

Covid-19 in the Age Group Under 20: Why Few Cases are Registered?

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Abstract

Covid-19 affected is in most cases, adults > 55 years old, patients with a weakened immune system (disease, radio/chemotherapy), people with chronic diseases such as diabetes, lung, heart and kidney diseases, among others.

From a statistical point of view, has little effect on children under 10 years old (< 0.1%) and adolescents/adults under 20 years old (< 0.2%). What is the reason for this apparent resistance of children and young people to this virus?

Young people have a much stronger immune system, through the constant stimulation by vaccines in the first 2 years of life and later booster between 5 - 6 years and 10 - 13 years. Frequent infections during the first years of life and school period are also important to stimulate the immune system memory.

Keywords: *Covid-19; Young People; Immune System*

Before the discovery of Covid-19, six coronaviruses were known to infect humans. Four of them (HKU1, NL63, OC43 and 229E) predominantly cause diseases of the upper airways and are responsible for 10% to 30% of common colds.

Two coronaviruses caused serious illnesses, such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) with high mortality rates, 9.6% and 34.4% respectively.

Covid-19 was reported to WHO on December 31, 2019, with the identification of several cases of patients with pneumonia of unknown cause, in workers and regulars in the fish, live seafood, poultry and wild animals market in the city of Wuhan, Hubei province [1-3].

Covid-19 has 80% of its genetic sequence similar to the SARS coronavirus. The initial host would have been the bat, as was the case with SARS, and later it would have been transmitted by the pangolin to humans. Confirmation of human-to-human transmission occurred with the first case in relatives of affected people, who were not at the Wuhan Market.

Whoever is affected by Covid-19, may be without any symptoms and transmit the disease even during this period. However, when someone coughs or sneezes within 2 meters, the possibility of transmission is greater. Transmission is done through droplets of saliva. Compared to the SARS coronavirus, contagion is easier, shown by the number of existing cases, but mortality is lower, between 2 to 3%. The symptoms are similar to an infection by the flu virus: fever and/or cough appear in 80% of cases, but other symptoms such as runny nose and shortness of breath may also appear [4]. In 4% of cases, the respiratory condition may associate episodes of diarrhea with at least 24 hours of evolution. In the most severe cases, pneumonia, multiple organ failure and even death arise. The incubation period varies

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between 2 and 14 days. The age group most affected is in most cases, adults > 55 years old, patients with a weakened immune system (disease, radio/chemotherapy), people with chronic diseases such as diabetes, lung, heart and kidney diseases, among others.

Covid-19, from a statistical point of view, has little effect on children under 10 years old (< 0.1%) and adolescents/adults under 20 years old (< 0.2%). This statistical data was also verified in the SARS [1-4]. What is the reason for this apparent resistance of children and young people to this virus?

The child's Immune System is stimulated shortly after birth with the hepatitis B vaccine and later with more vaccines that are part of the vaccination calendar of a large number of countries. These vaccines are subsequently applied again as a booster in some cases between 5 and 6 years old and then between 10 and 13 years old. The new vaccine against human papilloma virus is also applied in this period in both sexes.

On the other hand, in childhood, children are often infected with so-called viruses in kindergartens and schools. All this stimulus on the Immune System, can help in the combat, or better in the defense of the organism against Covid-19. The infection by the coronavirus in the human being, in its lightest forms, causes between 10 to 30% clinical picture similar to a common cold. This immune memory and the almost constant stimulation on it, are protective factors against new threats coming from abroad. There are authors who defend that vaccination against influenza virus, in healthy people and health professionals, can also be a protective effect against Covid-19.

All of these arguments are valid to explain why Covid-19 in this current epidemic, and in the past with another coronavirus responsible for SARS, have such a small impact on children and young people under the age of 20. For the most skeptical people, this explanation may not be valid, saying that adults also had vaccinations in childhood and several viral infections in the past. The current results of this epidemic by Covid-19, affect people mainly with chronic diseases, with repercussions on their immune system and, consequently, the body's lack of response to new external agents, such as Covid-19. Immune memory, ages also over time and its responsiveness is less. The entire aging process leads to greater weakness in attacking the new virus. This situation does not happen in young people, since their immune memory is in full development, causing an immediate and effective response against new aggressions from abroad.

Covid-19 is in fact more virulent in people over 55, with immune deficit. In contrast, young people have a much stronger immune system, through the constant stimulation by vaccines and viral infections in the first years of life [5].

Conclusion

Young people have a much stronger immune system, through the constant stimulation by vaccines and viral infections in the first years of life and later in the adolescent period.

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