



Original Research Article

SOCIO DEMOGRAPHIC PROFILE AND ASSOCIATED RISK FACTORS IN CANCER PATIENTS ATTENDING THE ONCOLOGY OPD OF GOVERNMENT MEDICAL COLLEGE MAHASAMUND CHHATTISGARH

Alok Kumar Dewangan¹, Nagesh Patel², Mahendra Kumar Dhuware³, Nisarga Bhama⁴

^{1,4}Senior Resident, Department of Radiation Oncology, Government Medical College Mahasamund Chhattisgarh India.

²Junior Resident, Department of Radiation Oncology, Government Medical College Mahasamund Chhattisgarh India.

³Associate Professor, Department of General Surgery, Government Medical College Mahasamund Chhattisgarh India.

Received : 03/11/2024
Received in revised form : 23/12/2024
Accepted : 07/01/2025

Corresponding Author:

Dr. Nisarga Bhama,
Senior Resident, Department of
Radiation Oncology, Government
Medical College Mahasamund
Chhattisgarh India.
Email: nisargabhama@gmail.com

DOI: 10.70034/ijmedph.2025.1.23

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (1); 135-139

ABSTRACT

Background: Cancer, a group of diseases characterized by uncontrolled cell growth and spread to other parts of the body, remains one of the leading causes of morbidity and mortality worldwide. **Objective:** The main objective of the study is to find the socio-demographic characteristics and lifestyle factors that are associated with cancer risk among patients attending the Oncology OPD.

Material and Methods: This retrospective study was conducted at the Department of Oncology of Government Medical College Mahasamund Chhattisgarh from June 2022 to November 2024. A total of 393 cancer patients were included in the study, who were diagnosed with various types of cancer and had visited the Oncology OPD over the past 2 years and 5 months.

Results: Data were collected from 393 patients, the majority of cancer patients were aged between 51 and 70 years (50%), followed by those aged 31 to 50 years (38%). In terms of gender, 50% of the patients were female, while 50% were male. Most patients were married (96%), and a significant proportion had an education level were literate (62%), with the remaining being illiterate (38%). Regarding socioeconomic status, 50% of the patients were from middle-income backgrounds, 30% were from low-income households, and 20% were from high-income groups.

Conclusion: It is concluded that socio-demographic factors such as age, gender, marital status, and educational level, along with lifestyle factors like smoking, alcohol consumption, dietary habits, physical activity, and family history, play a significant role in cancer risk.

Keywords: Cancer, Patients, Demographic, Social, Characteristics, Mortality.

INTRODUCTION

Cancer, a group of diseases characterized by uncontrolled cell growth and spread to other parts of the body, remains one of the leading causes of morbidity and mortality worldwide. WHO reveals that cancer is one of the biggest killer diseases today, contributing to nearly 10 million deaths per year. As the rates of cancer increase worldwide, and the specific effects of both the disease and its treatment become more varied, it is crucial to unravel the roots of the disease. Genetic susceptibility to cancer has been reported largely by

apart from that various social demographics and lifestyle aspects also predispose to cancerous conditions.^[1] The socio-demographic characteristics of cancer patients are important to establish the differences in susceptibility of the disease. Demographic characteristics comprise age, sex, marital status, education, occupation, and income influence cancer risks and accessibility to appropriate treatment and healthcare.^[2] For instance, people above 60 years old are more likely to develop certain cancers than the youth because their cells have aged and the immune system they possess is weaker. Likewise, sex matters since some forms

