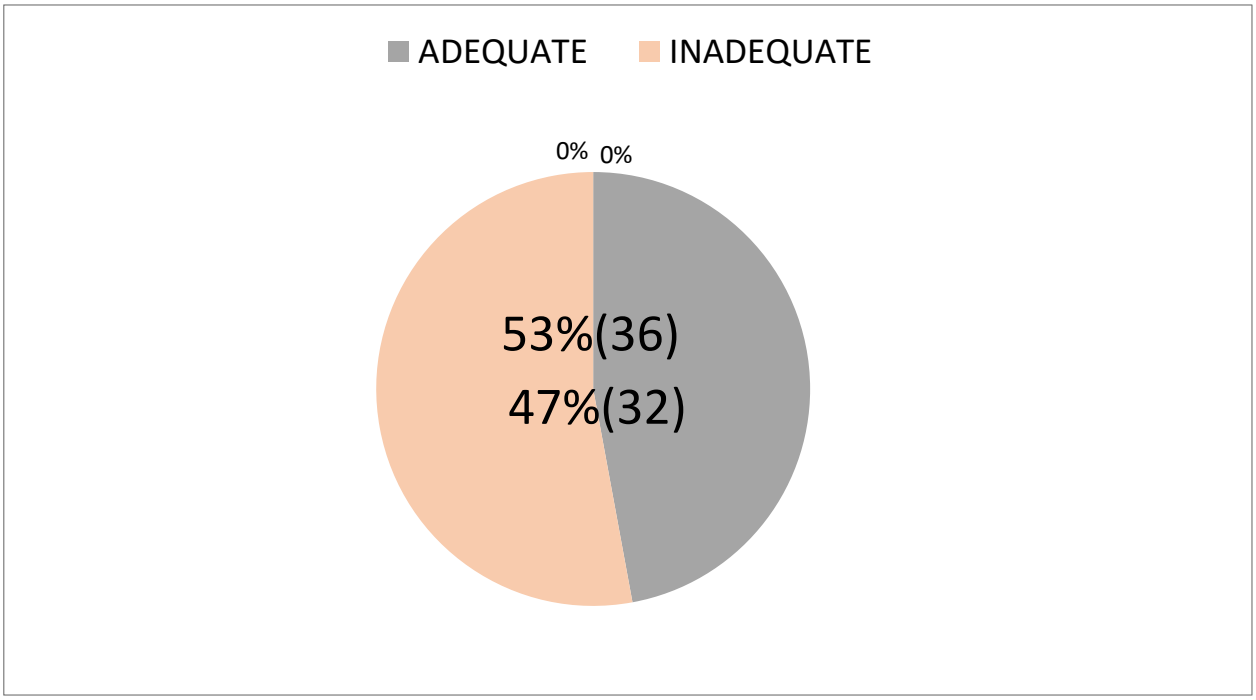
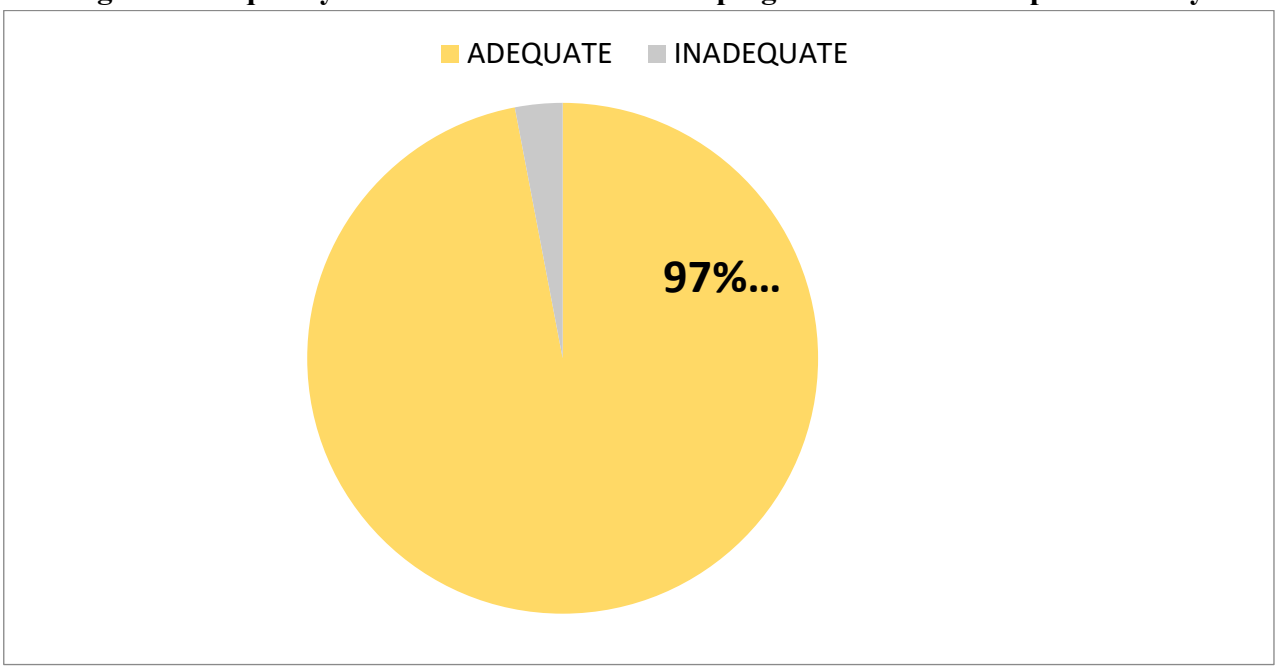


