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# A SYSTEMATIC REVIEW TO EXPLORE THE SCOPE OF GLOBAL INTERVENTIONS TO REDUCE THE INCIDENCE OF GASTRIC CANCER

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## ABSTRACT

Globally, gastric cancer has been acknowledged as a disease of public health concern because of its related morbidity, deaths and influence on multiple dimensions of the quality of life of the patient and their family members. The objective of this article is to systematically review the published literature on the potential risk factors of gastric cancer, and eventually suggest range of interventions to eventually minimize the prevalence of gastric cancer. An extensive search of all materials related to the topic was made using library sources including Pubmed, Medline, World Health Organization website and Google scholar searches for one month. Keywords used in the search include Gastric cancer, health, and Helicobacter pylori. Multiple ranges of factors have been attributed to the causation of gastric cancer in heterogeneous settings. To counter the consequences of gastric cancer, there is a crucial need to develop and implement a public health strategy to enable early detection of the cancer. In conclusion, in the global aim to reduce the burden of gastric cancer, the need of the hour is to formulate comprehensive & cost-effective strategies well supported by intensified awareness campaigns and strengthening of the health care delivery system.

**Keywords:** Gastric cancer, Health, Helicobacter pylori, Gastric ulcer, Dietary practices, Global.

## Contribution/ Originality

This study explores the potential risk factors of gastric cancer, and suggests multiple interventions to minimize the prevalence of gastric cancer on a global scale.

## 1. INTRODUCTION

Globally, gastric cancer has been acknowledged as a disease of public health concern due to its related morbidity, deaths and influence on multiple dimensions of the quality of life of the patient and their family members [1, 2]. Although, recent trends suggest a gradual decline in its incidence, gastric cancer still stands second with regard to number of deaths attributed to any form of cancer globally [1, 3]. A wide geographical disparity has been observed in the distribution of the cancer, with the highest incidence and reported fatalities in low resource settings [4]. Furthermore, suicidal tendencies [5]; an enormous burden on the government health system [6]; aggravation in the direct & indirect medical expenses [6]; and poor five-year survival rates; [7] has also been attributed to the gastric cancer.

The objective of this article is to systematically review the published literature on the potential risk factors of gastric cancer, and eventually suggest range of interventions to eventually minimize the prevalence of gastric cancer.

## 2. MATERIAL AND METHODS

An extensive search of all materials related to the topic was made using library sources including Pubmed, Medline, World Health Organization (WHO) website and Google scholar searches for one month. Relevant documents, technical publications series, systematic reviews, research articles focusing on gastric cancer published in the period 2006 – 2014 were included for the review. Overall 24 articles were selected based upon the suitability with the current review objectives and analyzed. However, eight of them could not be included on account of their non-availability of the full versions. Hence, for final analysis 18 research articles and one monograph from WHO website were utilized. The identified articles were then re-grouped into different sections viz. potential risk factors; suggested measures, and implications for practice. Keywords used in the search include Gastric cancer, health, and Helicobacter pylori.

### 2.1. Potential Risk Factors

Multiple range of factors like old age [8]; male gender [8]; poor socio-economic status [8, 9]; being overweight/obese [9]; positive family history of gastric cancer [10]; Helicobacter pylori infection [9, 11]; consumption of tobacco & alcohol [8, 9, 12]; dietary habits like high consumption of preserved or salty foods or low consumption of fresh fruits and vegetables [9, 13, 14]; adoption of harmful lifestyle [14]; co-existence of other medical conditions like gastric ulcers/polyp [9]; long-term use of non-steroidal anti-inflammatory drugs [10]; poor awareness among population [13]; and scarcity in the number of institutes extending screening services [2, 4]; have been attributed to the causation of the gastric cancer in heterogeneous settings.

### 2.2. Suggested Measures

To counter the consequences of gastric cancer, there is a crucial need to develop and implement a public health strategy to enable early detection of the cancer [15]. However, to develop cost-effective interventions, the most essential requirement is to establish a

comprehensive surveillance system to estimate the exact magnitude of the disease so that judicious allocation of resources can be achieved [15]. In addition, targeted interventions should be developed to counter the potential risk factors like promoting awareness among the general population to augment the uptake of gastric cancer screening services [10]; fostering eradication of *H. pylori* infection [11]; implementing measures to improve nutritional status and housing sanitation [15]; motivating people to quit smoking / alcoholism and alter faulty dietary practices that promote development of gastric cancer [12, 14]; building alliance with private sector, non-governmental agencies & international agencies [1, 2, 4]; warranting appropriate intake of nutritive supplements [16]; and providing intensified social support & counseling services to minimize anxiety [17].

### 2.3. Implications for Practice

The findings of the current review clearly reflect the necessity for a comprehensive package of health care services to reduce the prevalence of gastric cancer on a global scale. These services should be planned taking into account the potential risk factors, well supported by awareness campaigns to spread information about the same. Furthermore, there is an essential need for the orientation of the general physicians from both the public / private health sector so that they can play a crucial role in ensuring prevention, early detection and appropriate management of the diagnosed cases of gastric cancer. Above all, a sustained commitment is needed from the policy makers for supporting the cancer programs and for establishing a network between different stakeholders to reach to the population residing in low and middle income countries.

### 3. CONCLUSION

In conclusion, in the global aim to reduce the burden of gastric cancer, the need of the hour is to formulate comprehensive & cost-effective strategies well supported by intensified awareness campaigns and strengthening of the health care delivery system.

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