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“An Exploratory Study to Assess the Perceived Body Image among Cancer Patients with Alopecia Undergoing Various Treatment Modalities of Cancer in Selected Hospital, Guwahati, Assam”

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ABSTRACT

Cancer is a disease that affects a person's general health, financial state, quality of life and psychological health as well. One of the important aspects it affects is the body image perception of a person as the person often undergoes significant changes to appearance and functioning.

A quantitative research approach with non experimental exploratory research design was used in the study. 132 patients were selected using purposive sampling technique. Data was collected using self administered questionnaires for demographic variables, clinical profile, 4 point Likert Scale for perceived body image and World Health Organization Toxicity Scale (2009) to rule out alopecia. Data was analyzed using descriptive and inferential statistics.

Majority of the samples had Grade II alopecia (56.06%) and had moderate perceived body image (68.18%). The result of chi-square analysis showed that the demographic variable occupation have a high significant association ($\chi^2=35.35$) at $p < 0.05$, while there is no significant association with the other demographic variables such as age, gender, marital status, education and family history of cancer. Furthermore, no statistically significant relationship was found between grade of alopecia and perceived body image among cancer patients undergoing various treatment modalities of cancer.

Treatment modalities of cancer, though having therapeutic effectiveness, have many adverse effects, with alopecia being a common well known adverse effect. Hair, which is a symbol of beauty, self image, dignity and self worth, being taken away, can cause a significant negative impact on the body image perception.

KEYWORDS: Body image, Critical Care Nursing, Alopecia, Cancer

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1. INTRODUCTION

Body image is important to us. It is how we think and feel about our body and how we think others value us. Concerns about body image are common in people affected by cancer. This is because cancer and its treatments can cause changes to how the body looks, works, and feels.¹

According to World Health Organization, 9.6 million people worldwide are estimated to die from cancer in 2018 and India's share in it will be a worrying 8.17%. Also WHO states that India will have 1.16 million new cancers in 2018.²

Outside the medical fraternity, cancer is often considered as one disease but, in fact, a hundred medical conditions rolled into one. Cancer affects different parts of the body in different ways, and its impact is felt in diverse ways. Cancer is also unusual from another standpoint. The disease itself and the various therapies exert many adverse impacts and affecting the whole body.³ In a study regarding perceptions of side effects of cancer chemotherapy, alopecia was ranked second in severity out of 72 side effects of chemotherapy.⁴

In a related study, alopecia was cited as the worst anticipated side effect by 58% of women preparing for chemotherapy, and 8% of these patients were viewed "at risk" for avoiding treatment because of the anticipated alopecia.⁵ Hair, which is a natural crown of beauty, has always been considered to have greatly contributed to physical attractiveness. Alopecia might be expected to be distressing to patients who have experienced this side effect and might lead to negative body image perceptions.⁶

Body image disturbances usually involve distortions and negative perceptions about their physical appearance. A strong sense of shame, self-awareness and social discomfort often accompany this interpretation. A number of avoidance behaviors are often used to suppress negative emotions and thoughts, such as avoiding visual contact with extremities, ignoring the need for self-care and hiding. Ultimately this negative reaction can disrupt the rehabilitation process and contribute to social isolation.⁷

Cancer is a disease that affects a person not only physically and physiologically but also mentally and spiritually. It affects the person wholly and body image is one of the significant characteristic that it affects. Body image is a critical psychosocial issue for cancer patients with various sites as they often undergo significant changes to appearance and functioning.

Objectives of the study:

- To assess the grade of alopecia and perceived body image among cancer patients undergoing various treatment modalities of cancer.

- To determine the association of perceived body image among cancer patients undergoing various treatment modalities of cancer with selected demographic variables.
- To determine the correlation between the grade of alopecia and perceived body image among cancer patients undergoing various treatment modalities of cancer.

