



The 3rd International Gastrointestinal Cancer Congress



Disease Mapping of Colorectal Cancer Incidence in Iran from 2005 to 2010

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Abstract

Introduction & Aim: Colorectal cancer is the second common gastrointestinal cancers and the third common cancer in Iran. The aim of this study is to detect geographical distribution and identify high risk or low risk clusters of colorectal cancer in Iran.

Methods: This is an ecological study and for required data we used colorectal cancer data recorded by the Noninfectious diseases Management Center of the Ministry of Health and Medical of Iran. The data were extracted at province level for the period of 2004-2010. Space-time scan statistics was used to analyze the data and to identify high risk clusters with SaTScan software. In addition, ArcGIS10 was utilized to map the distribution of colorectal cancer and to demonstrate high risk clusters.

Results: After analyzing, the most likely clusters of high and low risk for colorectal cancer was identified in the period 2008 to 2010. The most likely cluster of high risk points were found contain provinces Tehran, Qom, Qazvin , Mazandaran, Semnan and Gilan . The most likely cluster of low risk points were found contain provinces Sistan and baluchestan, Kerman, South khorasan and Hormozgan. High risk and Low risk points were consider statistically significant at the p-value below 0.05.



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Conclusion: This study suggests screening tests in the high risk point and do more epidemiological study for implementing prevention programs and early detection of colorectal cancers.

Keywords: Colorectal cancer, Space- Time Scan statistic, High-risk Cluster, Identify Cluster.