Figure 3 Frequency distribution of Emotion Focussed based on Brief Cope Inventory.

The above figure shows that in Emotion Focused 53% (36) had inadequate coping and 47% (32) had adequate coping.

Figure 4 Frequency distribution of Avoidant Coping based on Brief Cope Inventory.



The above figure shows that in Avoidant Coping 97% (66) had adequate coping and 3% (2) had inadequate coping.

DISCUSSION

The first objective was to assess prevalence of fatigue among patients receiving chemotherapy at oncology ward, CIHSR Dimapur.The data analysis revealed that 71.8% respondents experienced fatigue using Brief Fatigue Inventory. In the study we found that 40.8% had mild fatigue, 28.2% has moderate fatigue and 2.8% had severe fatigue. Similarly, another cross-sectional study by Raja Paramjeet Singh Banipal et al. (2017) to analyse the prevalence of the cancer-related fatigue (CRF) in cancer patient populations with correlation of CRF with different treatment modalities. The study revealed that 83.3% of patients also experienced fatigue according to BFI scale. (15)Another study conducted by Lingeraw Animaw to assess the prevalence of fatigue and associated factors among adult cancer patients, receiving cancer treatment at the oncology unit in Amhara region, Ethiopia, 2022 shows that prevalence of cancer-related fatigue was 77.3% at 95% CI (73.1-81.1) with nonresponse rate of 1.97%[7].

The second objectives were to assess coping strategies among patients receiving chemotherapy in oncology ward, CIHSR Dimapur. According to Brief Cope Inventory classified items, the present studies shows that problem focused coping, 57% had adequate coping and 43% had inadequate coping. For emotion focused coping, 47% had adequate coping and 53% had inadequate coping. And for avoidant coping, 97% had adequate coping and 3% had inadequate coping. The results also indicated a total score of 5064 with a mean of 74.47(standard deviation 8.7) higher scores reflected adequate coping. A similar study by Anika Dalal et al.was done on fatigue experience and coping strategies among cancer patients receiving chemotherapy. The study revealed that 50.8% respondents had used adequate coping strategies while 49.2 % had used inadequate coping strategies. (5)