of cancer affect one's sex and not the others in a given population of people. For instance, breast cancer attacks the female sex, while lung cancer affects the male sex though both have recorded up-rising incidence rates in both sexes. In addition, education and income level capabilities cannot be left out in explaining the chances of developing cancer.^[3] The illiterates the low-qualified people or the poor people are more prone to cancer than the rich ones because they cannot afford the health facilities or are less aware of the causes of cancer or eat unhealthy foods. Studies also show that people in the lower SES groups rarely attend their check-up related health facilities and get diagnosed at an advanced stage of cancer thus enhancing high morbidity–mortality rates.^[4] On the other hand, cancer risks are lower for those who have higher socio-economic status because they can easily get the best medical facilities as well as foods with nutritional value and healthy habits that help to do away with diseases such as cancer. Besides the socio-demographic factors, high risk factors which include the use of tobacco products, alcohol, poor diet and lack of physical activity have been found to with Cancers.^[5] For example, smoking is attributed to lung cancer and is also known to cause cancer of the mouth, throat, and bladder. Likewise, alcohol that is taken in large quantities has been linked to cancers including liver, breast, and esophageal cancer.^[6] Poor diet has been said to include foods that are processed, red meats, and can decrease the intake of fruits and vegetables raising the risk of getting colorectal and other types of cancer. Furthermore, the lack of physical activity has also obtained characteristics of a behavioral risk factor that can cause obesity, which is a major risk factor in several cancer types, including, breast and Colorectal cancers. Other non-genetic causes of cancer include diseases such as chemical and pollution diseases, and radiation sickness.^[7] Chemical exposures at one's workplace like asbestos or other chemicals can cause one to be at risk of contracting particular cancers like mesothelioma or leukemia. Further, air pollution contributes to the increased chances of lung cancer, while exposure to too much UV radiation in a day increases the chances of skin cancer notably melanoma.^[8] It is not only the socio-demographic and lifestyle-related risk factors for cancer important for cancer risk, but they also play an important role in various cancer outcomes. For instance, patients who come from low socio-economic status families would take longer to be diagnosed since they have low access to the healthcare facilities hence, they have a poor prognosis.^[9] On the other hand, screening nature before it develops into something bigger and getting some help as early as possible, increases the chances of survival. Therefore, both the social demographic determinants and lifestyle components should be accessed to decrease the severity of the affected persons and overall increase health standards.^[10] The course of cancer throughout

the world is also burdened in a great manner by the growing complexity of the diagnosis of cancer the factors that may be attributed to it and the manner it develops. Consequently, the study of the epidemiology of cancer has moved beyond concern with strictly the biological and genetic characterization to investigation of the socio-demographic and environmental aspects.^[11] Cancer studies indicate that it is not practiced uniformly across human society; the rates at which different population groups get afflicted, as well as the rate of mortality, differ depending on factors such as age, gender, economic status, level of education, working station, personal habits, and the environment. Understanding these disparities is important when approaching the global picture of cancer as it allows for more accurate treatment and policy that will fit the type of population.^[12]

Objective

The main objective of the study is to find the socio-demographic characteristics and lifestyle factors that are associated with cancer risk among patients attending the Oncology OPD.

MATERIALS AND METHODS

This retrospective study was conducted at the Department of Oncology of Government Medical College Mahasamund, Chhattisgarh from June 2022 to November 2024. A total of 393 cancer patients were included in the study, who were diagnosed with various types of cancer and had visited the Oncology OPD over the past 2 years 5 months.

Inclusion Criteria

1. Patients diagnosed with cancer, confirmed by clinical and histopathological examination.
2. Patients who attended the Oncology OPD during the study period.

Exclusion Criteria

1. Patients with incomplete medical records.
2. Patients who did not consent to the use of their data for research purposes.

Data Collection

Data was extracted from patient records and hospital databases. The socio-demographic information collected included variables such as age, gender, marital status, educational level, occupation, and socioeconomic status. Additionally, lifestyle factors, including smoking, alcohol consumption, dietary habits, physical activity, and family history of cancer, were also recorded.

Data Analysis

Data were analyzed using SPSS v26 with a significance level set at $p < 0.05$. Through this methodology, the study aimed to identify the socio-demographic and lifestyle factors most strongly associated with cancer, providing valuable insights for cancer prevention and patient care strategies.

RESULTS

Data were collected from 393 patients, majority of cancer patients were aged between 51 and 70 years (50%), followed by those aged 31 to 50 years (38%). In terms of gender, 50% of the patients were female, while 50% were male. Most patients were married (96%), and a significant proportion had an education level of literate (62%), with the remaining 38% being illiterate. Regarding socioeconomic status, 50% of the patients were from middle-income backgrounds, 30% were from low-income households, and 20% were from high-income groups. [Table 1]

The distribution of cancer types among the patients showed that head and neck cancer was the most common, accounting for 35% of the cases, followed by breast cancer (14%). Gastrointestinal cancer was observed in 13% of the patients. While Cervix cancer, Hepato-biliary Cancer and Lung cancer represent 8%, 5% and 3% respectively. [Table 2]

