

Peculiarities of Infectious Disease Spread Among the Population of Volyn Region During Martial Law in Ukraine

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Introduction

As identified by researchers, infectious diseases (IDs) have always been "satellites" of all wars, with evidence showing that during wars, sanitary losses from IDs range from 45% to 68% [1,2]. IDs during wartime represent a critical societal problem, as their prevalence can significantly impact the outcome of military conflicts [3]. Infrastructure destroyed by military actions leads to deteriorating sanitary and hygienic conditions in populated areas and life-support facilities, complicating the epidemic situation and creating favorable conditions for the spread of dangerous IDs in places of mass civilian gatherings [1,4]. During martial law, acute viral and bacterial respiratory infections, acute intestinal infections (AII), including "forgotten" diseases such as typhoid fever, paratyphoid fever A and B, cholera, and typhus, occupy an important place in the ID structure. Military actions can also lead to the emergence of new viral and bacterial strains, which may subsequently cause infections atypical for our country [5]. Therefore, monitoring studies of IDs during wartime represent a significant societal concern. However, the peculiarities of their spread in Ukraine under martial law have received little attention from domestic scientists, and existing modern scientific publications on Ukrainian health primarily focus on psycho-emotional aspects. The aim of this study is to identify the features of morbidity dynamics and spread of infectious diseases among the population of Volyn region since the beginning of martial law.

Methods

An epidemiological analysis of infectious disease morbidity among the population of Volyn region was conducted based on statistical reports for 2021-2023, provided by the State Institution "Volyn Regional Center for Disease Control and Prevention of the Ministry of Health of Ukraine" and statistical data from the Public Health Center of the Ministry of Health of Ukraine.

Results

Analysis of ID spread in Volyn region revealed the following features. Increases were observed in: Salmonella infections (from 79 cases in 2021 to 92 cases in 2023, with the proportion of children under 17 slightly decreasing to 42.3%) Enteritis, colitis, gastroenteritis, and food toxicoinfections caused by other identified pathogens, including campylobacter enteritis (from 261 cases in 2021 with 71.09% children to 849 cases in 2023 with 73.85% children) AII (from 379 cases in 2021 with 78.36% children to 727 cases in 2023 with 64.64% children) Other protozoal intestinal diseases, including giardiasis and cryptosporidiosis (significant increase from 27 cases in 2021 with 74.07% children to 174 cases in 2023 with 81.6% children)

Viral hepatitis, including acute hepatitis A, B, and C (2021: 384 cases total, 29 hepatitis A, children proportion 2.34% and 20.68% respectively; 2022: 266 cases total, 63 hepatitis A, children proportion 11.27% and 44.44% respectively; 2023: 111 cases total, 8 hepatitis

A, children proportion 37.5%) Chronic hepatitis B and C (2021: hepatitis B - 12 cases, no children; hepatitis C - 82 cases, 2.43% children; 2022: hepatitis B - 28 cases, 3.57% children; hepatitis C - 162 cases, 0.61% children; 2023: hepatitis B - 42 cases, 2.38% children; hepatitis C - 290 cases, 0.68% children) From 2021 to 2023, AII occupied a significant place in the infectious disease structure in Volyn region. Notable increases were observed in cases of salmonellosis, enteritis, colitis, gastroenteritis, food toxicoinfections, AII, other protozoal intestinal diseases, and viral hepatitis C. High proportions of children under 17 were noted in: salmonellosis (up to 43.3%), enteritis/colitis/gastroenteritis/food toxicoinfections (up to 80.94%), AII (up to 78.36%), and other protozoal diseases (up to 81.60%).

Conclusion

The epidemic situation regarding infectious diseases in Volyn region is considered unstable and characterized by favorable conditions for the spread of certain infectious diseases (particularly floods). Additional risks exist for AII outbreaks and food poisoning due to food provision for large numbers of internally displaced persons (77,000 as of 2022) under martial law conditions and intensive migration processes affecting Volyn. Overall, the situation in Ukraine and the above statistics highlight the importance of proper attention to public nutri-

tion, especially regarding home food preparation. Constant attention must be paid to personal hygiene practices, food and water selection, strict adherence to food preparation technologies, and limiting visits to spontaneous markets, as all these factors ensure human health levels while reducing ID spread.

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