

Research Article

Effectiveness of Diet Therapy in Mitigating Stomach Cancer in Kashmir Region of India: A Hospital -Based Study

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ABSTRACT

Background: Cancer is a multifarious and complex disease, which is defined as a rapid and abnormal division of cells that engulfs other organs in a process of metastasis. Stomach cancer is prevalent in Kashmir, and new cases are rising drastically. It's because of unawareness of food habits, smoking, spraying of orchards, unhealthy lifestyles, wazwan (non-vegetarian foods), processed and ultra-processed foods, micro-plastics, and harmful radiations. Stomach cancer patients are the highest (25.2%) after cola rectal cancer (16.4%) (Maria A. Qureshi et al.). It is noted that the Kashmir Valley has cancer at the highest rate as compared to the rest of India.

Aims/Objectives: the main objective of this study is to analyse risk factors and effectiveness of diet therapy among the patients suffering from stomach cancer.

Materials & Methods: The study was conducted at super specialty hospital government medical college Srinagar. A sample of 163 patients was taken. Interview method was deployed to collect the primary data.

Results: Out of 163 patients, majority were unaware about the proper diet. Many patients were on palliative care. Age group was 50-80, with male 135 and 28 were female.

Keywords: Metastasis, Noon Chai (Salt Tea), Dietician, Kashmiri, Diet.

INTRODUCTION

Cancer is multifarious disease. Over three-fifths of demises worldwide are caused by these multifarious diseases. Cancer is rapidly emerging disease in past few years. Incidence of new cancer cases rising day by day all over the world. According to the latest statistics, over 10 million people die yearly due to cancer and 70% of them are from developing countries. According to the, "National Cancer Registry Programme research", stomach cancer is less present in Bhopal, Mumbai, and Delhi and more occur in Bangalore and Chennai, India. Cancer is an uncontrollable and irregular cell division in a definite portion of the body that can spread to other parts also. The main causes of cancer are consumption of tobacco, use of chemicals, pollution, unpredictable genetic changes, hormones and immune conditions. The main reasons for increasing incidence rate of cancer cases are certain lifestyle choices like consuming unhealthy foods, lack of physical activities, obesity and exposure to harmful pollutants. Diagnostic cancer involves a comprehensive approach, as there is no single test to confirm its presence. The term cancer

was originated from an observation made by the ancient Greek physician Hippocrates over 2300 years ago. Human body is made up of many cells. All cancers begin in cells. Common stomach cancers are of adenocarcinoma form. In this type, the carcinoma starts from the mucosa layer which produces mucus. Diagnosis of stomach cancer is tough since the symptoms are quite relatable with the non-serious issues that occurs in the GI tract like a sense of fullness in the stomach. The main symptoms are: difficulty in swallowing, frequent burps, hurt burn, stomach ache, vomiting etc.

Kashmir is located at very high altitude in the northernmost extreme part of India. It is also northern most Union Territory of India. Kashmir's weather conditions, food habits, culture, customs and values are different from rest of India. Kashmir has Muslim majority population having unique cultural and traditional practices, beautiful hilly terrain, snow covered deep valleys and rich flora and fauna. The total population of Kashmir region is 6907623 approximately as per the 2011 census. From 2018-19 to 2023-24, the total number of

cancer patients in Kashmir is approximately 80000. The number of cancer patients are gradually increasing due to bad dietary habits, sedentary lifestyle and chemical exposure in the valley. Through the National Cancer Control Program, "SKIMS (Sheri -Kashmir Institute of medical sciences)", a cancer referral centre delivering facilities to entire Kashmir, was freshly selected as a regional cancer centre. It is the biggest hospital in Jammu and Kashmir serving all of the Kashmir valley's districts. Stomach cancer occupies fourth position among all the cancer all over the world. Stomach cancer can be detected by endoscopy and biopsy. The age group in which stomach cancer is frequently occurring is 65-74 for males and 55 to 64 for females. Stomach cancer is highly predominant in the Kashmir region as compared to the other parts of the country. It is most frequently found cancer (25.2%) in this region of India.

MATERIALS & METHODS

Present study was conducted at SSH GMC Srinagar. A sample of 163 patients was taken for the study majority of the patients were males. 65% patients belong to low-income group, 30% patients' middle-income group and 5% were high income group. 89% were not knowing about balanced diet. 100% patients were taking nutritional supplements because of low haemoglobin.

Data Collection:

We got information from institutional medical records about the patients suffering from stomach cancer. Then the interview method was deployed to get the information from these patients.

