

## Letter to Editor



# COVID 19 shadow on children vaccination and chronic diseases

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### Dear Editor,

Since the emergence of the 2019 novel coronavirus (2019-nCoV) infection in Wuhan, China, in December 2019,<sup>1</sup> it has rapidly spread across China and many other countries.<sup>2</sup> On 30 January 2020, the World Health Organization (WHO) declared the COVID-19 outbreak as the sixth public health emergency of international concern, following H1N1 (2009), polio (2014), Ebola in West Africa (2014), Zika (2016), and Ebola in the Democratic Republic of Congo (2019).<sup>3</sup>

To date, no successful vaccine or antiviral drug has been clinically approved for the treatment of coronavirus. The only way to prevent the disease and control the infection is to follow the principles of hygiene and home quarantine.<sup>4</sup>

In this paper, we will try to improve the existing conditions of people to adapt to the epidemic conditions of coronavirus and its aftermath, because it is possible that the coronavirus will survive in the world and people get accustomed to living with this virus. We are talking about raising awareness about preventing new issues that can cause problems for society and health care systems.

The first issue is vaccination. Reducing global child mortality by facilitating universal access to safe vaccines of proven efficacy is a moral obligation for the international community as it is a human right for every individual to have the opportunity to live a healthier and fuller life.<sup>5</sup> In the current prolonged pandemic, new problems for individuals and families are inevitable. Although there is little evidence that families are vulnerable to COVID-19 but families are facing with important point i.e. the routine vaccination of children against vaccine-preventable diseases. These diseases themselves have caused various epidemics and a lot of deaths in the past. Families are reluctant to vaccinate their children for fear of coronavirus, the possibility of contamination of health care facilities, and the lack of precautions by health care providers, which can lead to illness. This will make the current situation in the COVID-19 pandemic more complex and uncontrollable. It is feared that by families

neglect regarding the vaccination of children, not only past achievements will be wasted, but also the spread of other infectious diseases, such as polio and measles will be seen.<sup>6</sup>

The second issue is about people with conditions requiring disease management. Other vulnerable patients to coronavirus are patients with chronic diseases, immunodeficiency, HIV and hepatitis. Healthy nutrition as well as calm and stress-free mental states are necessary for these patients to maintain normal immune system. The critical situation of the society due to the COVID-19 epidemic and quarantine leave these patients more isolated and worry about the recurrence of the disease or reactivation of the virus. The worry increases when they think what will happen if they get infected with the coronavirus too. While home quarantine leads to lower income, unhealthy nutrition results from reduced income, difficult access to drugs and medical centers, and high stress and anxiety about coronavirus which all result in distress and affects the immune system. The literature suggests that stress changes the number of white blood cells as well as the antibodies.<sup>7</sup> It seems that the duration of stress and the degree to which the components of the immune system changes are related. For example, the longer is the stress, the lower is the number of white blood cells.<sup>8</sup> In term of the psychological mechanism, stress activates several systems, including the hypothalamic-pituitary-adrenal axis and the sympathetic nervous system. Activation of these two pathways leads to elevated levels of certain hormones in the blood, such as cortisol and catecholamines (epinephrine and norepinephrine).<sup>9</sup> The amount of these hormones affects the function of the immune system. For example, a sharp rise in cortisol and epinephrine causes a decrease in the number of white blood cells. In addition, increasing cortisol and epinephrine levels reduces the proliferation of lymphocytes and natural killer cells.<sup>10</sup> Conditions due to the COVID-19 epidemic are a double threat to these patients, indicating that they need attention.

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The above-mentioned issues are facts from the COVID-19 pandemic that are not currently seen and are hidden in the shadow of the pandemic. At the moment, due to the high number of people suffering from COVID-19 in the world, it is not possible to pay attention to other cases. However, any of these conditions can be associated with coronavirus. Therefore, each of them must be considered because of their importance in order to prevent new events in the post-Covid-19 period or at the time of the COVID-19 pandemic.

#### Conflict of interest

None declared.

#### Ethic Approval

Not applicable.

#### Authors' Contribution

MF, AA and MD: Designing, drafting and editing of the study. All contributors assessed and approved the final article.

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