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COVID-19 – a mild disease in children

OPINIONS

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Very few children have tested positive in the COVID-19 outbreak. This may suggest that children experience only mild symptoms, or that fewer of them pick up the infection.

The outbreak of COVID-19 infection which started in China in December 2019 can cause respiratory infection in humans. According to a study from the Journal of the American Medical Association (JAMA), approximately 80 per cent of those infected experience only mild symptoms (1). The study examined the first 45 000 cases of COVID-19 infection in China. The results show that only 1 per cent of infected individuals were 1–9 years of age. There have been no deaths associated with the virus in this age group. A further 1 per cent of those infected were 10–19 years of age. Another study from JAMA indicates that the median age for COVID-19 patients is 49–56 and that the incidence among children has been low (2).

In Norway, 65 children in the 0–19 age group were reported to have been infected with COVID-19 as at 20 March. The number of infected children equates to approximately 3.3 per cent of all COVID-19 cases in Norway (3).

Perinatal disease

According to news stories, two neonates have been infected; one in China and one in the UK. In the first case, the mother tested positive for COVID-19 before she gave birth (4). In the second case, the mother was admitted to hospital immediately before the birth with suspected pneumonia, which subsequently

proved to be COVID-19 (5). It is unclear how the disease was transmitted – whether in utero or postpartum. A Chinese study has shown that perinatal infection with COVID-19 may adversely affect neonates and lead to problems such as premature delivery, respiratory problems, thrombocytopenia accompanied by abnormal liver function and even death (6).

Other types of coronavirus

Is the pattern of low risk in children typical for other coronavirus diseases? The fact that very few children have tested positive in this outbreak is consistent with other coronavirus outbreaks in recent history, such as SARS and MERS. Severe acute respiratory syndrome (SARS) spread in Hong Kong and then all over the world in March–June 2003, caused by the SARS-associated coronavirus (SARS-CoV). Among more than 1700 infected individuals, only 6.9 per cent were under 18 years of age, with a mortality rate of 0 per cent. Stockman et al. reported that patients who were 12 years old or younger experienced a milder disease and that it was less likely that older children would be admitted to an ICU (7).

> ***«It appears that children have a minimal risk of developing COVID-19 and that there is practically no risk of a fatal outcome»***

In a retrospective analysis of the Middle East Respiratory Syndrome (MERS) outbreak in 2012, only 2 per cent of cases were children (8). During the MERS outbreak in 2016, the World Journal of Clinical Paediatrics wrote that the virus occurred less frequently in children, but that the reason for this low rate of transmission was unknown (9).

This clearly shows that in recent years, three different acute respiratory syndromes which involved coronavirus and developed into an epidemic have shown a reduced propensity to affect children.

Children are less at risk

The reason for this is still unclear. Do children have absolute protection against infection or only against the risk of developing the disease after being infected? Do children develop cross-protection from having encountered other types of coronavirus? The coronavirus is one of the most common viruses that invade the lungs, similar to rhinoviruses, respiratory syncytial virus and influenza. Toddlers and children of school age are more exposed to infections of the respiratory tract through droplet infection and close contact infection. Children in this age group are often affected by the annual outbreaks of seasonal influenza, with an average of 20–30 per cent of the paediatric population (10). It is conceivable that virus-induced immune response and subsequent tissue damage may be less pronounced in children (11).

Current knowledge suggests that children will experience mild symptoms or that fewer children will be infected. So far, there is no evidence to suggest that children with a chronic disease will have a more severe reaction to COVID-19. Although we do not know the magnitude of the spread of this disease and how extensively it will affect society, we can try to reassure the population about the actual level of risk to children. It appears that children have a minimal risk of developing COVID-19 and that there is practically no risk of a fatal outcome.

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