

**"Nutritional Insight: Evaluating Cancer patient Knowledge on Nutrition's Role in Cancer Management"- with a view to develop structured informative booklet.**

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**Abstract**

**Background**

Cancer remains one of the leading causes of morbidity and mortality worldwide. As treatment modalities advance, the role of nutrition in cancer management has gained increasing recognition. Proper nutrition can significantly impact the overall health and recovery of cancer patients, potentially improving treatment outcomes, enhancing quality of life, and reducing treatment-related side effects.

**Objectives-**

The primary objective of this study is to evaluate the current knowledge and understanding of cancer patients regarding the role of nutrition in cancer management.

**Methods**

This descriptive study aims to evaluate cancer patients' knowledge regarding the role of nutrition in cancer management at SCPM Multispecialty Hospital, Gonda, and Uttar Pradesh. The sample includes 150 patients admitted for cancer treatment, with data collected by three trained BSc Nursing staff nurses using structured questionnaires. Data will be exported to SPSS version 21 for analysis, utilizing both descriptive and inferential statistics to identify knowledge gaps and misconceptions. The level of significance for the study is set at <0.05, with a 95% confidence

interval. The insights gained will guide the development of an informative booklet to educate patients on the importance of nutrition in cancer care.

## Results

The study evaluated the nutritional knowledge of 150 cancer patients at SCPM Multispecialty Hospital. Findings revealed that 28.0% of patients had adequate knowledge, 33.3% had moderate knowledge, 20.0% had inadequate knowledge, and 18.7% had no knowledge. Significant associations were found between knowledge levels and several demographic variables, including age ( $\chi^2 = 115.281$ ,  $p < 0.05$ ), education ( $\chi^2 = 114.298$ ,  $p < 0.05$ ), religion ( $\chi^2 = 136.302$ ,  $p < 0.05$ ), occupation ( $\chi^2 = 188.777$ ,  $p < 0.05$ ), family type ( $\chi^2 = 76.046$ ,  $p < 0.05$ ), area of living ( $\chi^2 = 152.722$ ,  $p < 0.05$ ), diet ( $\chi^2 = 103.434$ ,  $p < 0.05$ ), duration of cancer detection ( $\chi^2 = 196.113$ ,  $p < 0.05$ ), and previous hospitalization ( $\chi^2 = 13.523$ ,  $p < 0.05$ ). These findings indicate notable gaps in knowledge that necessitate targeted educational interventions.

## Conclusion

The study highlights significant gaps in the nutritional knowledge of cancer patients, with only a minority demonstrating adequate understanding. Several demographic factors, including age, education, religion, occupation, and duration of cancer detection, significantly influence knowledge levels. These findings underscore the need for tailored educational interventions to enhance nutritional awareness and support better health outcomes in cancer patients.

## Keywords

Nutritional knowledge, cancer patients, demographic factors, educational interventions, cancer management, nutrition education

## Introduction

Cancer, a complex and multifaceted disease, continues to pose significant challenges to healthcare systems worldwide. With its prevalence on the rise and its impact extending across various aspects of health and well-being, cancer remains a leading cause of morbidity and mortality globally(1). Over the years, advancements in medical science have led to the development of increasingly sophisticated treatment modalities, improving survival rates and quality of life for many cancer patients. However, alongside medical interventions, there is growing recognition of the crucial role that nutrition plays in cancer management(2).

Nutrition is recognized as a fundamental component of cancer care, influencing not only disease progression but also treatment outcomes and overall patient well-being. A well-balanced diet, rich in essential nutrients, can help mitigate the adverse effects of cancer treatments, support immune function, and enhance the body's ability to cope with the disease. Conversely, poor nutrition can exacerbate treatment-related side effects, compromise immune function, and impede the body's ability to recover(3).

Against this backdrop, there is a growing emphasis on the importance of nutritional education and support for cancer patients. Empowering patients with knowledge about the role of nutrition in cancer management can enable them to make informed dietary choices, optimize treatment outcomes, and improve their overall quality of life. However, despite the recognized significance of nutrition in cancer care, there remains a need to assess and address knowledge gaps among cancer patients regarding nutritional practices and dietary guidelines(4).