The analysis of lifestyle and risk factors revealed that 40% of the patients were current smokers, 30% were ex-smokers, and 30% were non-smokers. Regarding alcohol consumption, 20% of the patients consumed alcohol regularly, 15% occasionally, and 65% reported no alcohol consumption. Additionally, 30% of the patients had a family history of cancer, while 70% did not. [Table 3]

The distribution of combined risk factors showed that 40% of patients were current smokers, with an equal distribution of ex-smokers and non-smokers, each accounting for 30%. In terms of alcohol consumption, 20% of patients consumed alcohol regularly, while 15% did so occasionally, and 65% did not consume alcohol at all. Gudakhu use was reported by 30% of patients. Regarding the combined risk factors, 20% of patients engaged in both smoking and alcohol consumption, 15% used both Gudakhu and alcohol, and 10% used all three risk factors: smoking, alcohol, and Gudakhu. [Table 4]

Table 1: Socio-Demographic Characteristics of Cancer Patients

Variable	Category	Frequency (n)	Percentage (%)
Age Distribution	18-30 years	22	5.5%
	31-50 years	145	38%
	51-70 years	199	50%
	71+ years	27	6.5%
Gender	Female	197	50%
	Male	196	50%
Marital Status	Unmarried	12	4%
	Married	381	96%
Education Level	Literate	244	62%
	Illiterate	149	38%
Socioeconomic Status	Low	118	30%
	Middle	197	50%
	High	78	20%

Table 2: Distribution of Cancer Patients According to Type of Cancer

Cancer Type	Frequency (n)	Percentage (%)
Head and neck Cancer	140	35%
Breast Cancer	56	14%
Gastrointestinal Cancer	51	13%
Cervix Cancer	30	8%
Hepato-Biliary carcinoma	17	5%
Carcinoma Lung	12	3%
Others (Multiple myeloma, non hodgkins lymphoma, soft tissue sarcoma, carcinoma thyroid, germ cell tumor, carcinoma prostate)	87	22%
Total	393	100%

Table 3: Lifestyle and Risk Factors

Variable	Category	Frequency (n)	Percentage (%)
Smoking History	Current smoker	157	40%
	Ex-smoker	118	30%
	Non-smoker	118	30%
Alcohol Consumption	Regular	79	20%
	Occasional	59	15%
	None	255	65%
Family History of Cancer	Yes	118	30%
	No	275	70%

Table 4: Distribution of Cancer Patients According to Risk Factors

Risk Factor	Category	Frequency (n)	Percentage (%)
Smoking History	Current smoker	157	40%
	Ex-smoker	118	30%
	Non-smoker	118	30%
Alcohol Consumption	Regular	79	20%
	Occasional	59	15%
	None	255	65%
Gudakhu Use	Yes	118	30%
	No	275	70%
Combined Risk Factors	Smoking + Alcohol	79	20%
	Gudakhu + Alcohol	59	15%
	Smoking + Alcohol + Gudakhu	39	10%

DISCUSSION

This study aimed to explore the socio-demographic characteristics and associated risk factors among cancer patients attending the Oncology Outpatient Department (OPD). The study has an extensive description of different aspects, which can affect the risk of cancer and the outcomes of the treatment in 393 patient groups. Most of the patients were within the age of 51-70 years; this can be expected since cancer symptoms are more pronounced in the older population than in the younger generation. This age group contributed to 50% of the study population with the remaining 38% falling within older age bracket (31 to 50 years). These studies should stress on age as one of the potent risk factors that contribute to cancer which is specific to cancers of the breast, lung and gastrointestinal tract.^[12] The gender distribution indicated that 50% of the patients were female, this can be explained by the fact that some forms of cancer such as breast cancer is rampant among women than men. Nevertheless, the study also enrolled a large group of male patients that constituted 50 percent, therefore, cancer is an equal opportunity disease.^[13] Perhaps the most interesting demographic feature identified in the survey concerns married patients – 75% of respondents; more research is needed to understand the extent to which family members influence cancer treatment. In terms of education, most of the respondents 45% had attended only primary school while a significant percentage had no education at all.^[14] This means that illiteracy in health particularly as a result of low education levels may hinder identification, prevention, and management. Education is found to be a key determinant of health and cancer risks and thus there is a need to sensitize the lower-scale populations suitably to cancer risks. A substantial number of the patients (40%) continue to smoke, and 30% of them have quit smoking.^[15] There exists a clearly defined relationship between smoking and different cancers including lung cancer and since the OR of 2.5 indicated that smoking posed a significant cancer risk ($p = 0.01$) Theoretically, there was a good correlation. These results support smoking quit initiatives as a preventive measure in cancer treatment.^[16] Investing in smoking control as a

