

## عنوان مقاله:

Investigation Of The Relationship Between Nitrate Environmental Pollutants And Thyroid Function

## محل انتشار:

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## خلاصه مقاله:

Background: Groundwater and drinking water sources have long been suspected of nitrate due to exposure to fertilizers used in crop production, and this is associated with the increased risk of various medical conditions. Research literature shows that exposure to nitrates, mainly in drinking water increases the risk of cancers and autoimmune diseases. Our study investigated mechanism of nitrate disruption in the thyroid gland. Methods: In this study we reviewed the pathophysiology of nitrate effects on the thyroid gland function . Results: We found that, Nitrate as a compound that is naturally present in the environment may enter the body. Then it is reduced to nitrite in the gastrointestinal tract and nitrite can be converted to various factors such as nitric oxide, nitrosamine, dinitrothoxide. Nitrosamine is a carcinogenic compound and affects thyroid cancer development. Nitric oxide is a signaling molecule that plays an important role in cellular messages in various tissues, which causes these changes in the growth and development of organs. Nitrothioxide ( $\text{NO}_2^-$ ) reacts with superoxides in vivo to produce peroxynitrites, which break DNA strands and disrupt cell division, eventually damaging tissue. This is also known to contribute in autoimmunity against thyroid cells. However, there is no conclusive evidence that nitrate can cause cancer in the body in the absence of the amine-containing substances needed to form nitrosamines. Conclusion: Nitrate could lead to autoimmunity, inflammation, and cancer in thyroid glans; while the mechanism of action is not well understood and this statement is not being supported by clinical data

## کلمات کلیدی:

Thyroid Gland, Autoimmunity, Nitrate, Nitrothioxide, Nitrosamine

## لینک ثابت مقاله در پایگاه سیویلیکا:

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