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Letter to the Editor

Healthcare students: should they be prioritized for COVID-19 vaccination?

A R T I C L E   I N F O

Keyword
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A B S T R A C T

Not requested.

Dear Editor-In-Chief,

New effective vaccines against COVID-19 were commissioned for administration in the last weeks of December 2020. In the first phase itself, pharmaceutical industries immediately faced difficulties to meet the global demand for COVID-19 vaccine. Therefore, all the countries are developing a strategy to prioritize the use of this vaccine. Some countries decided to prioritize subjects who are more vulnerable to the deadly consequences of COVID-19 to receive the vaccine and initially excluded young and healthy healthcare workers (HCWs). Other countries preferred to start the vaccination campaign with HCWs, regardless of their age, because they are considered as a possible source of transmission to patients and their work is essential for the functioning of healthcare systems. According to the Centers of Disease Control (CDC), “health care personnel are defined as paid and unpaid persons serving in health care settings who have the potential for direct or indirect exposure to patients or infectious materials” [1]. This definition includes students and trainees [2], because they are essential parts of the healthcare system and are actively involved in patient care.

In reality, medical, nursing, and other healthcare students are not considered as a prioritization category for COVID-19 vaccination in all countries, especially in Europe. This choice is probably related to their young age and to the lower risk of development of complications if infected, as they are generally healthy. Some students were infected during their hospital internships, and the risk of infection expanded further to their family and healthcare professionals tutoring them. The biggest damage occurred in terms of training these students. In fact, in the majority of hospitals, internships had to be suspended; consequently, students were unable to better prepare for future challenges in their profession. A complete training for healthcare professionals cannot be provided remotely. Furthermore, similar to other university students, healthcare students were unable to attend classrooms, which limited their participation to lessons, practical exercises, and seminars. Finally, SARS-CoV-2 infection and its repercussions – quarantine, self-isolation, and distancing from relatives and friends – may lead to important psychological issues in a population that is already at greater risk [3-5]. A recent research showed that digital learning in medical studies carries significant risks; emotional exhaustion and cynicism levels increased particularly in final year students because of the lack of clinical experience just before they start working as young doctors [6]. Potential erosion of empathy and a shift toward utilitarianism in healthcare among current medical students during the pandemic could have possible long-term consequences for future physicians and patients [7]. Furthermore, distance teaching may have widened inequalities in education [7], and social stigma related to COVID-19 infection could also affect healthcare students [8].

In the past few months, a debate has started on the opportunity for medical and nursing students to attend internships even during the COVID-19 pandemic, which has led to conflicting opinions [9-10]. More recently, healthcare students were proposed to assist in the COVID-19 vaccination program under the supervision of healthcare professionals. All these proposals require that the protection of students is ensured.

In conclusion, it may be useful to make an appeal to all the countries to include healthcare students as a prioritization category for COVID-19 vaccination. European nations should consider a common policy for this category, so that there are no differences between the countries. The shortage of qualified healthcare professionals has prompted the vaccination of students so that they can attend hospitals and classrooms and enter their profession with proper preparation. The lack of vaccines could lead to the development of a priority program among the students themselves, with particular attention to the students enrolled in the last years of the course. A poor preparation could indeed be a risk for the students themselves, their patients and the hospitals or healthcare facilities where they will operate.

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Declaration of Competing Interest

The authors declare no conflict of interest

References

[1] Dooling K, McClung N, Chamberland M, et al. The advisory committee on immunization practices’ interim recommendation for allocating initial supplies of COVID-19 Vaccine — United States. MMWR Morb Mortal Wkly Rep 2020;69:1857–9. 2020.

[2] Centers of Disease Control. Appendix 2. Terminology. https://www.cdc.gov/infectioncontrol/guidelines/healthcare-personnel/appendix/terminology.html (accessed Feb 1, 2021).

[3] Belingheri M, Pellegrini A, Facchetti R, De Vito G, Cesana G, Riva MA. Self-reported prevalence of sleep disorders among medical and nursing students. Occup Med (Lond) 2020;70:127–30.

[4] Fitzpatrick O, Biesma R, Conroy RM, McGarvey A. Prevalence and relationship between burnout and depression in our future doctors: a cross-sectional study in a cohort of preclinical and clinical medical students in Ireland. BMJ Open 2019;9:e023297.

[5] Belingheri M, Facchetti R, Scordo F, Butturini F, Turato M, De Vito G, Cesana G, Riva MA. Risk behaviors among Italian healthcare students: a cross-sectional study for health promotion of future healthcare workers. Med Lav 2019;110:155–62.

[6] Zis P, Artemiadis A, Bargiotas P, Nteveros A, Hadjiigeorgiou GM. Medical studies during the COVID-19 pandemic: the impact of digital learning on medical students’ burnout and mental health. Int J Environ Res Public Health 2021;18:349.

[7] Southworth E, Gleason SH. COVID-19: a cause for pause in undergraduate medical education and catalyst for innovation. HEC Forum 2021;33:125–42.

[8] Cavasin D, Paladino ME, Riva MA, Persico G, Belingheri M. Prolonged PCR positivity stigma and return-to-work after SARS-CoV-2 infection. J Occup Environ Med 2021;63:e100–1.

[9] Miller DG, Pierson L, Doernberg S. The role of medical students during the COVID-19 pandemic. Ann Intern Med 2020;173:145–6.

[10] Riva MA, Paladino ME, Belingheri M. The role of medical students during the COVID-19 pandemic. Ann Intern Med 2020;173:858–9.

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