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Low mortality in COVID-19 patients with diabetes in CTICC field hospital - study

A University of Cape Town (UCT) study on the management of COVID-19 in people living with diabetes (PLWD) at a field hospital shows that despite their multiple comorbidities and increased risk of more severe COVID-19, their clinical outcomes were not significantly different to those of people living without diabetes and diagnosed with the virus.

According to the study, there were 1447 admissions at the Cape Town International Convention Centre (CTICC) Intermediate Care Bed Facility (ICBF), with a total of 674 (46.6%) patients who had confirmed diabetes mellitus (DM), of whom 125 (19%) were newly diagnosed diabetics and 550 (81%) had pre-existing DM.

Published in the *South Africa Medical Journal*, the study used clinical records, including all patients with confirmed COVID-19 and pre-existing or newly diagnosed DM (of any type) admitted to the CTICC ICBF from 8 June 2020 to 18 August 2020.

Of the 674 PLWD admitted, 593 were discharged alive, 45 were escalated to tertiary hospital requiring advanced care and 36 died. According to the researchers, this finding reinforces the importance of viewing PLWD as a high-risk cohort in this pandemic.

Principal investigator, Dr Tasleem Ras from UCT's Division of Family Medicine, said PLWD who died were older, had more comorbidities (specifically chronic obstructive pulmonary disease, congestive cardiac failure and chronic kidney disease) and were more likely to be on insulin.

Ras said the patients in the study were more acutely ill than patients in reports from field hospitals elsewhere in the world, as evidenced by the oxygen requirements on admission.

"By comparison, field hospitals in Wuhan, China, used stricter admission criteria, only admitting patients who were ambulant and had an oxygen saturation of 93% or more on room air," he said.

Of those PLWD who had an HbA1c test result available on admission, Ras said only 14% had an HbA1c in the recommended target range of less than 7%.

"More concerning was that almost 50% of PLWD admitted had an HbA1c more than 10%, confirming the high background levels of poor diabetes control in the community. The high insulin demands were met by using simple insulin regimens and standard COVID-19 treatment protocols, resulting in almost 90% of PLWD being discharged home.

"In this cohort, an unexpected finding was that an elevated HbA1C was not predictive of a poor outcome, although our outcomes were influenced by the fact that most patients had been admitted to acute hospitals for a few days before admission to the intermediate care facility," said Ras.

Ras shared: "Patients who required an escalation of their care were more likely to be younger (owing to having acceptable criteria for ICU), be male, have high oxygen demands and require insulin. They were admitted for a significantly shorter duration than the median, and therefore the assumption can be made that they were prematurely referred from referral hospitals."

The relatively good outcomes experienced in this study, said Ras, may be a reflection of the good interfacility engagements seen in Cape Town during the first wave of the pandemic in 2020, and may be appropriate for a field hospital, where complex and severely ill patients are retained within the acute care environment.

"This points to the desirability of a systematic, collaborative and inclusive pandemic response that cuts across all levels of care," he said.

With resource limitations and lack of access to hospital beds being rife in certain areas of the country and in other low- and middle-income countries, he said the study provides important data for a cost-effective model to show its success in managing high-risk patients during a pandemic.

The research team led by Ras comprised junior clinicians who were working at the field hospital, as well as researchers from Groote Schuur Hospital.

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