RESULTS & DISCUSSION

After observations various possible contributory reasons came into light such as

Smoked and Salted Foods: 85% were taking high consumption of salted foods like nun chai (salted tea, a combination of salt & sodium bicarbonate), pickled vegetables and processed meat is one of the main reasons of growing stomach cancer in Kashmir region.

Low Consumption of Fruits and Vegetables: Typical Kashmiri diet does not often include

fruits and vegetables which can lead to a higher risk of stomach cancer. About 55% were not including fresh fruits and vegetables.

Consumption Red Meat: Red meat is the staple food of Kashmiri people. Its high consumption leads to increase in the risk of stomach cancer. About 60% were taking red meat majority from rural areas.

Lack of Physical Activity: As Kashmiri experiences heavy snowfall in winter season and temperature drops to below zero degrees. This contributes to the lack of physical activity of Kashmiri people and their sedentary lifestyle. And thus, lack of physical activity contributes to the reasons of growing cancer in Kashmir region. 71% were having unhealthy lifestyle

Use of Hukkah and Tobacco: The use of hukkah is very much prevalent in rural Kashmir region. This habit highly leads to the reason for growing cancer in Kashmir region. 85% patients both males and females were having smoke actively or passively

Lack of Access to Healthcare: In rural Kashmir people have less access to healthcare. There is a delayed diagnosis for many of the diseases. And due the low literacy rate in this region of India, people are not aware about various diseases. 35% was diagnosed late as the disease was progressed to advanced stage

Eating Excessive Non-Vegetarian Food: Non-vegetarian food is the staple food of Kashmiris. Usage of excessive non-vegetarian, processed and ultra processed foods like wazwan which is having additives like artificial colorants, those possess carcinogen and causing stomach cancer therein. 100% patients were taking non vegetarian foods.

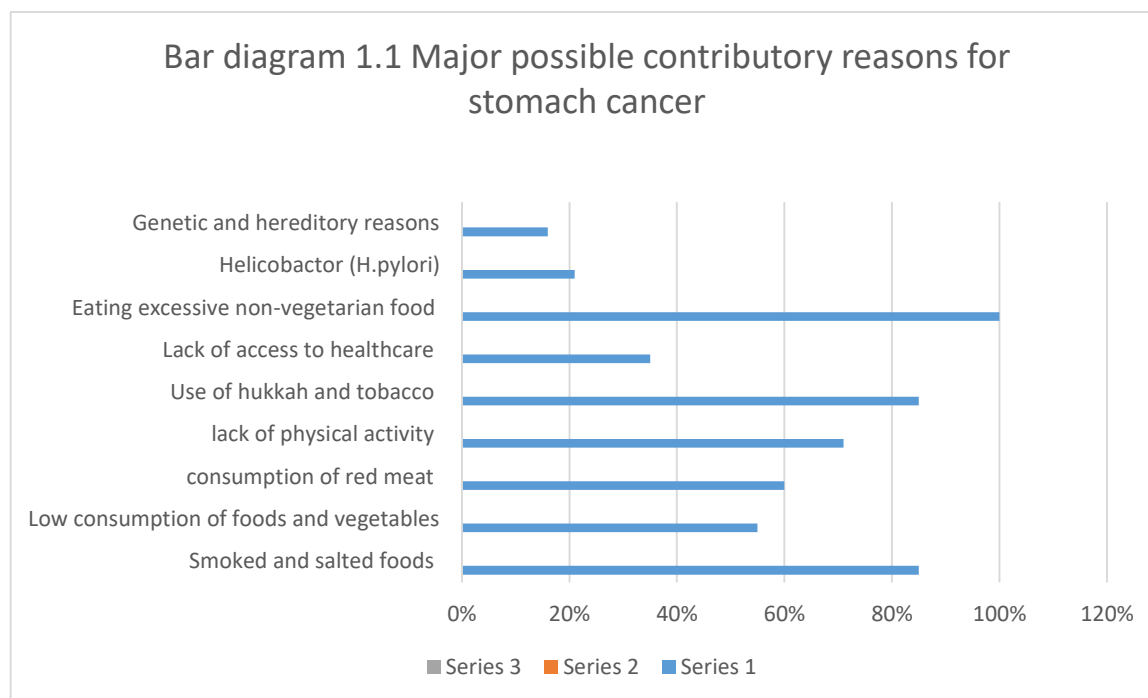
Helicobacter Pylori (H. Pylori) Infection: H. pylori infection is common in Kashmir and can increase the risk of cancer. 21% were affecting because of H. Pylori

Genetic and Hereditary Reasons: This is also a major reason for growing stomach cancer in Kashmir region. 16% were having family history of cancer

