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Lifestyle and Gastric Cancer in Iran: Results of a Population Based study

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Background: The incidence of gastric cancer has been gradually decreasing worldwide. However, it is still the most common cancer in Iran with wide intra-country variation. Ardabil province in North-West of Iran has been reported to have the highest incidence rate of gastric cancer in Iran with age standardized rate of 49.1 and 25.4 per 100,000 in men and women, respectively. This is one of the highest reported incidences in the world. The aim of this study was to evaluate the influence of lifestyle on the risk of gastric cancer in this high risk area.

Methodology: A population based case-control study was conducted to identify reasons for this high rate. 217 cases of gastric cancer were recruited from Ardabil cancer registry. 394 controls were also randomly selected from residents of Ardabil matched for gender and age. Subjects were interviewed using a structured questionnaire. Information on demographic characteristics, dietary habits, tobacco smoking, alcohol consumption, drug abuse and medical and occupational history were collected. Meanwhile 10 ml blood specimen was collected for detection of IgG antibodies against helicobacter pylori using ELISA test which was validated locally.

Results: A significantly elevated risk of contracting gastric cancer was observed in drug abusers (OR: 2.50, 95% CI: 1.15 - 5.44) particularly in intestinal type (OR: 3.01, 95% CI: 1.25 - 7.26) without subsite association. This association was attenuated after adjustment for confounders. On the other hand no association was found between gastric cancer and cigarette smoking (OR: 1.17, 95% CI: 0.84 - 1.64) and drinking alcoholic beverage (OR: 1.26, 95% CI: 0.40 - 4.05). Furthermore in a sub-site analysis, although non-cardia gastric cancer tended to occur in smokers more than non smokers it was not significant. Meanwhile there was no difference between intestinal vs. diffuse type of gastric cancer among smokers. In addition, a higher odds of non filtered cigarettes smoking was seen among cases than controls.

Conclusion: our findings provide evidence that in north west of Iran, drug abuse may play a carcinogenic role in the development of gastric cancer, and that smoking and alcohol drinking did not emerge as risk factors.