

EDITORIAL

COVID-19 and reduced bystander cardiopulmonary resuscitation: A thanatophobic attitude leading to increased deaths from cardiac arrest?

The COVID-19 pandemic placed the entire healthcare system under strenuous conditions worldwide. Particularly, Italy was the first nation in Europe that faced the surge of the pandemic, finding itself completely unprepared to cope with a new and completely unknown disease. The Italian healthcare system was daily adapted to a constantly evolving situation in the best way possible by increasing the number of hospitals and ICU beds, cohorting infected patients, structuring dedicated protocols for the emergency medical service (EMS) and reallocating resources and equipment.^{1,2} The pandemic deeply influenced not only the healthcare system but also the behaviour of the general population. Indeed, people were isolated at home, avoided and/or reduced access to healthcare services due to the ramping fear of infection, delaying medical contact even in urgent instances.^{3,4} As a result of the large imbalance between healthcare needs and resources and the delayed and reduced access to emergency care, even in the instance of time-dependent medical conditions (e.g., coronary artery disease), the incidence of out-of-hospital cardiac arrest (OHCA) has increased significantly. Indeed, during the first pandemic wave, a 58% increase in OHCA incidence was reported in Lombardy, the first Italian region where severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was isolated.⁵ Subsequent reports confirmed these preliminary data worldwide.⁶⁻⁸

Other than OHCA epidemiology, the COVID-19 pandemic significantly impacted the cardiac arrest chain of survival. Laypeople are historically afraid of contracting an infectious disease while performing cardiopulmonary resuscitation (CPR). The COVID-19 spread might have further decreased the already fragile people's willingness to provide help to someone who suddenly collapses in a public place. Indeed, during the COVID-19 pandemics, laypeople trained in CPR and involved in the first response system have been reported to be more reluctant to intervene during OHCA, reducing the rate of bystander CPR.⁹⁻¹¹

In the current issue of *Acta Anaesthesiologica Scandinavica*, Dr Stirparo et al. confirmed that the COVID-19 pandemics significantly influenced the epidemiology of OHCA and the performance of bystander CPR in Italy.¹² The authors performed a large retrospective analysis of data collected from more than 25,500 OHCA patients in the Lombardy region in 2019 and 2020. An absolute increase in the number of OHCA in 2020 was observed, which strictly paralleled the epidemic curve of COVID-19 pandemics,

particularly during the first peak in March 2020. Most importantly, a disappointing lower chance of receiving bystander CPR and a return of spontaneous circulation was reported in 2020 compared to 2019. The pandemic had less prominent effects on public access to defibrillation (PAD), except for the first breakout peak period in March 2020. Thus, even though the rate of PAD remained extremely low (similarly to the pre-COVID-19 period), laypeople that had commenced CPR and were keen to provide defibrillation continued to do so during the pandemic period.

Probably, performing CPR manoeuvres generated much more anxiety and fear of infection (e.g., through rescue breaths) compared to other rescue interventions.¹³ To counteract this condition of thanatophobia, the intense fear of death (by COVID-19 in this specific case), that probably let many cardiac arrest victims die, public awareness campaigns to inform the community on the safety of CPR and to address concerns about the disease transmission related to CPR appeared to be crucial. Thus, in April 2020, the European Resuscitation Council published new COVID-19 adapted CPR guidelines.¹⁴ These interventions might have increased the willingness of lay rescuers to perform CPR during the subsequent COVID pandemic waves later in 2020, as indicated by the similar probability of receiving bystander CPR between December 2019 and 2020.

The authors should be praised for their extensive work that included an extremely large population in a region that was highly hit and its EMS exhausted by the COVID-19 pandemic. This manuscript gives us a faithful picture of the impact of an extremely contagious infectious disease on society and should trigger dedicated interventions to avoid any drops in bystander CPR rate in such conditions. Interestingly, the behaviour observed during the COVID-19 pandemic is not atypical or new for human beings. Indeed, the news of a 60-year-old Chinese man experiencing OHCA outside of a restaurant in Sydney witnessed by bystanders who did not perform any CPR for fear of the man being infected by SARS-CoV-2, brought back dark memories from the past.¹⁵ In the XIII century, the bubonic plague created a comparable situation, even if medical science was not as developed as today: unstoppable fear and deaths across all of Europe. How did people react on that occasion? People isolated themselves in their homes, and a household quarantine was imposed. The fear of the Black Death left infected people abandoned to their unavoidable

fate. The fear and the unknown both trigger the human instinct of preservation.

Likely, COVID-19 is not an unknown enemy anymore. Two years have passed since the first case was reported in Wuhan, and now much more information about this disease is available, together with vaccines and new therapies, that have significantly reduced the severity of this infection and let the community learn how to live together with this virus. Finally, growing evidence on the safety of CPR during COVID-19 and resuscitation training courses implemented with specific CPR manoeuvres to reduce the risk of infection should ideally avoid any recrudescence of this backstep in bystander CPR culture.

Lay people need to be reassured about not going back to the XIII century: 'Which accident, and other the like, if not far greater, begat divers feares and imaginations in them that beheld them, all tending to a most inhumane and uncharitable end; namely, to flie thence from the sicke, and touching any thing of theirs, by which meanes they thought their health should be safely warranted' (G. Boccaccio, *Decameron*, 1349–1353).

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bystander CPR, cardiac arrest, COVID-19

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