Table 1.1 Major Possible Contributory Reasons for Stomach Cancer

S. No.	Reason	Percentage
1.	Smoked and salted foods	85%

2.	Low consumption of fruits and vegetables	55%
3.	Consumption of red meat	60%
4.	Lack of physical activity	71%
5.	Use of hukkah and tobacco	85%
6.	Lack of access to healthcare	35%
7.	Eating excessive non-vegetarian food	100%
8.	Helicobacter (H. pylori)	21%
9.	Genetic and hereditary reasons	16%



After many contributory reasons of stomach cancer were found, the patients were given oral nutritional knowledge. Patients' attendant was properly counselled about the diet. Diet plays pivotal role in mitigating various cancers. In stomach cancer one should be aware about foods. As we are familiar that antioxidants rich foods are best to minimize cancers. We should avoid traditional food habits like consumption of salt tea, pickles, dried vegetables, refined carbohydrates. Aluminium utensils should not be used for cooking purposes.

Dietary Recommendations to Lower the Risk of Cancer in Kashmir Valley

Apart from medical care some necessary steps, needs to be taken to lower the risk of cancer in Kashmir Valley. By following some recommendations risk factors of stomach cancer can be minimized.

Living a healthy lifestyle can automatically decrease the incidence rates of stomach cancer. Diet plays a major role in mitigating the cancer. If cancer is detected in early stage, patients should increase physical activity and

should stop excessive eating of non-vegetarian food means highly processed foods (wazwan). Stomach cancer patients should avoid salt tea, pickles, highly adulterated with spices. They should replace it with antioxidant rich foods means fruits & vegetables to start their morning breakfast & use precious spice antioxidant rich saffron tea without addition of any kind of sugars. Stomach cancer patients should rely on easily digestible foods mixed with anti-oxidants, complex carbohydrates, proteins and specific multivitamins, multivitamins as per RDA. Due to high risk of Helicobacter pylori infection patients with the disease should approach hygiene, safe drinking water and avoid contamination of extraneous things means overall environment should be neat and clean. At high speed, usage of medicine (proton pump inhibitors), is another problem which leads to stomach cancers. We should not take any medication unnecessary. Consult a health care professional earlier to making significant changes to your diet, refer with a healthcare professional or registered dietitian to create a personalized diet plan.

By incorporating these dietary recommendations, one can help prevent, manage and alleviate symptoms of stomach cancer.

Foods to Include

Fruits rich in antioxidant like citrus fruits, apples. Vegetables like leafy greens (spinach, kale), broccoli, cauliflower, carrots. Whole grains like brown rice, whole wheat bread. Protein Sources like lean meats (Chicken, fish) nuts and seeds (almonds, chia seeds)

Safer Utensil Options for Cooking Purposes to Lower Risk of Cancer

Stainless steel utensils, these are resistant to corrosion. Cast iron utensils are also healthy option, as they can help increase iron intake. Silicone utensils, these are flexible, non-stick and made from food grade materials. Wooden utensils, these utensils made from bamboo or maple wood and are eco-friendly and non-toxic. Glass utensils are non-toxic easy to clean and helps in mitigating risk of cancer. By choosing safer utensil options and following these guidelines, one can help reduce exposure to potential carcinogens and promote a healthier cooking environment.

Discussion

The incidence rate of cancer varies from country to country. Sometimes, it is seen that developed countries have high rate of cancer as compared to developing countries because of their dietary patterns and western lifestyles. Cancer is a disease which generally occur in middle and old age. Twenty five percent cases of cancer in emerging nations are due to the genetic infection. Kashmiri people take hot beverage (salt tea boiled in samovar), both in morning and evening time. Both males and females in rural Kashmir involve in old Kashmiri smoking habit known as "hukkah" (known as jejeer in Kashmir) which is also a risk factor for the disease cancer. Kashmir is known as "Heaven on Earth". Growing cancer cases in Kashmir is a matter of concern for this region of India. Health education and awareness is must for the rural people in order to lower its risk factor because rural people neglect the early symptoms of the disease. In 2018, Government of India launched "Ayushman Bharat Yojana". Under this initiative Health and Wellness were created by upgrading existing Sub Centers and Primary Health Centers. These Health and Wellness Centers have provision to detect and screen non-communicable diseases like cancer and diabetes. This initiative of

