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**NEW CHALLENGES IN THE MORBIDITY OF CHILDREN
FROM NITRATE-POLLUTED TERRITORIES DURING WARTIME**

**НОВІ ВИКЛИКИ ПО ЗАХВОРИЮВАНОСТІ ДІТЕЙ
З НІТРАТНО-ЗАБРУДНЕНИХ ТЕРИТОРІЙ
В ПЕРІОД ВОЄННОГО ЧАСУ**

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The topicality is determined by priority and importance of researches that have preventive referral directed on provision of harmonious growth and early childhood development, children's resistance to the infection's effects and other unfavorable external factors. There are problems about the role of permanent nitrate load in the formation of children health issues, especially children who live in the area with high nitrate levels in drinking well water. The aim is to evaluate the physical development of children who live in nitrate-contaminated areas. Research results and their discussion. When studying the content of methemoglobin among adult population in village areas, where well water with a high concentration of nitrates is consumed and in the city where centralized water supply is used, it was observed that rural

people have a higher level of methemoglobin. Parents who lived in nitrates-polluted territories have a chronic pathology formed in childhood that affects the morbidity of their children, which affects the health of the nation. During the long-term chemical nitrate pollution of the environment there are preconditions for the formation of chronic nitrate load; in these conditions (on the basis of chronic hypoxia) not only chronic pathology, but also violations of physical development of children may develop. Among girls of the main group, the percentage of digestive disorders was 2.9 times higher versus the comparison group ($p < 0.01$).

Tabl. 1

Level of methemoglobin in blood of examined children who lived in the territory of high level of nitrates and clean ecologic territory [3, p. 5]

Title	Statics Trust interval	GROUPS OF CHILDREN		P
		main group n=22	differential group n=22	
Methemoglobin g/L	M±m	4,61±0,35	2,08±0,07	p<0,001
		3,95-5,3	1,99-2,16	

Correlations between the level of total protein and blood nitrates were unlikely. Almost 15 years later, we decided to compare the overall incidence in our study areas (Hrebinkivsky, Karlivsky, Lokhvitkiy, Mashivsky, Pyryatynsky districts) inhabited by people with permanently high levels of nitrates in the water with a relatively safe Myrhorodsky district (comparison group). We noted increased rates in these areas as indicated in the table 2.

Tabl. 2

Morbidity among children aged 0-16years in1000 children (2016) [1]

№	Rayon	The total incidence	For 1000 us.	In the first life	For 1000 us.
1	2	3	4	5	6
1	V. Bahachansky	5 104	1581.2	3 506	1086.1
2	Gadyatsky	9 363	1348.0	6860	987.6
3	Globinsky	10 600	1653.2	8 564	1335.6
4	Hrebinkivsky	6 097	1847.0	4 775	1446.5
5	Dykansky	4 002	1483.3	2 851	1056.7
6	Zinkivsky	6 513	1493.1	4984	1142.6
7	Karlivsky	9 405	1922.5	6 287	1285.2
8	Kobelyatsky	9 201	1570.9	6 854	1170.2
9	Kozelshchynsky	3 741	1530.1	2 559	1046.6
10	Kotelevsky	3,734	1308.8	2 686	941.5
11	Kremenchutsky	8 097	1315.3	6 148	998.7
12	Lokhvytsky	10 877	1989.9	8 804	1610.7

Continuation Tabl. 2

1	2	3	4	5	6
13	Lubensky	18 723	1717.1	10 919	1001.4
14	Mashivsky	4 570	1852.5	2 945	1193.8
15	Myrhorodsky	13 753	1503.9	9732	1064.2
16	N.Sanzharsky	6 705	1509.8	4 536	1021.4
17	Orzhytsky	4 262	1358.2	3 440	1096.2
18	Pyrvatynsky	7 965	1827.7	5,939	1362.8
19	Poltavsky	13 997	1566.7	11 333	1268.5
20	Reshetylivsky	6,660	1784.1	3 922	1050.6
22	Semenivsky	5 195	1922.6	3 856	1427.1
23	Khorolsky	8 409	1935.8	5 864	1349.9
24	Chornukhynsky	1 788	1337.3	1 207	902.8
25	Chutivsky	8 564	2654.7	6 758	2094.9
26	Shyshatsky	4 577	1657.1	3 267	1182.8

When we compared the long-term consequences of chronic nitrate intoxication as a result of the overall morbidity of children whose parents had been exposed to permanent effects of nitrates on their bodies since their childhood, they noted that the issue is relevant today [3, p. 842].

Tabl. 3

Vaccination coverage 2020-2022 in the Poltava Region and Ukraine

The name of the vaccination	2020 year		2021 year		9 months 2022 year	
	Region %	Ukraine %	Region %	Ukraine %	Region %	Ukraine %
1	2	3	4	5	6	7
Vaccination against tuberculosis up to 1 year	95,6	88,8	88,7	88,8	71,4	43,0
Vaccination whooping cough, diphtheria, tetanus of children under 1 year	89,8	80,1	90,6	80,1	72,5	46,9
Revaccination against whooping cough, diphtheria, tetanus of children in 18months	92,1	78,1	91,6	78,1	72,7	46,1
Revaccination against diphtheria, tetanus of children in 6 year	58,7	59,7	83,8	59,7	69,3	46,6
Revaccination against diphtheria, tetanus of children in 16 year	90,4	73,6	92,2	73,6	65,8	43,4

Continuation Tabl. 2

1	2	3	4	5	6	7
Revaccination against diphtheria, tetanus in adults	76,6	47,0	75,0	47,0	52,3	24,2
Vaccination against poliomyelitis up to 1 year	92,0	83,0	89,7	83,0	89,7	83,0
Revaccination against poliomyelitis at 18m.	92,7	83,0	91,5	83,0	91,5	83,0
Revaccination against poliomyelitis at 6 years	92,2	81,7	89,1	81,7	89,1	81,7
Revaccination against poliomyelitis at 14 years	92,5	81,8	91,2	81,8	91,2	81,8
Vaccination measles, mumps, rubella 1 year	94,8	83,3	96,6	83,3	96,6	83,3
Revaccination against measles, mumps, rubella at the age of 6m.	92,0	83,4	92,8	83,4	92,8	83,4
Vaccination against hepatitis B-3 up to 1 year	91,8	79,8	91,0	79,8	91,0	79,8
Vaccination against hemophilic infection of children up to 1 year	91,2	85,1	93,1	85,1	93,1	85,1
Revaccination against hemophilic infection	90,3	83,6	90,3	83,6	90,3	83,6

New challenges have arisen today due to stress, nutritional disorders during military operations. Children living in a nitrate-contaminated area have increased morbidity and lower body resistance to infections. The authors are concerned that we are observing a tendency towards a decrease in preventive vaccinations during 2020-2022, in particular against diphtheria, poliomyelitis, and tuberculosis [4, p. 137]. We have come across reports of a fiery outbreak of diphtheria in September 2022 in one of the western regions of Ukraine. Therefore, taking into account the overcrowding of the population under the conditions that prevailed during the martial law, it is necessary to keep the vaccination situation under control.

Conclusions

1. Centralized water supply was conducted many locations over the years, but parents who lived in nitrates-polluted territories have a chronic pathology formed in childhood that affects the morbidity of their children.

2. Thus, pediatricians, family doctors, infectiologists should carry out prophylaxis among the population regarding the need for timely vaccination.

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