



ISSN Print: 2664-844X
 ISSN Online: 2664-8458
 NAAS Rating (2026): 4.97
 IJAFS 2026; 8(4): 175-178
www.agriculturaljournals.com
 Received: 05-01-2026
 Accepted: 08-02-2026

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The Impact of lifestyle and diet on cancer patient

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DOI: <https://www.doi.org/10.33545/2664844X.2026.v8.i4c.1305>

Abstract

Lifestyle and diet significantly influence the risk, progression, and management of cancer. Malnutrition remains a major global concern, particularly in developing regions, where poor dietary practices and lack of awareness contribute to disease burden. A balanced diet, providing essential nutrients in proper proportions, is vital for maintaining health and preventing diseases. Cancer involves the uncontrolled growth of abnormal cells, forming benign or malignant tumors, with malignant tumors being invasive and life-threatening. Dietary components such as fiber, vitamins, and antioxidants—especially from fruits and vegetables—play a protective role against cancer by improving intestinal health and neutralizing harmful substances. Cancer patients are particularly vulnerable to malnutrition, especially under-nutrition, which leads to weight loss, muscle depletion, and reduced treatment effectiveness. Therefore, adopting a healthy lifestyle and balanced diet is crucial for both cancer prevention and improved patient outcomes.

Keywords: Dietary Patterns, Lifestyle, Malnutrition, Nutritional Status, Cancer Prevention

Introduction

Lifestyle medicine focuses on modifiable factors, like diet, exercise, stress, social support, sleep, and mind-body connections that influence health outcomes. Experts estimate that 42% of newly diagnosed cancer cases in the U.S. are caused by factors that can control and making potentially preventable. Two key factors, diet and physical activity, have the strongest evidence linking them to cancer risk, with various ways to measure these—such as weight, BMI (body mass index), and obesity. Diet and exercise, both are associated with an increased risk of developing cancers like lung, prostate, colorectal, breast, and several others. Cancer is a common non-communicable disease in developed and developing countries, and several factors can contribute to the development of malignant tumors. Understanding these factors is important for prevention measures, as many causes of cancer-related deaths and illnesses can be controlled or managed by early detection.

Recent studies highlight the significant role of lifestyle and diet in cancer prevention and management. American College of Lifestyle Medicine recommends plant-based diets rich in fruits, vegetables, whole grains, and legumes, which improve health by increasing fiber and essential nutrient intake (Matthew *et al.*, 2024). Similarly, unhealthy dietary habits, physical inactivity, smoking, and alcohol consumption are strongly associated with increased risks of breast, colorectal, and prostate cancers (Marino *et al.*, 2024) [3].

Evidence suggests that combined healthy lifestyle and dietary patterns are more effective than diet alone in reducing cancer risk, particularly breast cancer (Konieczna *et al.*, 2024) [1]. Studies among cancer survivors indicate that unhealthy dietary patterns, such as fast-food consumption, are linked with poor lifestyle factors like inactivity and lower education levels (Lan *et al.*, 2024) [2].

Furthermore, over 40% of cancer cases are associated with modifiable lifestyle factors, emphasizing the importance of balanced diets, physical activity, and avoidance of harmful habits (Wolnicka, 2024) [7]. Lifestyle improvements have also been shown to enhance quality of life and treatment outcomes in cancer patients (Putri *et al.*, 2024) [5]. Additionally, maintaining a nutritious diet before and after diagnosis improves survival, while unhealthy dietary shifts worsen prognosis (Qin *et al.*, 2025) [6].

Living a healthy lifestyle is key to prevent diseases, including cancer. Unhealthy habits are linked to serious conditions like heart disease, respiratory issues, different types of cancer, and mental health disorders later in life. Adopting a healthy lifestyle, such as regular physical

activity, proper sleep, strong social and family connections, spirituality, safety, relaxation, and good nutrition, plays a major role in preventing and lowering the risk of cancer. Overall, adopting a healthy lifestyle and balanced diet is crucial for cancer prevention, improved survival, and better quality of life.

Objective

To Study the impact of lifestyle pattern and diet on cancer patients.

Methodology

A total of 200 cancer patients were selected purposively from Brahmananda Narayana Multispecialty Hospital, Jamshedpur. Cancer patients were dependent variable and life style and dietary pattern was the independent variable.

Results and discussion

Lifestyle pattern and diet play a crucial role in influencing the health and recovery of cancer patients. Unhealthy habits such as poor diet, tobacco use, and physical inactivity can worsen the condition, while a balanced diet and healthy lifestyle can support treatment and improve quality of life. Therefore, studying the impact of lifestyle and dietary

patterns is important to understand their role in the management and outcomes of cancer patients.

Life style behavior of Cancer patients

Lifestyle behavior plays a significant role in the development, progression, and management of cancer. Habits such as tobacco use, alcohol consumption, physical activity, dietary practices, and other daily routines directly influence the health status of individuals and their response to treatment.

Therefore, studying the lifestyle behavior of cancer patients is essential to understand risk factors, identify behavioral patterns, and promote healthier practices that support recovery and long-term well-being.

Consumption behavior of cancer patients

Consumption of alcohol, smoking, paan, and tobacco are major lifestyle risk factors associated with the development and progression of cancer. These habits can weaken the immune system, worsen health conditions, and negatively affect treatment outcomes. Studying these behaviours among cancer patients is important to understand their impact on health.