2. METHODS AND MATERIALS:

- **Research approach:** Quantitative Approach.
- **Research design:** Non Experimental Descriptive Exploratory Design.
- **Setting:** Cancer Hospital, Guwahati Medical College, Guwahati.
- **Population:** Cancer patients with alopecia undergoing various treatment modalities of cancer.
- **Sample Size:** Sample size was calculated to be 132 with margin of error of 5%, estimated proportion of population at 50%, level of confidence at 95%.
- **Sampling Technique:** Purposive Sampling Technique.
- **Selection Criteria:**
 - Inclusion Criteria:
 - Age above 18 years.
 - Cancer patients undergoing various treatment modalities of cancer, who are interested to participate in the study.
 - Cancer patients undergoing various treatment modalities of cancer, who are available at the time of study.
 - Exclusion Criteria:
 - Terminally ill cancer patients
- **Tools:** There are three sections, namely, Section A- Demographic profile, Section B- Clinical Profile, Section C (a)- 4 point Likert Scale on Perceived Body Image and (b)-World Health Organization Toxicity Scale (2009) to rule out alopecia.
- **Ethical Consideration:** Ethical permission was taken from Institutional Ethical Committee, concerned hospital authorities and the participants.
- **Data Analysis:** The collected data was analyzed in terms of objectives of the study by using descriptive analysis (frequency, percentage, mean and standard deviation) and inferential statistics (Chi Square association and Spearman Rho correlation analysis).

3. RESULTS:

- **SECTION I:** Frequency and percentage distribution of demographic variables

Table 1: Frequency and Percentage Distribution of Demographic Variables.

n=132

DEMOGRAPHIC VARIABLES	FREQUENCY (f)	PERCENTAGE (%)
1. Age (in years)		
a) 18-29	7	5.30
b) 30-39	22	16.67
c) 40-49	38	28.79
d) 50-59	46	34.84
e) 60 and above	19	14.40
2. Gender		
a) Male	65	49.2
b) Female	67	50.76
3. Marital status		
a) Married	108	81.81
b) Unmarried	4	3.03
c) Widow/Widower	8	6.07
d) Divorced	12	9.09
4. Occupation		
a) Self employed	11	8.34
b) Government servant	13	9.84
c) Private sector	38	28.79
d) Retired	18	13.63
e) Unemployed	52	39.40
5. Education		
a) Upto primary	41	31.06
b) Upto secondary	24	18.19
c) Upto higher secondary	25	18.93
d) Upto graduate	18	13.63
e) Post graduate and above	24	18.19
6. Family history of cancer		
a) Mother	11	8.34
b) Father	11	8.34
c) Siblings	6	4.54
d) Others	4	3.03
e) None	100	75.75

The analysis in table 1, shows that the frequency and percentage distribution of demographic variables among the participants, most were between the age of 50-59 years (34.84%), about half of the participants were female (50.76%), majority were married (81.81%), most were unemployed (39.40%), most had education up to primary (31.06%) and majority of the samples had no family history of cancer (75.75%).

➤ **SECTION II:** Frequency and percentage distribution of clinical profile

Table 2: Frequency and percentage distribution of clinical profile

CLINICAL PROFILE	FREQUENCY	PERCENTAGE (%)
1. Types of cancer		
a) Head and neck	54	40.90
b) Lungs and thorax	27	20.46
c) Breast	36	27.28
d) Gastrointestinal	8	6.06
e) Genitourinary	7	5.30
f) Hematology	-	-
g) Skin	-	-
h) Musculoskeletal	-	-
2. Treatment undergone/undergoing		
a) Chemotherapy	132	100
b) Surgery	42	31.81
c) Radiotherapy	37	28.03
d) Immunotherapy	3	2.28
e) Targeted Therapy	-	-
f) Hormone Therapy	4	3.03
g) Stem Cell Transplant	-	-
h) Other (please specify).....	-	-

The analysis in the table 2, shows that the frequency and percentage distribution of clinical profile, among the samples, most were suffering from head and neck cancer (40.90%) and majority of the samples were undergone/undergoing chemotherapy treatment (100%).

