

Short Communication

Relation between drinking water hardness and the incidence of esophageal and gastric cancers

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Abstract

Background and Objective: Esophageal and gastric cancers are among the most prevalent cancers in the world which cause a high mortality rate annually. Several risk factors are supposed for them. Water hardness is considered as a protective factor against above cancers. This ecologic study was designed to determine the correlation between water hardness and upper gastrointestinal cancers.

Materials and Methods: In this ecological study data on water components in Golestan's urban areas were obtained during 2004-05 and the averages were reported. All cases of esophageal and gastric cancers resided in urban areas which were diagnosed during this period were recruited to estimate the incidence and age standardized rates (ASR). The province was divided into low, intermediate and high incidence, based on 33% and 66% quartiles of both cancers. Pearson correlation coefficient test and regression model were used to analyze the data.

Results: The water hardness was in the normal standard range permitted for the drinking water, and did not have any relation with the risk of esophageal and gastric cancers.

Conclusion: This study showed that water hardness has no effect on the incidence of esophageal and gastric cancer in this area.

Keywords: Water hardness, Upper gastrointestinal tract, Cancer, Iran

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