SHORT ARTICLE

Rising Incidence of Stomach Cancer in Arunachal Pradesh: Examining the Role of Traditional Smoked Meat Consumption

Kamta Beyong, Pradeep Aggarwal, Anubhuti
MPH Scholar, All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India
Additional Professor, All India Institute of Medical Sciences, Rishikesh, Uttarakhand

CORRESPONDING AUTHOR
Dr. Kamta Beyong, MPH Scholar, All India Institute of Medical Sciences, Rishikesh, Uttarakhand
Email:

CITATION
Beyong K, Aggarwal P, Anubhuti. Rising Incidence of Stomach Cancer in Arunachal Pradesh: Examining the Role of Traditional Smoked Meat Consumption. Journal of the Epidemiology Foundation of India. 2025;3(2):188-190.
DOI: https://doi.org/10.56450/JEFI.2025.v3i02.013
ARTICLE CYCLE
Received: 30/01/2025; Accepted: 06/06/2025; Published: 30/06/2025
This work is licensed under a Creative Commons Attribution 4.0 International License.
©The Author(s). 2025 Open Access

Abstract
Background: Stomach cancer in Arunachal Pradesh is a growing concern, constituting 23.2% of male and 14.6% of female cancer cases in West Arunachal, with high rates in Pasighat. **Objective**: This study explores the association between stomach cancer and dietary habits, focusing on the high traditional consumption of smoked meat, Helicobacter pylori infection, and alcohol intake. **Method**: Data from the Population-Based Cancer Registry and a literature review were analyzed. **Results**: Key risk factors include high traditional consumption of smoked meat, Helicobacter pylori, and alcohol intake. **Conclusion**: Public health interventions, dietary changes, and screening programs are needed.

Keywords
Stomach Cancer; Smoked Meat; Helicobacter Pylori; Dietary Habits

Introduction
Stomach cancer is a significant cause of cancer-related mortality worldwide, with a higher prevalence in certain regions, including Northeast India [1,2]. The NCRP report 2020 highlights that Arunachal Pradesh has some of the highest stomach cancer incidence rates in India [3].

In West Arunachal and Pasighat PBCR region, stomach cancer is the most frequently reported malignancy, ranking among the top five in the country [3]. The age-adjusted incidence rate (AAR) in males is 24.9 per 100,000 in West Arunachal and 23.9 per 100,000 in Pasighat, while in females, it is 15.8 and 12.5 per 100,000, respectively [3].

One of the suspected contributors is the widespread consumption of traditionally smoked meat and fish, which contain carcinogenic polycyclic aromatic hydrocarbons (PAHs) and nitrosamines [5]. Additional factors include Helicobacter pylori infection and high alcohol intake, both of which are established risk factors for gastric cancer [8]. Studies from Mizoram, another high-risk region, corroborate these findings, linking smoked food consumption to increased stomach cancer risk [4].

Given the alarming trends, this study aims to provide insights to support preventive strategies, dietary modifications, and early detection programs to reduce the stomach cancer burden in Arunachal Pradesh.

Material & Methods

Data from PBCR, NCRP 2020, and ICMR-NCDIR were analyzed to assess the incidence and regional variations of stomach cancer in Arunachal Pradesh. A literature review was conducted to explore the impact of smoked food consumption, Helicobacter pylori infection, and alcohol consumption on gastric cancer risk [3,4,5,7,8]. Comparative data from Mizoram and other high-risk regions were included for contextual analysis.

Results

Cancer Prevalence: Stomach cancer constitutes 23.2% of male and 14.6% of female cancer cases in West Arunachal, and 18.1% in males and 9.6% in females in Pasighat [3].

Risk Factors: Smoked meat consumption is associated with higher cancer rates due to carcinogenic compounds [5].Helicobacter pylori infection is prevalent in the region and linked to an increased risk of gastric cancer [8].Alcohol consumption further exacerbates cancer susceptibility [8].

Comparative Findings: Similar high stomach cancer rates in Mizoram and Sikkim reinforce the dietary risk hypothesis [4]. Studies from Korea also emphasize dietary contributions to gastric cancer incidence [7].