➤ **SECTION III:** Frequency and percentage distribution of the grade of alopecia among cancer patients with alopecia undergoing various treatment modalities

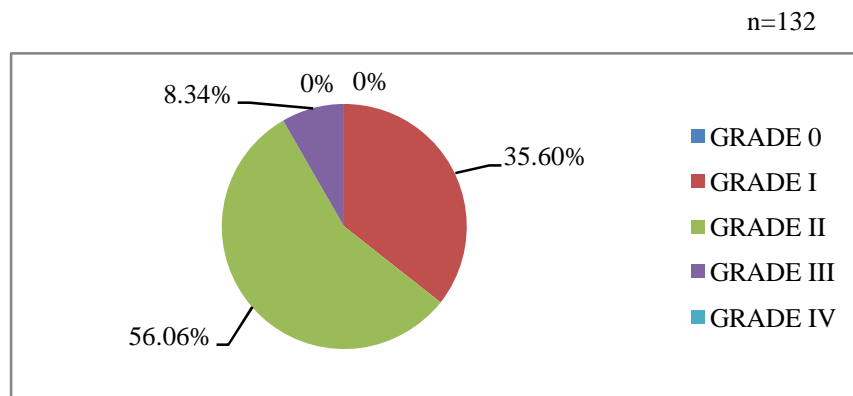


Fig 1: Pie diagram depicting the grade of alopecia among cancer patients with alopecia undergoing various treatment modalities of cancer.

In figure 1, it shows that majority of the samples had Grade II alopecia (56.06%) while 35.60% have Grade I alopecia and 8.34% Grade III.

➤ **SECTION IV:** Frequency and percentage distribution of the perceived body image among cancer patients with alopecia undergoing various treatment modalities

n=132

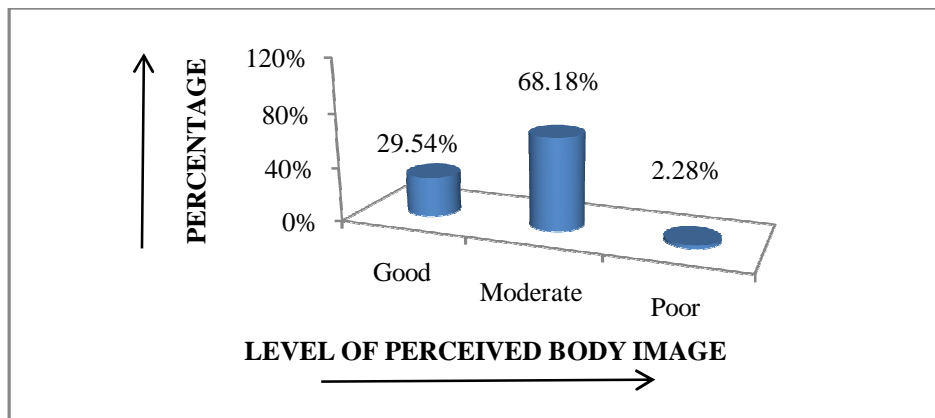


Fig 2: Cylindrical graph depicting the level of perceived body image among cancer patients with alopecia undergoing various treatment modalities of cancer.

Figure 2, shows majority of the samples had moderate perceived body image (68.18%) while 29.54% had good perceived body image and 2.28% had poor perceived body image.

➤ **SECTION V:** Mean, Median and Standard Deviation of perceived body image among cancer patients with alopecia undergoing various treatment modalities of cancer

Table 3: Mean, Median and Standard Deviation of perceived body image among cancer patients with alopecia undergoing various treatment modalities of cancer.

n=132

Perceived Body Image Score	Score Range	Frequency (f)	Mean	Median	Standard Deviation
Poor	31-45	3	19.77	21	6.19
Moderate	16-30	90			
Good	0-15	39			

Table 3 depicted the mean and standard deviation of perceived body image score to be 19.77 and 6.19 respectively with the median to be 21.

➤ **SECTION VI:** Association of perceived body image among cancer patients undergoing various treatment modalities of cancer with selected demographic variables

Table 4: Association of Perceived Body Image among Cancer Patients Undergoing Various Treatment Modalities of Cancer with Selected Demographic Variables.

