

THE FREQUENCY OF METHEMOGLOBINEMIA IN CHILDREN AND THE CONTEXT OF ITS OCURENCE

Sorin N. Dinescu, *University of Medicine and Pharmacy of Craiova, Epidemiology Department, Craiova, Romania*

Venera Dinescu, *University of Medicine and Pharmacy of Craiova, Hygiene-Environmental Health Department, Craiova, Romania*

Elena Catalina Bica, *University of Medicine and Pharmacy of Craiova, Pediatrics Department, Craiova, Romania*

Florin Pietrariu, *University of Medicine and Pharmacy "Gr. T. Popa" Iasi, Hygiene-Environmental Health Department, Iasi, Romania*

Marinela Madan, *Olt County Public Health Authority, Slatina, Romania*

Background and Aims: Starting from the premise there is a higher rate of methemoglobinemia in some regions of Romania, the aim of the study was to identify the frequency of methemoglobinemia and context of its occurrence.

Methods: Were included diagnosed cases with methemoglobinemia in children under 1 year age from Olt county during 2005-2009 (N = 90).

Results: The number of cases was decrease from 29 cases in 2005 to 4 cases in 2009. Most of the cases was formula (47 cases) and mixed (42 cases) feed. The age average was 2,7 months.

A significant impact was noted for collective wells (22.22%), but most residents and ensuring water from own fountains. Only one was provided with protection, 95% being located closer than 10 m from latrines. In over half (14/20) of them depth was below than 10 m., and only one had a depth over 20 meters. Of the individual wells, 18.84% are provided with protection, 15.71% being located at a distance over 10 m. from latrines, and 15.71% had over 20m. depth.

Theoretically, depth brings less risk of nitrate poisoning and increase the safety of drinking water, but in our study we observed high concentrations in deep wells. In all samples collected from wells with depth over 20 m. the nitrate concentrations was above 100 mg / l, unlike samples from wells with depth 10-20m, where concentrations above 100 mg / l. were identified only in 79.43% of the samples, respectively 69.23% of samples from wells with a depth below 10m.

Conclusions: Although, a clear decrease of frequency of methemoglobinemia was noted, they remain a public health problem. Major problems remain the age, artificial feeding, collective wells, and in areas with heavy pollution, the well depth does not have the guarantee of safe water.