



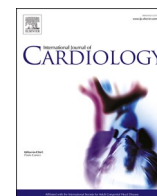
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## Editorial

## Factors influencing medical care of STEMI patients during the COVID-19 pandemic worldwide



From the beginning of the SARS-CoV2 pandemic, major changes in medical care have occurred worldwide. Especially in intensive care and emergency medicine, entire departments or wards focused exclusively on COVID-19 patients. In some cases, entire hospitals were removed from their previous service mission to create sufficient capacity for COVID-19. It was expected from the beginning of the pandemic that this would cause a shortage of care and since then, the question about how the pandemic itself and its countermeasures within the public health system would affect the quality of medical care as a whole has been controversially discussed. Moreover, initial findings suggesting dramatic cuts in emergency care of critically ill non-COVID patients were picked up quickly and spread by social media and the lay press.

In the cardiology community medical care of patients with acute coronary syndrome in general and STEMI (ST-segment elevation myocardial infarction) in particular during the pandemic was of special importance. Several studies suggested that the number of patients with acute coronary syndrome during the pandemic decreased in comparison to periods before the pandemic [1]. Another pan-european study revealed that STEMI patients frequently presented to hospitals so late that the optimal time frame for emergency primary percutaneous coronary intervention had already expired [2]. After more than 2 years of the pandemic, it is now time for a more objective look at the issue, after a sufficient observation period and a precise overview of the courses in the individual countries taking into account different approaches in public health and politics.

Thus, in this issue of the *Journal* Sofi and colleagues assessed how the SARS-CoV2 pandemic affected medical care of STEMI patients in a systematic review [3]. In a worldwide comparison of hospitalization of more than 111,000 STEMI patients, Sofi et al. impressively showed that there had been a 20% decrease in inpatient admissions and care of these patients. However, this is far from being as dramatic as reported by the press, regional registers and smaller reviews regarding shorter periods. The study also addressed, to which extend the incidence of COVID-19 and the various measures to control its spread, affected the care of patients with myocardial infarction. The colleagues describe an interesting correlation between the availability of hospital beds and the readiness to care for emergency patients. It is nicely visualized that a high availability of beds lead to a high readiness for admission (here: of STEMI patients) thus increasing the readiness for the care of emergency patients. They conclude that, besides the acute care for critically ill COVID patients, the provision of sufficient resources for non-COVID patients remains a central task in the pandemic. In contrast, factors such as the degree of lockdown measures and/or infection rate in the various

countries did not significantly influence hospitalization of STEMI patients.

Another important aspect addressed by Sofi and colleagues is the painstaking review of the included studies in terms of methodology and quality [3]. This is noteworthy because the efforts of scientists worldwide to cope with the SARS-CoV2 pandemic have resulted in a flood of publications on this topic. According to the Global Coronavirus COVID-19 Clinical Trial Tracker, a total of 2,914 clinical trials have been registered worldwide ([www.covid-trials.org](http://www.covid-trials.org)) until January 2022. Using the search term “COVID-19,” in current “Pub-Med” yields 213,008 hits. In the primary literature search of the colleagues from Perugia, 18,366 studies were detected. Up to now, both preprints and peer-reviewed papers on clinical trials are published, but their methodological quality is predominantly limited. Many preprints have already been “posted” on servers such as medRxiv and bioRxiv. The flood of these publications has unsettled not only the medical community but also the public, which eagerly awaits “breakthroughs” and “milestones” in research [4]. According to Sofi et al., the heterogeneity of the included studies, with sometimes conflicting results, reflects the general problem of current research on the topic. Considering the included studies, only about a half were of high quality whereas about a third were of low quality.

In summary, the authors should be congratulated for having composed this comprehensive study highlighting for the first time that the decrease in STEMI patients during the pandemic worldwide was less pronounced than previously thought. Moreover, it has become clear that a key element in appropriate medical care for STEMI patients is the availability of hospital beds. The solid database of Sofi et al. contributes to the enormously important discussion how many resources in healthcare have to be held available for either group of patients. To address this question correctly, we need to get away from snapshots and spontaneous surveys towards methodologically excellent meta-analyses over a sufficiently long observation period.

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### Declaration of Competing Interest

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