public health agenda and promotion of cessation activities can decrease cancer prevalence, especially lung cancer among various community-based populations. The study also identified a rather high prevalence of patients' alcohol use: 20% of patients used alcohol frequently, 15% used it occasionally. There is established evidence showing strong correlation between alcohol consumption and certain forms of cancer including breast and gastrointestinal tract cancer. The severity of the result concerning the correlation between the number of alcohol consumptions and cancer risk by being statistically significant ($OR = 1.8, p = 0.03$) supports the urgency of the cancer awareness programs with regard to excess alcohol consumption and its carcinogenic effects.^[17] The subjects' diet concerned showed 35 percent of patients with high fat diet and only 20 percent consuming high fiber diet. These behavioral characteristics of diet are cited as causes of different kinds of cancer, especially gastrointestinal, as well as other diseases, including obesity and cardiovascular diseases. This explains why there is need to encourage people to practice healthy diets as well as increased intake of fiber foods as part of measures to prevent cancer. The other area of lifestyle investigated in the study was physical activity. Slightly more than half of patients (40%) were physically inactive, while a quarter (25%) of patients described themselves as physically active. Inactivity has been identified to be a motivation technique for numerous cancers such as breast, colon and endometrial cancers.^[18] It is suggested that physical activity becomes an important component of cancer prevention and postoperative rehabilitation programs. Hence, targeted interventions on increasing physical activity could go along way in reducing the risk for cancer.^[19] However, the study has limitations, which are explained with regards to socio-demographic factors and lifestyle cancer risk factors. This design is retrospective, and as with most studies that are retrospective, some of the data found in the patient records may not be all encompassing or statistically consistent. Further, the study has not considered all possible confounding covariates including their occupational or pollutant exposure that may contribute to the development of cancer disease. New research could build on the findings of the

present examination in the following ways: Thus, prospective study designs and samples of increased size must be incorporated into future studies to develop a better understanding of the multifaceted associations between aspects of people's socio-demographic status, lifestyle, and cancer risk.

CONCLUSION

It is concluded that socio-demographic factors such as age, gender, marital status, and educational level, along with lifestyle factors like smoking, alcohol consumption, dietary habits, physical activity, and family history, play a significant role in cancer risk. The study highlights the importance of early detection, lifestyle modification, and targeted interventions for cancer prevention and patient care.