This study seeks to evaluate the current knowledge and understanding of cancer patients regarding the role of nutrition in cancer management. By assessing patients' knowledge levels and identifying demographic factors associated with varying levels of nutritional literacy, this research aims to inform the development of targeted educational interventions and support initiatives. Ultimately, the goal is to enhance patients' nutritional awareness, promote healthy dietary practices, and improve health outcomes in the context of cancer care(5).

## Operational definitions

### Nutritional Insight:

The depth of understanding and awareness that cancer patients have regarding how different nutrients, dietary habits, and food choices can influence their health, particularly in relation to cancer treatment and recovery.

### Cancer Patient Knowledge:

The information and comprehension possessed by individuals diagnosed with cancer about various aspects of their condition, including its causes, treatment options, and the role of nutrition in managing symptoms and enhancing treatment efficacy.

## Nutrition's Role:

The impact and significance of dietary intake and nutritional choices on the overall health and treatment outcomes of cancer patients, including the potential to support immune function, reduce treatment side effects, and improve quality of life.

## Breast Cancer Management:

The comprehensive approach to treating and caring for patients with breast cancer, which includes medical treatments such as surgery, chemotherapy, and radiation, as well as supportive measures like nutrition, physical activity, and psychological support aimed at improving patient outcomes and quality of life(6).

## Criteria of the study

The study at SCPM Hospital aims to investigate cancer treatment outcomes, with participation open to patients admitted for cancer management. Eligible individuals must possess a confirmed cancer diagnosis, express willingness to participate, and demonstrate proficiency in reading and writing Hindi. However, patients who are unavailable during data collection periods will be excluded from participation. These criteria ensure that participants can actively contribute to the study's objectives while maintaining data integrity.

## Study instruments

Section A of the study encompasses demographic variables, which will provide essential context regarding the participants involved in the research. These variables typically include information such as age, gender, ethnicity, education level, occupation, and socioeconomic status. Understanding the demographic profile of participants can help identify any potential patterns or correlations between demographic factors and responses to the knowledge questionnaire on Nutrition's Role in Cancer Management, which forms Section B of the study. This questionnaire aims to assess participants' understanding of how nutrition influences cancer treatment and outcomes. It may cover topics such as the impact of specific dietary choices on cancer progression, the role of nutritional supplements, and the importance of maintaining a balanced diet during treatment. By correlating demographic variables with questionnaire responses, the study seeks to gain insights into how different demographic groups perceive and utilize nutritional information in the context of cancer management. This holistic approach facilitates a

comprehensive understanding of the role of nutrition in cancer care across diverse patient populations.

## Section-A: Demographic variables

### Study Variables-

Age, Gender, Level of education, Religion, Occupation, Type of family, Area of living, Type of diet, Duration of cancer detection, History of previous hospitalization, Source of information

## Section-B: Knowledge questionnaire on Nutrition's Role in Cancer Management

### Scoring key

Table:1 scoring key on knowledge levels

Sl.No	Knowledge categories	Score
1.	Adequate knowledge	21-30
2.	Moderate knowledge	11-20
3.	Inadequate knowledge	1-10
4.	No knowledge	0

In this study, knowledge levels regarding the role of nutrition in cancer management were categorized into four distinct groups based on scores obtained from assessment tools. Participants scoring between 21 and 30 were categorized as having "adequate knowledge," indicating a comprehensive understanding of nutrition's significance in cancer treatment and management. Those scoring between 11 and 20 were classified as having "moderate knowledge," suggesting a moderate level of understanding but with room for improvement. Participants scoring between 1 and 10 fell into the category of "inadequate knowledge," indicating a limited grasp of nutritional concepts relevant to cancer care. Finally, individuals scoring 0 were categorized as having "no knowledge," suggesting a complete lack of understanding regarding the role of nutrition in cancer management. These categorizations helped to stratify participants based on their knowledge

levels, providing valuable insights for targeted interventions and educational programs aimed at improving nutritional literacy among cancer patients(Table-1).

## Ethical clearance

The study received ethical clearance from the SCPM College of Nursing and Paramedical Sciences in Gonda, Uttar Pradesh, ensuring adherence to ethical principles and guidelines in conducting research involving human participants. Additionally, formal permission was obtained from SCPM Hospital in Gonda, Uttar Pradesh, where the study was conducted, ensuring compliance with institutional regulations and protocols. These clearances and permissions were essential to uphold the rights, safety, and welfare of the participants involved in the study, as well as to maintain the integrity and credibility of the research process.

