

# Emergency management, mitigation for COVID-19 and the importance of preparedness for future outbreaks

The outbreak of the novel coronavirus disease has been the cause for collapse of some of the best-developed health care systems in the world, which are now facing the overflow of critical patients and lack of human resources as many health care workers have been infected with the disease, while others are overworked and exhausted.<sup>1,2</sup>

As the COVID-19 is a new disease, there are many uncertainties associated with it, its epidemiological characteristics, and modes of clinical presentation, treatment and prevention.<sup>3</sup> The governments and the public health officials have been forced to rely only on traditional epidemiological measures, such as isolation, quarantines, social distancing, and community containments in order to try to control the outbreak.<sup>4</sup> In spite of these measures in place, the health care systems throughout the world are facing unprecedented strains to their resources and are on a brink of collapse.

The causes of this are in the high volume of patients that acquire medical attention, for which the health care systems were not prepared. The data for Italy show that almost one in 10 infected patients is a health care professional,<sup>5</sup> adding the pressure to the health care professionals facing the outbreak, as many are either infected or quarantined due to contacts with the infected colleagues. The personal protective equipment (PPE) is often lacking<sup>5</sup> and the all necessary mechanical ventilation devices are insufficient. The countries seem to be in a global hunt for mechanical ventilation devices, PPE for health care workers, but also the necessary protective measures for citizens, such as disinfectants and surgical masks. The high volumes of patients throughout the world led to the re-orientation of many health care professionals who are now filling-in for their colleagues in the emergency departments and intensive care units. For many of them, it would take extensive additional education to start working at these departments in the usual circumstances.

The one must wonder, why was Europe so unprepared for COVID-19 outbreak? We will look at the example of Serbia. World Health Organization declared the COVID-19 a global public health emergency on 30th January, after which the news was overwhelmed with the information on the course of the outbreak in China.<sup>1,2</sup> The exponential growth of the outbreak in Italy started on February 21st.<sup>6</sup> The initial case in Serbia was reported on March 6th,<sup>7</sup> 35 days after the declaration of COVID-19 as a global public health emergency by WHO, and 14 days after the exponential growth in the number of registered cases in Italy. So, why were not we prepared better?

The outcome of an emergency situation is associated with the preparedness for it, which is based on mitigation. Mitigation helps to create resources necessary to fight the dangers of any emergency, to prepare for the emergency response measures and develop strategic communication plan. There could be certain emergency situations for which the mitigation efforts might not prepare the country for, such as the massive earthquakes in the areas in which the earthquakes are uncommon (such as the recent earthquake in Croatia, the strongest in the past 140 years). For the majority of emergency situations there could be a time for mitigation efforts. If there is a storm threat, it usually is forecasted several days earlier and thus allows for certain preparations.

In case of the COVID-19 epidemics, Serbia had 35 days to prepare, or at least 14 days after the spread in Italy.<sup>6,7</sup> During this sensitive period no preventive measures were enforced. Health care workers did not go through extensive education on use of personal protective equipment (putting on, taking off, disposal), nor through education on all important supportive treatment for the pneumonia and acute respiratory distress syndrome. The protocols for

movement of patients through health care system were not established and the very important primary health care did not receive specific instructions on how to handle the possible COVID-19 cases, or how to triage patients and assess the needs for further diagnostics and treatment. There was no assessment on the capacities of the laboratories for the testing. Our pharmacies did not receive additional disinfectants or surgical masks. There were no educational messages for the general public how to prevent the spread of the virus, on importance of hand hygiene or importance on avoidance of mass gatherings. Even if the general public had the awareness and proper preventive measures, like wearing masks or gloves in order to prevent the spread of the virus, the unavailability of these essentials in the pharmacies had its negative influence. Regarding the strategic communication plan, it was observed earlier that the governments have shown certainty on the ability to predict the evolution of the outbreak and the efficacy of the preventive measures.<sup>8</sup> However, this certainty was associated with the frequent changes of the messages provided to the public, as the scientific knowledge about the disease developed. These changes of messages, unfortunately, led to the confusion of the general public. Additionally, there has been a poor human resources planning and constant lack of certain specialities for decades, which became evident during the outbreak. The preventive medical areas, such as epidemiology have been neglected for decades now. Along with that, the areas such as microbiology, infectious diseases, and anesthesiology were not attractive as residencies.

The measures were enforced on March 15th,<sup>9</sup> 9 days after the initial case, and at that point Serbia had 41 registered cases. On March 18th the curfew was issued. In the week of March 23rd all pharmacies received the surgical masks and gloves. The new devices for mechanical ventilation arrived. Some frontline health care workers went through education on PPE and mechanical ventilation. There are constant educational messages for the general public, which are concise and easily understandable. Three weeks after the initial case, primary health care was recognized and included in COVID-19 response. But could have that been done earlier? We still do not know how big will be the consequences of the COVID-19 outbreak, but we cannot but wonder, could have we been better prepared? There was knowledge on the possibility of the fast spreading of the virus before the initial registered case, all the neighboring countries, except Montenegro and Albania have registered their first cases earlier, but there was no sufficient action taken prior to the beginning of the outbreak. There were no actions taken to show anticipation for the outbreak, nor actions directed to avoid it.<sup>8</sup>

The outbreak of COVID-19 teaches us about the importance of the adequate strategies in the emergency management and most importantly about the importance of the first step in emergency management-mitigation. The lessons are in during this outbreak being learned, but they can teach to how to be prepared for the future and do not repeat the same mistakes.

## CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

This work has not been submitted and is not under consideration for publication in any other journal.

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