The third objective were to determine the association between Fatigue prevalence and selected demographic and clinical variables among cancer patients receiving chemotherapy in oncology ward, CIHSR, Dimapur. The present study reveals that there was significant association between fatigue and clinical variables (vomiting, loss of appetite, pain). The present study used Fisher's exact test for association between fatigue and clinical variables showed that p calculated values 0.04(vomiting), 0.00(loss of appetite) 0.04(pain). Therefore, there was a statistical relationship between fatigue and clinical variables (vomiting, loss of appetite, pain) with a p value of <0.05 A similar descriptive study conducted by Sabire Yurtseverto assess the measures taken by the patients to cope with fatigue, fatigue experienced by individual affecting their daily activities, age and gender, disease and treatment factors and symptoms related to chemotherapy in a large university hospital in Ankara, Turkey. The study showed that age was not a statistically significant factors affecting the level of fatigue, but gender was found to have an effect. The length of illness, number of chemotherapy courses and the patient symptoms affect level of fatigue. [8]

The fourth objective were to determine the association between coping strategies and selected demographic and clinical variables among cancer patients receiving chemotherapy in oncology ward, CIHSR, Dimapur. The present study reveals that there was significant association between Coping strategies -problem focused coping demographic variables(religion) and clinical variables(anaemia).There was also significant association between Coping strategies - emotion focused coping and demographic variables (gender, educational status, marital status).The present study used Fisher's exact test for association between Coping strategies-problem focused coping and demographic and clinical variables showed that p calculated values 0.04 (religion) and 0.02 (anaemia). Also association between Coping strategies - emotion focused coping and demographic variables showed that p calculated values 0.03(gender), 0.01 (educational status) and 0.01(marital status). Therefore there was a statistical

relationship between Coping strategies- problem focused coping and demographic variables (religion) and clinical variables(anaemia) with a p value of <0.05.There was also a statistical significant association between Coping strategies - emotion focused coping and demographic variables (gender, educational status, marital status) with a p value of <0.05. However in one study a correlational survey to assess the level of stress, coping strategies, and quality of life of female cancer patients related to chemotherapy induced alopecia in Amala Cancer Hospital, Thrissur, Kerala was conducted by Athar Javeth et al. Coping strategies were significantly associated with economic status (x^2= 10.38), frequency of chemotherapy (x^2=17.28) and cycles of chemotherapy (x^2= 12.72) at p<0.05 level.[9]

NURSING IMPLICATIONS

- **Nursing Education.**
- The findings of the study can serve as a guideline for the student nurses to create an awareness on fatigue prevalence and its associated factors among patients receiving chemotherapy.
- Nursing education should emphasize on increasing the knowledge and train Nursing students to assess fatigue in cancer patients receiving chemotherapy.
- Nursing students should also be trained in identifying various coping strategies used by patients and educate them to cope adequately.
- **Nursing Research**
- A similar study can be conducted on large scale for better generalization.
- A comparative study on Fatigue prevalence can be conducted between cancer patients receiving Chemotherapy and Radiation therapy.
- This study can serve as a baseline for future studies and motivate other researchers to conduct further studies.
- **Nursing Practice**
- The present study reveals that majority of the participants have mild to moderate fatigue. This provides a need for oncology Nurses to identify the presence of fatigue and its associated factors and include it as a routine part of assessment for patients receiving chemotherapy.
- Nurses should also assess different coping strategies used by patients and encouraged the use of adaptive coping strategies among patients receiving chemotherapy.
- **Nursing Administration**
- Nursing administration should establish a policy to include fatigue assessment as part of part of routine care for cancer patients receiving chemotherapy.
- Nursing administration can organise health campaign to promote adaptive coping strategies among cancer patients.