## Plan for data analysis

The study employed both descriptive and inferential statistical analyses to examine the relationship between demographics and knowledge levels regarding the role of nutrition in cancer management among participants. Descriptive statistics, including frequencies and percentages, were utilized to summarize the distribution of demographics such as age, gender, education level, religion, occupation, type of family, area of living, type of diet, duration of cancer detection, history of previous hospitalization, and source of information. Additionally, descriptive statistics were applied to represent knowledge levels in terms of mean and standard deviation (SD), providing a quantitative summary of participants' understanding of nutritional concepts related to cancer care.

Furthermore, inferential statistics, particularly chi-square tests, were employed to assess associations between knowledge levels and demographics. The chi-square tests examined whether there were significant differences in knowledge levels among different demographic groups. For example, associations between knowledge levels and variables such as age, gender, education level, religion, occupation, type of family, area of living, type of diet, duration of cancer detection, history of previous hospitalization, and source of information were explored using chi-square tests. Significant associations indicated that certain demographic factors were related to varying levels of nutritional knowledge among participants. These statistical analyses provided valuable insights into the distribution of knowledge levels and their relationships with

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demographic variables, thereby informing targeted interventions to improve nutritional education and support for cancer patients.

## Results

### Section-2

Table-1: Frequencies and percentages of demographic variables (n=150)

Demographic Variable		Frequencies	Percentages
Age	30-35	51	34.0
	36-40	40	26.7
	41-45	28	18.7
	46 and Above	31	20.7
Gender	Male	95	63.3
	Female	55	36.7
level of education	Primary	48	32.0
	Secondary	45	30.0
	Intermediate	36	24.0
	Degree and above	21	14.0
Religion	Hindu	41	27.3
	Muslim	51	34.0
	Christians	37	24.7
	Others	21	14.0
Occupation	Daily wages	38	16.9
	Business	31	13.8
	Homemaker	24	10.7
	Government job	31	13.8
	Private Job	26	11.6
Type of family	Nuclear	52	34.7
	Joint	57	38.0

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	Extended	41	27.3
Area of living	Rural	55	36.7
	Urban	44	29.3
	Semi urban	51	34.0
Type of diet	Vegetarian	60	40.0
	Non-Vegetarian	56	37.3
	Ova-vegetarian	34	22.7
Duration of cancer detection	Below 1 year	44	29.3
	2-3 years	42	28.0
	4-5 years	34	22.7
	6 and above	30	20.0
History of previous hospitalization	Yes	56	37.3
	No	94	62.7
Source of information	Mass media	45	30.0
	Health professionals	35	23.3
	Books / Magazines	37	24.7
	Peer group/parents	33	22.0

The study sample comprised 150 cancer patients from SCPM Multispecialty Hospital, Gonda, and Uttar Pradesh. The age distribution was 34.0% aged 30-35 years, 26.7% aged 36-40 years, 18.7% aged 41-45 years, and 20.7% aged 46 years and above. Gender-wise, 63.3% were male and 36.7% female. Educational levels varied, with 32.0% having primary education, 30.0% secondary, 24.0% intermediate, and 14.0% degree or above. Religious affiliations included 27.3% Hindu, 34.0% Muslim, 24.7% Christian, and 14.0% others. Occupationally, 16.9% were daily wage earners, 13.8% business owners, 10.7% homemakers, 13.8% in government jobs, and 11.6% in private jobs. Family types were 34.7% nuclear, 38.0% joint, and 27.3% extended. Living areas were 36.7% rural, 29.3% urban, and 34.0% semi-urban. Dietary preferences included 40.0% vegetarian, 37.3% non-vegetarian, and 22.7% ova-vegetarian. Cancer detection duration was



29.3% below 1 year, 28.0% 2-3 years, 22.7% 4-5 years, and 20.0% 6 years and above. Hospitalization history showed 37.3% had previous admissions, while 62.7% did not. Information sources were 30.0% from mass media, 23.3% from health professionals, 24.7% from books/magazines, and 22.0% from peer groups/parents. This demographic profile highlights the diversity within the patient population, crucial for tailoring nutritional education effectively (Table-2).

