Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editor

Suggestions for the focus of OHCA meta-analysis in the COVID-19 era

To the Editor:

The unprecedented COVID-19 pandemic continues, and clinicians are interested in the outcome and clinical characteristics of out-of-hospital cardiac arrest (OHCA) as a result of direct or indirect pandemic effects. The results of several studies regarding OHCA are being accumulated sequentially. A meta-analysis was conducted to overcome the limitations of individual investigations, and results with implications for OHCA epidemiological features and mortality, which were notably different from those before to the pandemic, were reported.[1–4] Several observational studies and meta-analyses found that the composition of OHCA patients changed as the number of cardiac arrests increased in COVID-19 patients, where respiratory failure is a somewhat more prevalent cause. In addition, an increase in home arrest due to the effect of social distancing measures and self-quarantine isolation, as well as an influence on the weakening of the chain of survival due to the concentration of medical resources on COVID-19, were shown as an indirect effect.

The occurrence of home cardiac arrest was high, the use of bystander AED declined, and the conduction of intubation decreased during the pandemic, according to a meta-analysis of 10 articles published up to October 2020 in Lim et al study.[1] The updated meta-analysis included 31 articles and showed no significant differences in the outcomes, demonstrating a similar trend.[4] However, when compared to the unsystematic healthcare system and poor public health services due to partial concentration of medical resources for the treatment of COVID-19 at the beginning of the pandemic, several factors such as a systematically changed medical environment, improved response ability for patient with confirmed or suspected the COVID-19, increased vaccination rate, and change of the main COVID subtype show differences varies with the time and region of COVID-19 spread in recent environment. Therefore, combining the all-time data after the COVID-19 outbreak and comparing it to data before pandemic could lead to serious interpretation errors. For example, as the vaccination rate raised, COVID-19 patient mortality tended to decrease,[5] and the explosion of Omicron and death rate did not increase in synch.[6] Furthermore, the current environment for relaxed social distancing measures and self-quarantine isolation is markedly different from the early pandemic environment. Because these factors were found to have a direct or indirect effect on OHCA in previous studies, the next update meta-analysis should look into subdividing time points, such as before and after vaccination, before and after the peak period of COVID-19 patients, and before and after changing the medical resource use protocol by region. It is necessary to do a more stratified analysis. These factors may have contributed to the heterogeneity between included studies, which was not resolved in the prior meta-analysis. Many clinicians are interested in OHCA during the COVID era, and I suggest that meta-analysis and systematic review be used from this perspective to provide specific-concentrated and new analytical results in the constantly changing pandemic environment.

Conflict of interest

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