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## Effects of COVID-19 pandemic on burns care



ARTICLE INFO

Abbreviations: SARS-CoV-2 Severe Acute Respiratory Syndrome Coronavirus 2

#### To the Editor,

From December 2019, to the present, the COVID-19 pandemic has led to a global public health care emergency [1]. Based on preliminary evidence, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was more prevalent in patients with accompanying comorbidities, including burned patients [2–4]. Burn management is very challenging due to the high susceptibility to infection and the need for long-term care [5]. During the COVID-19 pandemic, many countries embraced measures for social isolation, including restricting outdoor activities, which could lead to more burn injuries from increased risk of domestic incidents [6]. However, the initial evidence is contradictory about the incidence of burns during this pandemic [7–11]. Different countries chose different measures to deal with the crisis, such as changing surgical priorities and not exempting burn care [6]. SARS-COV-2 can lead to increased morbidity and mortality in burn patients, especially those under intensive care and surgery [12]. In addition, the crisis makes burned patients more vulnerable to adverse outcomes. No protocols were available for surgical management of burn patients with COVID-19, which were usually treated conservatively by trial and error. Also, care protocols for burn patients with COVID-19 vary around the world based on the public health environment that countries experience [13]. On the other hand, the shortage of health care workers leads to the provision of lower-quality care, which can ultimately increase complications in burned patients [13]. Thus, the screening and isolation of burn patients with COVID-19 from non-COVID-19 patients is a major issue due to the susceptibility to bacterial and fungal infection [14]. A study of 234 burn centers in 43 countries found that although the presence of burn surgeons was maintained, timely surgical operations for management declined during the COVID-19 pandemic. The use of telemedicine increased in highincome countries but cooperation between burn centers remained difficult, which hindered the efficiency and equity of the large-scale strategic response. Burn centers also closed in low-income countries during the COVID-19 pandemic [6].

In sum, health managers and policymakers should develop appropriate strategies, such as the use of

telemedicine, to manage burn patients during the COVID-19 pandemic. Also, special attention should be paid to burn centers in low-income countries during the COVID-19 pandemic. Strengthening strategies to combat this pandemic could be valuable in future health crises.

#### Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-forprofit sectors.

#### Acknowledgment

None.

#### **Conflict of interest**

The authors declare no conflicts of interest.

REFERENCES

- Emami Zeydi A, Ghazanfari MJ, Shaikhi Sanandaj F, Panahi R, Mortazavi H, Karimifar K, et al. Coronavirus disease 2019 (COVID-19): a literature review from a nursing perspective. BioMedicine 2021;11:5–14.
- [2] Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. lancet 2020;395:507–13.
- [3] Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus–infected pneumonia in Wuhan, China. Jama 2020;323:1061–9.
- [4] Yang X, Yu Y, Xu J, Shu H, Xia J, Liu H, et al. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. Lancet Respir Med 2020;8:475–81.
- [5] Smith ACD, Miranda BH, Strong B, Jica RCI, Pinto-Lopes R, Khan W, et al. St Andrew's COVID-19 surgery safety (StACS) study: the Burns Centre experience. Burns 2021;47 (7):1547–55.

- [6] Laura P, José A, Nikki A, Khaled A, Barret JP, Jeffery C, et al. Impact of COVID-19 on global burn care. Burns 2021.
- [7] Valente TM, de Souza Ferreira LP, da Silva RA, Leite JMRS, Tiraboschi FA, de Camargo Barboza MC. Brazil Covid-19: Change of hospitalizations and deaths due to burn injury? Burns 2021;47:499.
- [8] Hohl DH, Coltro PS, Silva GM, Silveira VG, Farina JA. Covid-19 quarantine has increased the incidence of ethyl alcohol burns. Burns 2020;47:1212.
- [9] Demircan M. Increased admissions and hospitalizations to pediatric burn center during COVID 19 pandemic. Burns 2021;47:487–8.
- [10] Sethuraman U, Stankovic C, Singer A, Vitale L, Krouse CB, Cloutier D, et al. Burn visits to a pediatric burn center during the COVID-19 pandemic and 'Stay at home'period. Burns 2021;47:491–2.
- [11] Fouadi FE, Ababou K, Belkouch A, El Khatib K, Siah S. Burn patients' management during the COVID-19 pandemic: an institutional report from the Mohammed Vth Teaching Armed Forces Hospital in Morocco. Burns 2020;46:1718–9.
- [12] Azzena B, Perozzo FAG, De Lazzari A, Valotto G, Pontini A. Burn Unit admission and management protocol during COVID-19 pandemic. Burns 2021;47:52–7.
- [13] Kumar S, Kain R, More A, Sheth S, Arumugam PK. Burns and COVID-19—Initial Experience and Challenges. J Burn Care Res 2020;42:794–800.
- [14] Huang Z, Zhuang D, Xiong B, Deng DX, Li H, Lai W. Occupational exposure to SARS-CoV-2 in burns treatment during the COVID-19 epidemic: specific diagnosis and treatment protocol. Biomed Pharmacother 2020110176.

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https://doi.org/10.1016/j.burns.2022.01.020 0305-4179/ © 2022 Elsevier Ltd and ISBI. All rights reserved.

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# Pakistan plans to launch a National Burns Control Programme

### ARTICLE INFO

Keywords: Burns Pakistan Surgery

Burns are a global formidable public health problem both in the developed and developing world. It is categorized as under-appreciated suffering that can shake anyone, anytime and anywhere. According to the World Health Organization (WHO), an estimated 180,000 deaths occur every year by burns. Many developed countries around the globe have made considerable progress in lowering rates of burn deaths [1], through a combination of prevention strategies and improvements in the care of people affected by burns. Specifically, in the developed world, burn care is coped with aptly because of government involvement in the form of national policy, regulatory oversight, organized medical system, standardized infrastructure, high educational standards, trained manpower, and sensitization and awareness of the masses, among others.

Unfortunately, the issue of burn care and prevention is poorly managed and further aggravated in developing countries because such amenities do not exist, unlike the