## Section-II

Table-3: Knowledge levels of patients (n=150)

Knowledge level scores	Frequencies	Percentages
Adequate knowledge (21-30)	42	28.0
Moderate knowledge (11-20)	50	33.3
Inadequate knowledge (1-10)	30	20.0
No knowledge (0)	28	18.7

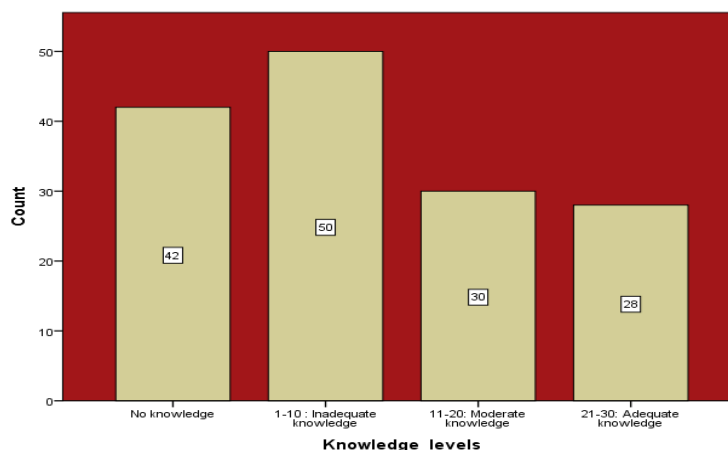


Figure-1: Knowledge levels of the patient.

The study assessed the knowledge levels of cancer patients regarding the role of nutrition in their treatment and management. The results revealed that 28.0% of the patients had adequate knowledge, scoring between 21-30. A larger proportion, 33.3%, demonstrated moderate knowledge with scores ranging from 11-20. Meanwhile, 20.0% of the patients had inadequate knowledge, scoring between 1-10, and 18.7% had no knowledge at all, scoring 0. These findings

highlight significant variability in patients' understanding of nutritional importance, underscoring the need for targeted educational interventions (Table-3).

### Section-III

Table-4: Knowledge levels in terms of Mean and SD (n=150)

Knowledge levels	Mean	SD
	2.29	1.072

The assessment of cancer patients' knowledge levels regarding the role of nutrition in their treatment revealed a mean knowledge score of 2.29 with a standard deviation of 1.072. This indicates that, on average, the patients had relatively low knowledge, with a moderate amount of variability in their scores. The findings suggest a substantial need for educational interventions to enhance understanding of nutritional importance among this patient population (Table-4).

### Section-IV

Table-5: Association with knowledge levels and demographics (n=150)

Demographic Variable		No knowledge		Inadequate		Moderate		Adequate		Chi-square
		F	%	F	%	F	%	F	%	
Age	30-35	35	23.3	16	10.7	-	-	-	-	cv- 115.281 df- 9 tv-16.92 S**
	36-40	-	-	22	14.7	13	8.7	5	3.3	
	41-45	-	-	12	8.0	10	6.7	6	4.0	
	46 and Above	7	4.7	-	-	7	4.7	17	11.3	
Gender	Male	21	14.0	36	24.0	22	14.7	16	10.7	cv- 6.586 df- 3 tv-16.92 NS
	Female	21	14.0	14	9.3	8	5.3	12	8.0	
level of education	Primary	19	12.7	6	4.0	23	15.3	-	-	cv- 114.298 df- 9
	Secondary	5	3.3	12	8.0	6	4.0	22	14.7	
	Intermediate	18	12.0	12	8.0	-	-	6	4.0	