Table 1: Lifestyle Risk Behaviors of Cancer Patients

Consuming oral intoxicants	Gender					
	Female		Male		Total	
	No.	%	No.	%	No.	%
No	65	60.19	13	14.13	78	39
Yes	43	39.81	79	85.87	122	61
Total	108	100	92	100	200	100
Drinking						
No	108	100	61	66.3	168	84
Yes	0	0	31	33.7	32	16
Total	108	100	92	100	200	100
Smoking						
No	106	98.15	32	34.78	138	69
Yes	2	1.85	60	65.22	62	31
Total	108	100	92	100	200	100
Chewing Tobacco						
No	65	60.19	16	17.39	81	40.5
Yes	43	39.81	76	82.61	119	59.5
Total	108	100	92	100	200	100
Narcotic Drugs						
No	108	100	91	98.91	199	99.5
Yes	0	0	1	1.09	1	0.5
Total	108	100	92	100	200	100

A higher proportion of females (60.19%) compared to males (14.13%) do not consume oral intoxicants, indicating that this habit is more prevalent among males. The majority of respondents (84.00%) do not consume alcohol. Smoking behaviour reveals that majority of females (98.15%) do not smoke, indicating that smoking is highly prevalent among male respondents. Chewing tobacco habits show that higher proportion of females (60.19%) compared to males (17.39%) do not engage in this habit. Consumption of narcotic drugs is very low, with only 1.09% of males reporting use and no female respondents involved, accounting for 0.50% of the total. Overall, the findings indicate that lifestyle risk behaviors such as oral intoxicants, smoking, alcohol consumption, and chewing tobacco are

significantly higher among male cancer patients compared to females, while narcotic drug use is minimal among the respondents.

Physical activity behavior of cancer patients

Physical activity is an important factor influencing the health and recovery of cancer patients. Regular physical activity helps to improve strength, reduce fatigue, and enhance overall quality of life during and after treatment. However, cancer and its treatment often reduce activity levels due to weakness and other complications. Therefore, studying physical activity behaviour is essential to understand its role in improving health outcomes among cancer patients.

Table 2: Physical Activity of Cancer Patients

Occupation nature	Gender					
	Female		Male		Total	
	No.	%	No.	%	No.	%
High level of activity	3	2.78	13	14.13	16	8
Low level of activity (sedentary)	19	17.59	14	15.22	33	16.5
Normal level of activity	86	79.63	65	70.65	151	75.5
Total	108	100	92	100	200	100
Morning Walk						
No	72	66.67	43	46.74	115	57.5
Some Times	23	21.3	32	34.78	55	27.5
Yes	13	12.04	17	18.48	30	15
Total	108	100	92	100	200	100
Morning Exercise						
No	84	77.78	65	70.65	149	74.5
Some Times	15	13.89	17	18.48	32	16
Yes	9	8.33	10	10.87	19	9.5
Total	108	100	92	100	200	100

Occupational activity distribution shows that the majority of respondents fall under normal level of activity, accounting for 79.63% females and 70.65% males, with an overall total of 75.50%, while only 2.78% females and 14.13% males (8.00% total) are engaged in high levels of activity. This indicates that most respondents have moderate occupational physical activity. Morning walk analysis reveals that 66.67% of females and 46.74% of males do not go for morning walks, with an overall total of 57.50%. This suggests that regular morning walking is low among cancer patients. Exercise, jogging, and yoga practices show that the majority of respondents do not engage in regular exercise, accounting for 77.78% females and 70.65% males (74.50%

total). The findings indicate that although most cancer patients have moderate occupational activity, regular physical exercise and structured physical activities are limited among both male and female respondents.

Dietary pattern of cancer patients

Dietary behaviour is a key factor influencing the health, treatment response, and recovery of cancer patients. Proper nutrition helps maintain body weight, strengthen immunity, and improve tolerance to treatment. Understanding the dietary behaviour of cancer patients is essential to identify nutritional deficiencies, assess food consumption patterns, and promote balanced diets.

Table 3: Dietary habits of cancer patients

Dietary Habit and meal gap	Gender					
	Female		Male		Total	
	No.	%	No.	%	No.	%
Dietary Habits						
Non vegetarian	79	73.15	81	88.04	160	80.00
vegetarian	29	26.85	11	11.96	40	20.00
Total	108	100.00	92	100.00	200	100.00
Meal gap						
2-hours	20	18.52	18	19.57	38	19.00
3-hours	54	50.00	47	51.09	101	50.50
More than 3-hours	34	31.48	27	29.35	61	30.50
Total	108	100.00	92	100.00	200	100.00

It is observed that majority of respondents are non-vegetarian, accounting for 73.15% females and 88.04% males, with an overall total of 80.00%. This indicates that most cancer patients in the study follow a non-vegetarian diet, with a higher proportion among males. It is observed that the majority of respondents maintain a 3-hour gap between meals, accounting for 50.00% females and 51.09% males, with an overall total of 50.50%. A gap of more than 3 hours is reported by 31.48% females and 29.35% males (total 30.50%), while 2-hour gaps are followed by 18.52% females and 19.57% males (total 19.00%). This indicates that most cancer patients follow a 3-hour interval between meals, with a considerable proportion having longer gaps. Most patients are non-vegetarian and maintain a moderate gap of about 3 hours between meals. Overall, the findings suggest that while some healthy dietary practices are followed, there is still a need to improve nutritional

awareness and encourage balanced diet plans among cancer patients.

Conclusion

The findings show that occupation nature, morning walk, and morning exercise have significant association with healthy life measures. This indicates that regular physical activity and active lifestyle contribute to better health conditions among cancer patients. Healthy life measures such as regular exercise, morning walk, and active lifestyle are found to be more effective in maintaining better health among cancer patients. The study highlights the importance of adopting healthy lifestyle practices and improving dietary habits for better management and prevention of cancer.

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