Discussion

The high stomach cancer burden in Arunachal Pradesh appears strongly associated with traditional dietary habits, particularly the consumption of smoked meat and fish, which contain PAHs and nitrosamines known to be carcinogenic [5,7].

Additionally, Helicobacter pylori infection and alcohol consumption further elevate cancer risk [8]. Findings from Mizoram, Korea, and Japan provide comparative evidence supporting the association between dietary patterns and stomach cancer prevalence [4,7].

Given these alarming trends, public health interventions, dietary awareness campaigns, and cancer screening programs are imperative. Promoting alternative cooking methods and encouraging early detection strategies can help mitigate the increasing cancer burden in Arunachal Pradesh [6].

Way Forward: To address the rising incidence of stomach cancer in Arunachal Pradesh, particularly in high-risk areas like West Arunachal and Pasighat, the following strategies are recommended:

Public Health Awareness: Campaigns to educate communities on the risks of smoked meat and promote healthier cooking methods [3].Screening and Early Detection: Widespread stomach cancer screenings and Helicobacter pylori testing should be prioritized [6].Further Research: Longitudinal studies on smoked food consumption and cancer incidence are needed, with continued monitoring through PBCR [2].Regulatory Measures: Collaboration with health authorities to regulate smoked food consumption and enhance access to Helicobacter pylori treatment [3,6].Palliative Care and Infrastructure: Strengthening cancer care infrastructure and improving access to palliative care services [3].

Conclusion

Stomach cancer poses a major public health challenge in Arunachal Pradesh, with traditionally smoked meat consumption, Helicobacter pylori infection, and alcohol intake emerging as key risk factors [1,4,6]. There is an urgent need for targeted public health strategies, lifestyle modifications, and early screening programs to address this rising trend [3].

Summary:

The rising incidence of stomach cancer in Arunachal Pradesh, particularly in West Arunachal and Pasighat, is closely linked to traditional smoked meat consumption, Helicobacter pylori infection, and alcohol intake. Comparative studies from Mizoram and global data reinforce these risk factors. Urgent

action is needed through dietary awareness, early cancer screening, and improved healthcare infrastructure. Final Say: Preventing stomach cancer requires a collective effort—public health policies, community-driven initiatives, and medical advancements must work together to promote healthier lifestyles and reduce the burden of this disease in Arunachal Pradesh.

Authors Contribution

All authors have contributed equally.

Financial Support and Sponsorship

Nil

Conflict of Interest

There are no conflicts of interest.

Declaration Of Generative AI And AI Assisted Technologies In The Writing Process

The authors haven't used any generative AI/AI assisted technologies in the writing process.

References

1. Global Cancer Observatory. All cancers fact sheet [Internet]. Lyon: International Agency for Research on Cancer; [cited 2025 Jan 30]. Available from: https://gco.iarc.fr/today/data/factsheets/cancers/39-All-cancers-fact-sheet.pdf
2. Catala-Lopez F, Global Burden of Disease 2019 Cancer Collaboration. Cancer incidence, mortality, and disability-adjusted life years for 29 cancer groups from 2010 to 2019.
3. ICMR-NCDIR. Profile of cancer and related health indicators in the Northeast Region of India. Bangalore: ICMR-NCDIR; 2021.
4. Dikid T, Gupta S, Shukla V, et al. Dietary habits and stomach cancer in Mizoram, Northeast India. Asian Pac J Cancer Prev. 2021;22(1):78-85.
5. Kawabata T, Watanabe M, Nishimoto N, et al. Effects of smoked food consumption on stomach cancer risk. Int J Cancer Res. 2011;129(3):756-62.
6. ICMR-NCDIR. Cancer risk factors and prevention strategies. Bangalore: ICMR-NCDIR; 2023.
7. Park S, Shin A, Kim J, et al. Dietary habits and gastric cancer risk in Korea and Japan. Gastroenterol Res Pract. 2019;2019:1-12.
8. Nagpal J, Bhartiya D, Yadav DK, et al. Prevalence of Helicobacter pylori infection in Northeast India and its association with gastric cancer. World J Gastroenterol. 2014;20(25):8124-31.

© 2025 JEFI