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	Degree and above	-	-	20	13.3	1	0.7	-	-	tv-16.92 S**
Religion	Hindu	23	15.3	16	10.7	2	1.3	-	-	cv-
	Muslim	1	0.7	32	21.3	11	7.3	7	4.7	136.302
	Christians	-	-	2	1.3	17	11.3	18	12.0	df- 9
	Others	18	12.0	-	-	-	-	3	2.0	tv-16.92 S**
Occupation	Daily wages	22	14.7	-	-	-	-	16	10.7	cv-
	Business	20	13.3	10	6.7	-	-	1	0.7	188.777
	Homemaker	-	-	24	16.0	-	-	-	-	df- 12
	Government job	-	-	16	10.7	15	10.0	-	-	tv- 21.026 S**
	Private Job	-	-	-	-	15	10.0	11	7.3	
Type of family	Nuclear	24	16.0	-	-	12	8.0	16	10.7	cv- 76.046
	Joint	18	12.0	29	19.3	-	-	10	6.7	df- 6
	Extended	-	-	21	14.0	18	12.0	2	1.3	tv- 12.592 S**
Area of living	Rural	41	27.3	7	4.7	-	-	7	4.7	cv-
	Urban	-	-	35	23.3	9	6.0	-	-	152.722
	Semi urban	1	0.7	8	5.3	21	14.0	21	14.0	df- 6 tv- 12.592 S**
Type of diet	Vegetarian	20	13.3	4	2.7	29	19.3	7	4.7	cv-
	Non-Vegetarian	18	12.0	17	11.3	-	-	21	14.0	103.434 df- 6
	Ova-vegetarian	4	2.7	29	19.3	1	0.7	-	-	tv- 12.592 S**
Duration of cancer detection	Below 1 year	34	22.7	-	-	-	-	10	6.7	cv-
	2-3 years	8	5.3	34	22.7	-	-	-	-	196.113 df- 9
	4-5 years	-	-	16	10.7	18	12.0	-	-	tv-16.92

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	6 and above	-	-	-	-	12	8.0	18	12.0	S**
History of previous hospitalization	Yes	6	4.0	23	15.3	13	8.7	14	9.3	cv- 13.523 df- 3 tv- 7.815 S**
	No	36	24.0	27	18.0	17	11.3	14	9.3	
Source of information	Mass media	26	17.3	-	-	-	-	19	12.7	cv- 152.722 df- 6 tv- 12.592 S**
	Health professionals	16	10.7	18	12.0	-	-	1	0.7	
	Books / Magazines	-	-	29	19.3	8	5.3	-	-	
	Peer groups/parents	-	-	3	2.0	22	14.7	8	5.3	

**Note: CV, Calculated value; df, degree of freedom; tv, table value; S\*\*, Significance**

The study explored the relationship between various demographic variables and the knowledge levels of cancer patients regarding nutrition. Age showed significant variation ( $\chi^2 = 115.281$ ,  $df = 9$ ,  $p < 0.05$ ), with the majority of those aged 30-35 having no knowledge. Gender differences were not significant. Educational level was significant ( $\chi^2 = 114.298$ ,  $df = 9$ ,  $p < 0.05$ ), with primary-educated patients mostly having no or inadequate knowledge. Religion also showed significant differences ( $\chi^2 = 136.302$ ,  $df = 9$ ,  $p < 0.05$ ), with Hindus predominantly having no knowledge. Occupation was highly significant ( $\chi^2 = 188.777$ ,  $df = 12$ ,  $p < 0.05$ ), with daily wage earners largely lacking knowledge. Family type ( $\chi^2 = 76.046$ ,  $df = 6$ ,  $p < 0.05$ ), area of living ( $\chi^2 = 152.722$ ,  $df = 6$ ,  $p < 0.05$ ), type of diet ( $\chi^2 = 103.434$ ,  $df = 6$ ,  $p < 0.05$ ), duration of cancer detection ( $\chi^2 = 196.113$ ,  $df = 9$ ,  $p < 0.05$ ), and history of previous hospitalization ( $\chi^2 = 13.523$ ,  $df = 3$ ,  $p < 0.05$ ) were all significant. Information sources also showed significant variation ( $\chi^2 = 152.722$ ,  $df = 6$ ,  $p < 0.05$ ), highlighting mass media as the predominant source among those with no knowledge. These results indicate specific demographic factors significantly affect the nutritional knowledge levels among cancer patients (Table-5).

## Discussion

The discussion of the study revolves around the evaluation of nutritional knowledge levels among cancer patients and the implications of these findings. Firstly, the study revealed a notable disparity in nutritional knowledge among the patient population, with a significant portion exhibiting inadequate or no understanding of nutrition's role in cancer management. This highlights a critical need for targeted educational interventions to address these knowledge gaps effectively(7).

