

P-159**STOMACH CANCER AND NITRATE LEVELS IN DRINKING WATER IN PROVINCE OF CATANIA, ITALY.****Authors:**

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Background. Contamination of drinking water by nitrate is an evolving public-health concern since nitrate can undergo endogenous reduction to nitrite and nitrosation of nitrites can form N-nitrous compounds, which are potent carcinogens.

Objectives. We have conducted an observative study to determine whether nitrate levels in drinking water were correlated with stomach cancer in province of Catania, (population n.1.090.166), in Italy.

Methods. Nitrates data (1998[^]2003) for town using public water supplies were routinely collected and registered. The median nitrate concentration was calculated for each municipality in the province and were also observed data for the index hospitalization for stomach cancer, in the absence of cancer registry data.

Results. Data on standardized morbidity ratios (SRM) are arranged for 9 district and SRM's mean is 119.5 M and 117.1 F. In 2 districts there is an increasing trend for both sexes (SMR Acireale 135.9 M and 143.8 M, Catania City SMR 125.9 M and 123.4 F). The trend is increasing only one sex in Giarre 146.2 F and in Paternò 159.5 M. The mean nitrate drinking water in the province is 10.54 mg/L in the districts of Acireale is 19.35 mg/L and in Catania City is 27.55 mg/L, nitrates are average of province for the districts of Giarre and Paternò.

Conclusions. The results show a correlation between the increase of cancers and the concentration of nitrates, which remains under law limit (50mg / L). A detailed study is necessary to know the real relationship cause/effect between the two factors adjusting for confounding factors.

Keywords: Stomach cancer, nitrates, drinking water, standardized morbidity ratios, Italy.