CONCLUSION

The findings of this study highlight cancer-related fatigue as a highly prevalent and clinically significant problem among patients receiving chemotherapy, with more than two-thirds of the respondents experiencing varying levels of fatigue. The significant association between fatigue and clinical variables such as vomiting, loss of appetite, and pain further emphasizes the critical role of nurses in identifying contributing factors and managing associated symptoms effectively. Nurses play a pivotal role in early assessment through the use of standardized tools such as the Brief Fatigue Inventory, enabling timely

identification of fatigue severity and its impact on patients' daily functioning. The study also reveals gaps in coping strategies, particularly in emotional-focused and problem-focused coping, indicating the need for targeted nursing interventions. By providing education, counselling, and individualized support, nurses can strengthen adaptive coping mechanisms and help patients manage both physical and emotional aspects of cancer-related fatigue. Therefore, this study reinforces the importance of nursing responsibilities in comprehensive assessment, early identification, and holistic management of cancer-related fatigue, making nurses key contributors to improved patient outcomes in oncology care.

REFERENCES

1. Albert Thomas, Latest global cancer data: Cancer burden rises to 18.1 million new cases and 9.6 million cancer deaths in 2018. IARC, 150 Cours 69372 Lyon CEDEX 08, France - Tel: +33 (0)4 72 73 84 85 - Fax: +33 (0)4 72 73 85 75 © IARC 2018 - All Rights Reserved. https://www.iarc.who.int/wp-content/uploads/2018/09/pr263_E.pdf
2. National cancer Institute.Updated:November 6, 2024. https://www.cancer.gov/about-cancer/treatment/side-effects/fatigue/fatigue-hp-pdq
3. Jiashuang Xu et al. Impact of cancer-related fatigue on quality of life in patients with cancer: multiple mediating roles of psychological coherence and stigma. BMC Cancer. 2025 Jan 10;25:64. doi: 10.1186/s12885-025-13468-7https://pmc.ncbi.nlm.nih.gov/articles/PMC11721594/
4. Fay Wright et al. Higher levels of stress and different coping strategies are associated with greater morning and evening fatigue severity in oncology patients receiving chemotherapy. Support Care Cancer. 2020 Jan 20;28(10):4697–4706. doi: 10.1007/s00520-020-05303-5. PMCID: PMC7223171NIHMSID:.https://pmc.ncbi.nlm.nih.gov/articles/PMC7223171/
5. Anika Dahal,1 Raj Kumar Meheta. Fatigue Experience and Coping Strategies among Cancer Patients Receiving Chemotherapy J Nepal Health Res Counc 2018 Jul-Sep;16(40): 285 90https://elibrary.nhrc.gov.np/bitstream/20.500.14356/1546/1/1098-Manuscript-6636-1-10-20181030.pdfhe
6. Times of India. PTI / Aug 19, 2021, 02:36 IST Copyright © 2024 Bennett, Coleman & Co. Ltd. All rights. https://timesofindia.indiatimes.com/india/northeast-is-cancer-capital-of-india-finds-govt-study/articleshow/85443113.cms.
7 AnimawL , Woldegiorgis Abate T , Endeshaw D , Tsegaye D . Fatigue and associated factors among adult cancer patients patient receiving cancer treatment at oncology unit in Amhara region ,Ethiopia. PLoS One.2023 6 January; 18(1)
8 Sabire Yurtsever. Experience of Fatigue in Turkish Patients Receiving Chemotherapy Downloaded on 12/15/2025. Single-user license only. Copyright 2025 by the Oncology Nursing Society. For permission to post online, reprint, adapt, or reuse, please email pubpermissions@ons.org. ONS reserves all rights. , ONCOLOGY NURSING FORUM – VOL 34, NO 3, 2007,https://www.ons.org/pubs/article/13806/preview-download
9 Athar Javeth,R.G . Mathur, MollyBabbu,A correlational survey to assess the level of stress ,coping strategies and quality of life of female cancer patient related to chemotherapy induced alopecia in Amala cancer hospital ,Thrissur ,Kerala,2017.