n=132

Demographic Variables	Poor	Moderate	Good	Chi Square (χ^2)	df	p-Value	Inference
1. Age (in years)							
a) 18-29	-	6	1	3.266	8	15.51	NS
b) 30-39	1	16	5				
c) 40-49	1	24	13				
d) 50-59	1	32	13				
e) 60 and above	-	12	7				
2. Gender							
a) Male	1	50	14	4.516	2	5.99	NS
b) Female	2	40	25				
3. Marital status							
a) Married	3	71	34	3.956	6	12.59	NS
b) Unmarried	-	2	2				
c) Widow/Widower	-	7	1				
d) Divorced	-	10	2				
4. Occupation							
a) Self employed	-	2	9	35.3	8	15.51	*S
b) Government servant	1	4	8				
c) Private sector	2	25	11				
d) Retired	-	13	5				
e) Unemployed	-	46	6				
5. Education							
a) Upto primary	-	30	11	4.876	8	5.51	NS
b) Upto secondary	-	15	9				
c) Upto higher Secondary	1	17	7				
d) Upto graduate	1	14	3				
e) Post graduate and above	1	14	9				
6. Family history of cancer							
a) Mother	-	10	1	13.023	8	15.51	NS
b) Father	1	8	2				
c) Siblings	-	3	3				
d) Others	-	1	3				
e) None	2	68	30				

NB: *S=Significant NS= Not Significant $p \leq 0.05$ level of significance

The result of chi-square analysis indicated that the demographic variable occupation have high significant association of perceived body image among cancer patients undergoing various treatment modalities of cancer while there is no significant association with the other demographic variables such as age, gender, marital status, education and family history of cancer.

➤ **SECTION VII:** Correlation between the grade of alopecia and perceived body image among cancer patients undergoing various treatment modalities of cancer

Table 5: Correlation between the Grade of Alopecia and Perceived Body Image among Cancer Patients Undergoing Various Treatment Modalities of Cancer

Category	r_s	df	p- value	SD	Inference
Grade of alopecia	0.128	130	0.144	0.991	Not Significant
Perceived body image					

The result of Spearman Rho correlation analysis shows that the calculated value (r_s) is less than the critical value, i.e., 0.144 at the level of significance $p \leq 0.05$, hence indicating that there is no relationship between the grade of alopecia and perceived body image among cancer patients undergoing various treatment modalities of cancer.

7. DISCUSSION:

From the results of the present study, it is observed that 56.06% had Grade II alopecia while 68.18% had moderate perceived body image. A similar study conducted by Chadha V, Shenoj SD (2003), has found that there was diffuse moderate alopecia within 1 month of starting chemotherapeutic treatment.⁸ With regards to perceived body image, a similar study conducted by El-saka R, El-Husseiny G, Rostom Y, et al., (2009), has found that of the 120 breast cancer patients, 54.1% had moderate disturbance in body image in the hair loss group while the hair preservation group have 100% mild disturbance in the body image.⁹

With the chi-square association analysis, it was seen that occupation have high significant association with the perceived body image among cancer patients undergoing various treatment modalities of cancer while there is no association with the other demographic variables such as age, gender, marital status, education and family history of cancer. A study conducted by Nayak S, Pai M, George L (2018) yields similar results. The result of the study shows a significant association between body image and monthly income ($p= 0.013$) at 0.05 level of significance.¹⁰

The correlation analysis between the grade of alopecia and perceived body image among cancer patients undergoing various treatment modalities of cancer using Spearman Rho analysis, shows that the calculated value ($r_s=0.128$) is less than the critical value, i.e., 0.144 at the level of significance 0.05, hence indicating that there is no relationship between the grade of alopecia and perceived body image among cancer patients undergoing various treatment modalities of cancer. Rani R, Singh M, Kaur J (2016), in their study has found no statistically significant association between grade of alopecia and level of perceived body image.¹¹ Contrary to the findings, a study done by Augustina MD, Parantian PJ (2017) showed a strong correlation value ($r_s= 0.648$) with a significant p value of 0.000 indicating a significant correlation between alopecia and body image.⁷

8. CONCLUSION

On the basis of the findings, it may be concluded that cancer treatment modalities can have many negative impacts on an individual, despite its therapeutic effects. Alopecia being one of the well known side effects can have a significant effect on body image perception. Health care personnel's, organizations, family members and care takers should take a note of this and realize the specific need of the individual for care, support and counseling. Use of cosmetic items can also be encouraged, to enhance body image perception.

9. LIMITATION

The sample size of the present study was small, hence the result of the study may not be generalized. Data was mainly collected from daycare centre, OPD as patients in wards has a longer hospital stay.

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