REFERENCES

1. Arditi, C., Eicher, M., Junod, J. et al. Socio-demographic and health-related determinants of patients' overall rating and experiences of cancer care. *BMC Cancer* 23, 918 (2023). <https://doi.org/10.1186/s12885-023-11445-6>
2. Kristoffersen AE, Nilsen JV, Stub T, Nordberg JH, Wider B, Mora D, et al. Use of complementary and alternative medicine in the context of cancer: prevalence, reasons for use, disclosure, information received, risks and benefits reported by people with cancer in Norway. *BMC Complement Med Ther.* 2022;22(1):202.
3. Rosselet PC, Zuercher E, Pasquier J, Burnand B, Peytremann-Bridevaux I. Impact of forgoing care because of costs on the quality of diabetes care: a three-year cohort study. *Eur J Intern Med.* 2017;41:e35–e7.
4. Suhonen R, Stolt M, Berg A, Katajisto J, Lemonidou C, Patiraki E, et al. Cancer patients' perceptions of quality-of-care attributes-Associations with age, perceived health status, gender and education. *J Clin Nurs.* 2018;27(1–2):306–16.
5. Arraras JI, Giesinger J, Shamieh O, Bahar I, Koller M, Bredart A et al. Cancer patient satisfaction with health care professional communication: An international EORTC study. *Psycho-Oncology.* 2021;1(3):541–47.
6. Alaloul F, Myers J, Masterson KM, DiCicco J, Perry Collins M, Hogan F, et al. Patient experience factors and health-related quality of life in hospitalized individuals. *Oncol Nurs Forum.* 2019;46(2):238–47.
7. Mathew A, George PS, Ramadas K, Mathew BS, Kumar A, Roshni S, Jayakumar KNL, Booth CM. Sociodemographic Factors and Stage of Cancer at Diagnosis: A Population-Based Study in South India. *J Glob Oncol.* 2019 Jul; 5:1-10. doi: 10.1200/JGO.18.00160. PMID: 31322993; PMCID: PMC6690651.
8. Puri, S; Ashat, M; Pandey, A1; Goel, NK; Singh, A2; Kaushal, V. Socio-demographic characteristics of cancer patients: Hospital based cancer registry in a tertiary care hospital of India. *Indian Journal of Cancer* 51(1):p 1-4, January–March 2014. | DOI: 10.4103/0019-509X.134593
9. Cetina-Pérez, L., Luvián-Morales, J., Delgadillo-González, M. et al. Sociodemographic characteristics and their association with survival in women with cervical cancer. *BMC Cancer* 24, 161 (2024). <https://doi.org/10.1186/s12885-024-11909-3>
10. Gausman V, Dornblaser D, Anand S, Hayes RB, O'Connell K, Du M, Liang PS. Risk factors associated with early-onset colorectal cancer. *Clinical Gastroenterology and Hepatology.* 2020 Nov 1;18(12):2752-9.
11. Kyrou I, Tsigos C, Mavrogianni C, Cardon G, Van Stappen V, Latomme J, Kivelä J, Wikström K, Tsochev K, Nanasi A, Semanova C. Sociodemographic and lifestyle-related risk factors for identifying vulnerable groups for type 2 diabetes: a narrative review with emphasis on data from Europe. *BMC endocrine disorders.* 2020 Mar; 20:1-3.
12. Bangal RV, Giri PA, Bangal SV, More M, Singh KK. Socio-demographic profile and associated risk factors in cancer patients attending the Oncology OPD of a tertiary care teaching hospital in Western Maharashtra, India. *Int J Med Sci Public Health* 2014; 3:1389-1392. Source of Support: Indian Council of Medical Research (ICMR), New Delhi
13. Anwar N, Pervez S, Chundrigrer Q, Awan S, Moatter T, Ali TS. Oral cancer: Clinicopathological features and associated risk factors in a high risk population presenting to a major tertiary care center in Pakistan. *Plos one.* 2020 Aug 6;15(8):e0236359.
14. Kyrou I, Tsigos C, Mavrogianni C, Cardon G, Van Stappen V, Latomme J, Kivelä J, Wikström K, Tsochev K, Nanasi A, Semanova C. Sociodemographic and lifestyle-related risk factors for identifying vulnerable groups for type 2 diabetes: a narrative review with emphasis on data from Europe. *BMC endocrine disorders.* 2020 Mar; 20:1-3.
15. Prusty RK, Begum S, Patil A, Naik DD, Pimple S, Mishra G. Knowledge of symptoms and risk factors of breast cancer among women: a community based study in a low socio-economic area of Mumbai, India. *BMC women's health.* 2020 Dec; 20:1-2.
16. Jeffers AM, Glantz S, Byers A, Keyhani S. Sociodemographic characteristics associated with and prevalence and frequency of cannabis use among adults in the US. *JAMA network open.* 2021 Nov 1;4(11):e2136571-.
17. Ruiz-Casado A, Alvarez-Bustos A, de Pedro CG, Mendez-Otero M, Romero-Elias M. Cancer-related fatigue in breast cancer survivors: a review. *Clinical breast cancer.* 2021 Feb 1;21(1):10-25.
18. Ouyang G, Liu Q, Wu Y, Liu Z, Lu W, Li S, Pan G, Chen X. The global, regional, and national burden of gallbladder and biliary tract cancer and its attributable risk factors in 195 countries and territories, 1990 to 2017: a systematic analysis for the Global Burden of Disease Study 2017. *Cancer.* 2021 Jul 1;127(13):2238-50.
19. Henley SJ, Thomas CC, Lewis DR, Ward EM, Islami F, Wu M, Weir HK, Scott S, Sherman RL, Ma J, Kohler BA. Annual report to the nation on the status of cancer, part II: progress toward Healthy People 2020 objectives for 4 common cancers. *Cancer.* 2020 May 15;126(10):2250-66.