The identified associations between knowledge levels and various demographic factors provide valuable insights into the factors influencing patients' understanding of nutrition. For instance, significant associations were found with age, education, religion, occupation, family type, area of living, type of diet, duration of cancer detection, history of hospitalization, and information sources. These findings underscore the importance of considering these demographic variables when designing educational interventions tailored to specific patient groups(8).

Moreover, the study's implications extend beyond the academic realm to clinical practice and public health initiatives. Enhancing patients' understanding of nutrition's role in cancer management can empower them to make informed dietary choices, potentially improving treatment outcomes and quality of life. Therefore, healthcare providers should integrate nutrition education into cancer care protocols, ensuring that patients receive comprehensive support throughout their treatment journey(9).

In conclusion, the study sheds light on the critical importance of nutritional knowledge among cancer patients and the need for targeted educational interventions to address knowledge gaps effectively. By considering demographic factors and drawing comparisons with similar studies, researchers can develop evidence-based strategies to improve nutritional literacy and support better health outcomes in cancer patients(10).

## Delimitations

Despite the valuable insights provided, this study has several limitations that warrant acknowledgment. Firstly, the research was conducted at a single hospital, limiting the generalizability of the findings to other healthcare settings or populations. Additionally, the cross-sectional design employed in this study only allows for the examination of associations at a single point in time, precluding the establishment of causality. Moreover, the reliance on self-reported

data may introduce response bias or inaccuracies, potentially influencing the results. Furthermore, the study's sample size was relatively small, which may affect the statistical power and limit the precision of the estimates. Lastly, the study's focus on a specific geographical area may restrict the applicability of the findings to broader populations with different sociodemographic characteristics. These limitations underscore the need for future research to address these constraints and provide a more comprehensive understanding of nutritional knowledge among cancer patients.

## Recommendations

Based on the findings of this study, several recommendations can be made to improve nutritional education and support for cancer patients. Firstly, healthcare providers should prioritize the development and implementation of tailored educational interventions aimed at enhancing patients' understanding of the role of nutrition in cancer management(11). These interventions could include structured educational programs, informational booklets, and one-on-one counseling sessions. Additionally, efforts should be made to increase awareness among healthcare professionals about the importance of nutritional support in cancer care, ensuring that patients receive comprehensive and evidence-based guidance(12). Furthermore, future research should explore innovative strategies to address knowledge gaps and misconceptions regarding nutrition among cancer patients, utilizing multidisciplinary approaches to optimize patient outcomes. Finally, community-based initiatives and partnerships with local organizations can play a crucial role in promoting healthy dietary practices and providing ongoing support to individuals undergoing cancer treatment. These recommendations aim to empower patients with the knowledge and resources necessary to make informed dietary choices and improve their overall well-being throughout the cancer journey(13).

## Implications

The implications of this study are significant for both healthcare providers and policymakers involved in cancer care. Firstly, the findings underscore the importance of integrating nutritional education and support into routine cancer management protocols. By addressing knowledge gaps and misconceptions surrounding nutrition, healthcare providers can empower patients to make informed dietary choices that may positively impact their treatment outcomes and quality of life(8). Additionally, the study highlights the need for targeted interventions tailored to specific

demographic groups, taking into account factors such as age, education level, occupation, and cultural background. This personalized approach to nutritional education can help ensure that interventions are effective and accessible to all patients, regardless of their individual circumstances(12). Furthermore, policymakers can use the insights gained from this study to inform public health initiatives aimed at promoting healthy dietary practices and reducing the burden of cancer-related morbidity and mortality. Overall, the study's implications extend beyond the clinical setting, emphasizing the importance of comprehensive nutritional support in improving outcomes for cancer patients at both individual and population levels(4).

## Conclusion

In conclusion, this study highlights significant gaps in the nutritional knowledge of cancer patients, with only a minority demonstrating adequate understanding. Several demographic factors, including age, education, religion, occupation, and duration of cancer detection, significantly influence knowledge levels. These findings underscore the need for tailored educational interventions to enhance nutritional awareness and support better health outcomes in cancer patients. By addressing these knowledge gaps and implementing targeted interventions, healthcare providers and policymakers can empower patients to make informed dietary choices, potentially improving treatment outcomes and quality of life. Overall, the study emphasizes the importance of integrating nutritional education into routine cancer management protocols to optimize patient care and outcomes.

