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Influence of immunization percentage on the occurrence of infectious disease epidemics in gevgelija region, republic of northern macedonia

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Introduction and goal: Collective immunity arises when a large part of the community grows immune to the disease, making the spread of the disease less likely. As a result, the villages of the community grow protected - not just those who have acquired immunity. The paper discusses the factors that may affect the achievement of collective immunity in the eradication of infectious diseases.

Methods: Infection spreads through well-defined erytheological processes. Understanding these patterns contributes to understanding the best methods of controlling the spread of infection or even eradicating it. It is important to know whether the infection spreads directly from one person to another, whether healthy carriers are involved, and whether the infection originates from animal sources.

The results: Regression analysis was performed in order to eradicate the effects of rolitics (selective mandates versus voluntary vaccination) and communication (collective immunity versus collective immunity), as well as their impact on second dose vaccination (adjusted R2 = 0.038, F (3, 572) = 8-605, r <0.001). The results showed a statistically significant main effect of communication on collective immunity, b = 2,802, t (572) = 4,418, r <.001, h2 = 0,040. Participants in the communication on collective immunity reported a medium probability of being vaccinated 16.14 or 79.9% (SD = 4.67 or 24.6 percent births), compared with 13.92 or 68.0% (SD = 6 , 25 or 32.9 percent births) for those who did not receive information on collective immunity. Also in our environment, in the region of Gevgelija, Republic of North Macedonia, there was a rapid decline in vaccination with MMR vaccine, which resulted in the emergence of a mobile epidemic in this area. Despite that, there is a reluctance towards regular vaccination provided by the national calendar for immunization of children. Therefore, there is a serious risk of recurrence of vaccine-preventable diseases that have long been eradicated. The percentages are as follows: In 2011, the coverage of the MMR vaccine vaccination among rural children of preschool age was 88%, while in 2022 it dropped to 59%. The situation is similar with children in the city. In 2011, the coverage of the MMR vaccine was 93%, while in 2022 it dropped to 55%. And all because of the myth that the MMR vaccine causes autism in children. Slightly better percentages are among school children: in 2011 the coverage of the MMR vaccine vaccination among rural children of preschool age was 100%, while in 2022 it dropped to 94%. The situation is similar with children in the city. In 2011, the coverage of the MRP vaccine was 100%, while in 2022 it dropped to 95%. The reason for this is the access of school children to real information via the Internet about the connection between autism and vaccines.

Conclusion: Mass and regular vaccination as a form of achieving collective immunity has grown into a common and successful approach in preventing the spread but also the eradication of many infectious diseases. Vaccination resistance is a barrier to building collective immunity, and can lead to the disease surviving or returning to a population where the vaccination rate is inadequate..

Speaker Biography

Olumchev Sashko graduated in 1998, at the Faculty of Medicine in Skopje, R. Macedonia. Worked in emergency medical care until 2006. At the Center for Public Health in Gevgelija since 2006. Epidemiology specialist since 2010. Work with refugees from 2016 until today. Work at the Covid Center from 2020 until today. Regional Immunization Coordinator since 2006 until today.

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