

MONITORING OF ARSENIC CONTENT IN ARTERIAL WELLS IN SREM AND NORTHERN MAČVA FROM 2017 TO 2024

Žaklina Ljubičić

Institute of Public Health Sremska Mitrovica, Sremska Mitrovica, Serbia

DOI: 10.5937/BatutPHCO24078L

Background: Arsenic is one of the risk factors responsible for the occurrence of various diseases and has been proven to be a human carcinogen (IARC, Group 1). Exposure to arsenic through drinking water can lead to hyperpigmentation and keratoses (content less than 50 µg/L), as well as skin cancer, and is associated with an increased risk of lung, liver and bladder cancer, Inorganic arsenic can also increase the risk of type 2 diabetes mellitus.

Determining the content of arsenic in drinking water on the territory of Srem and Mačva has been carried out for two decades, and since 2017, continuous monitoring of the content of arsenic in artesian wells has been carried out in all settlements in Srem and the northern part of Mačva.

Methods and Objectives: The content of arsenic is determined by the method of atomic absorption spectrometry (hydride technique).

Results: The total number of artesian wells in which arsenic content is analyzed in the settlements of Srem and Mačva is 67. The total annual number of samples at the mentioned locations is 268. Of the total number of locations of artesian wells, 18% have arsenic content in water above the maximum allowed value of 10 µg/L.

Conclusions: It is necessary to stop the exposure of the population to water from locations with elevated arsenic values and to continue monitoring the content of arsenic in drinking water. The recommendation for the next period is that, in addition to monitoring the arsenic content in drinking water, trends in the population's illness in places with high arsenic content should also be monitored.

Keywords: arsenic, drinking water, skin cancer