## Declarations

Ethical Approval: SCPM College of nursing and paramedical sciences, Gonda, Uttar Pradesh, India.

Study conducting permission- SCPM multi-specialty hospital, Gonda, Uttarpradesh

Informed Consent: "Informed consent was obtained from all participants involved in the study".

Conflicts of Interest: "The authors declare no conflicts of interest related to this study".

Funding: "This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors".

Data Availability: "The data that support the findings of this study are available from the corresponding author upon reasonable request".

Author Contributions: "All authors contributed to the conception, design, analysis, and interpretation of data. URK and KSG drafted the manuscript and all authors critically revised it for important intellectual content".

### References

1. Kale S, Hirani S, Vardhan S, Mishra A, Ghode DB, Prasad R, et al. Addressing Cancer Disparities Through Community Engagement: Lessons and Best Practices. *Cureus*. 15(8):e43445.
2. Al-Ghazawi M, Salameh H, Amo-Afful S, Khasawneh S, Ghanem R. An In-Depth Look Into the Epidemiological and Etiological Aspects of Prostate Cancer: A Literature Review. *Cureus*. 15(11):e48252.
3. van de Worp WRP, Schols AMWJ, Theys J, van Helvoort A, Langen RCJ. Nutritional Interventions in Cancer Cachexia: Evidence and Perspectives From Experimental Models. *Front Nutr*. 2020 Dec 22;7:601329.
4. Hiatt RA, Clayton MF, Collins KK, Gold HT, Laiyemo AO, Truesdale KP, et al. The Pathways to Prevention program: nutrition as prevention for improved cancer outcomes. *J Natl Cancer Inst*. 2023 May 22;115(8):886–95.
5. Ravasco P. Nutrition in Cancer Patients. *J Clin Med*. 2019 Aug 14;8(8):1211.
6. Misiąg W, Piszczyk A, Szymańska-Chabowska A, Chabowski M. Physical Activity and Cancer Care—A Review. *Cancers (Basel)*. 2022 Aug 27;14(17):4154.
7. Arafa MA, Amin HS, Farhat KH, Rabah DM, Alarifi FF, Mostafa NS, et al. Nutritional Related Knowledge of Cancer Prevention among Primary Health Care Physicians. *Asian Pac J Cancer Prev*. 2022 Mar;23(3):1041–5.



8. Raghupathi V, Raghupathi W. The influence of education on health: an empirical assessment of OECD countries for the period 1995–2015. *Archives of Public Health*. 2020 Apr 6;78(1):20.
9. Sasanfar B, Toorang F, Rostami S, Yeganeh MZ, Ghazi ML, Seyyedsalehi MS, et al. The effect of nutrition education for cancer prevention based on health belief model on nutrition knowledge, attitude, and practice of Iranian women. *BMC Women's Health*. 2022 Jun 7;22(1):213.
10. Melnic I, Alvarado AE, Claros M, Martinez CI, Gonzalez J, Gany F. Tailoring Nutrition and Cancer Education Materials for Breast Cancer Patients. *Patient Educ Couns*. 2022 Feb;105(2):398–406.
11. Trestini I, Sperduti I, Caldart A, Bonaiuto C, Fiorio E, Parolin V, et al. Evidence-based tailored nutrition educational intervention improves adherence to dietary guidelines, anthropometric measures and serum metabolic biomarkers in early-stage breast cancer patients: A prospective interventional study. *Breast*. 2021 Aug 21;60:6–14.
12. Furness K, Huggins C, Croagh D, Haines T. Exploring the Attitudes of Health Professionals Providing Care to Patients Undergoing Treatment for Upper Gastrointestinal Cancers to Different Models of Nutrition Care Delivery: A Qualitative Investigation. *Nutrients*. 2021 Mar 22;13(3):1020.
13. Lazar DE, Postolica R, Hanganu B, Mocanu V, Ioan BG. Web-based nutrition: a useful resource for cancer patients? *Front Nutr* [Internet]. 2023 Jun 30 [cited 2024 May 29];10. Available from: <https://www.frontiersin.org/articles/10.3389/fnut.2023.1134793>