Government of India can benefit rural people at large scale who are suffering from such diseases. Early detection of cancer can save millions of lives of the people. People should be aware about the early symptoms of the cancer. Because diseases like cancer are at peak these days. Healthy lifestyle promotion camps by the governments can also help the rural people to get awareness about various diseases. Some surveys have recommended that the form of high risk of stomach cancer in Kashmir region is due the lifestyles and socio cultural and religious customs of this area of India. Education level is low in rural Kashmir. Due to the increasing rates of smoking in young people, the incidence level of cancer may further rise in future. Government can also run proper educational guidance camps for young generation to avoid the use of drugs. After studying & reviewing various research papers, there is a gap in various things like educating & providing people with the concept of a healthy balanced diet. With this study it will help people suffering with this deadly disease and increase survival rates too; it will also make people aware about things to avoid & things to include in their healthy lifestyle. Like Kashmiri people, they have an early morning hot drink of Noon Chai (salt & sodium bicarbonate, leaves, and milk), which releases nitrosamines, which are potent carcinogens. This initial meal starts the cancer process, which combines with other reasons and leads to cancer. By approaching the balanced diet concept & healthy lifestyle, survival rates will increase and stomach cancers will be mitigated.

CONCLUSION

As the cancer is becoming a global concern, particularly in Kashmir region of India. It is necessary to adopt proper dietary patterns. Campaigns are needed to educate the people about proper nutritional knowledge. A collaborative effort between healthcare professionals, policymakers and community is necessary to combat stomach cancer and improve health outcomes in Kashmir region of India. A broader part of this study is under progress and on the verge of completion. Due to a lack of knowledge of healthy lifestyles & food habits, it has become a burden on government-run hospitals to come out of this mess. Although treatment regarding cancer is on par with other Indian hospitals, there is a lack of the concept of dietitians & nutritionists.

REFERENCES:

1. An epidemiological study, (1988-1989) Cancer incidence New Delhi: ICMR; p 3-42
2. Azar HA (1962), Cancer in Lebanon and the Near East. *Cancer*, 15:66-78
3. Dewan, K, Madan, R, Sengupta, P, & Mandal A. (2020) Diet and gastric cancer, *Oncology Journal of India*, 4 (3), 115
4. Gull Fiza, Anthropology of Food: A study on the feeding habits of Kashmiri Muslims, *Antrocom Online Journal of Anthropology* vol.16 n 2 (2020), 327-332- ISSN 1973-2880
5. Gupta Ashutosh, Puri Isha & Gupta Meenu, Patterns of Cancer in Males and Females in Jammu Region *JK Science: Journal of Medical Education & Research* Vol.23 No. 1 January to March -2021
6. Kapoor, D. (2021). Human energy requirements. In book: *Advance Nutrition*, Indira Gandhi National Open University, New Delhi. Pp 34-63
7. Lone, Dr Ajaz Ahmad, Peer, Faisal Ahmad, (2021), GROWING CONCERN OF CANCER IN KASHMIRI SOCIETY.A SOCIOLOGICAL PERSPECTIVE, *THE JOURNAL OF ORIENTAL RESEARCH MADRAS*, ISSN: 0022-3301
8. Mathur, G, Nain S. and Sharma, P. K (2015) Cancer: An overview. *Academic Journal of Cancer Research*, 8 (1), 01-09. DOI: 10.5829/idosi.ajcr.2015.8.1.9336
9. Panakkal N & Lekshmi A, Effective lung cancer control: An unaccomplished challenge in cancer research, *CytoJournal* 2023 Aug 7; 20:16
10. Qurieshi, Mariya A, Salim Khan, S.M., Masoodi, Muneer A., Qurieshi Uruj, Ain Quratul, Jan, Yasmeen, Haq Inaamul and Ahmad Sheikh Zahoor (2016), *Epidemiology of Cancers in Kashmir, India: An Analysis of Hospital Data*, Hindawi Publishing Corporation *Advances in Preventive Medicine* 2016, Article ID 1896761, 6 pages
11. Rajput, J.M (2022) Cancer: a comprehensive review, *International Journal of Research in Pharmacy and Allied Sciences*, 1 (3), 42-49
12. Shafiee, Maeena Naman and Saleem, Sheikh Mohd (2019), *Kashmiri diet and Gastric Carcinoma Epidemiology and Risk Factors: A Review*
13. Wani Ajaz Ahmad, Cancer: its symptoms, Challenges and Opportunities in Research in India: A review, *Saudi J Med Pharm Sci* 9 (1), 1-5, 2023. <http://dx.doi.org/10.1155/2016/1896761>
14. Zana H. Mahmood, Fenk M. Mohamed, Binaiy N. Faith, Abdullah A. Qadir, & Shalaw H. Abdalla (2023). Cancer publications in one year (2022); a cross-sectional study. *Barw Medical Journal*. <http://doi.org/10.58742/bmj.v1i2.30>
15. Zhang, J, Kong Q, Zhang, J, & Guo, J. (2024) Effectiveness of nutritional support for clinical outcomes in gastric cancer patients: A meta-analysis of randomized controlled trials. *Open Medicine*, 19 (1) 20241023.