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UCT scientist leads major global study investigating link between COVID-19 and cardiovascular disease

Professor Karen Sliwa of the multi-disciplinary and interprofessional [Cape Heart Institute \(CHI\)](#) at the University of Cape Town's (UCT) Department of Medicine, recently recognised by the South African Medical Research Council with a Gold Medal, is the lead Principal Investigator (PI) on the '[WHF \[World Heart Foundation\] COVID-19 and Cardiovascular Disease Global Study](#)'.

It has been accepted for presentation at the largest global cardiology congress, the prestigious *Late Breaking Trial Session* at the [European Society of Cardiology](#) congress this August. The full publication is expected later this year.

According to Sliwa, less than five per cent of all published reports on COVID-19 come from the Global South, with less than one per cent of these from the African continent. In fact, of all global research studies less than five per cent have a woman PI. Sliwa is at the helm of this new study which will have its findings [presented](#) at the congress on the 27 of August.

Presentation of the data in this prestigious session during Women's Month takes on a greater significance, especially with Sliwa being the previous President of the WHF.

Of the expected 5 000 patients who will be involved in the 'WHF COVID-19 and Cardiovascular Disease Global Study', over 4 800 have been recruited so far from 38 sites in 24 countries – mainly from the Global South.

Additionally, an estimated 79% of the participants come from eight African countries, as well as from Latin America and Southeast Asia. A cohort of this size coming from this environmental context is crucial in developing a better understanding of the impact of the COVID-19 pandemic in low-to-middle-income countries. Especially because most research has focused on data available from developed economies.

Analysis of the first half of the patient cohort is proving vital in many ways, including narrowing the knowledge gap about disease progression and the medical and social burden in particularly hard-hit areas, to strengthen clinical practice and decision-making.

Sliwa commented: "The study is also unique through its inclusion of a younger population with an average age of 56 years. While also capturing a detailed view of related medical facilities and infrastructure."

Through this work a better understanding of COVID-19 and heart disease will be developed. The ongoing findings are expected to aid the management of COVID-19 in resource-poor set ups and guide health policy in less resourced areas and beyond.

Broadening the scope of research: A wider lens

More than a year into the pandemic, the study aims to describe outcomes and identify risk factors associated with poor in-hospital prognosis, with the aim of presenting a full analysis and results later this year.

Director of the CHI and also a member of UCT's [Institute of Infectious Disease and Molecular Medicine](#), Sliwa explained: "We applied a wider lens to areas of the world that are often not reflected in much of the emanating research. We believe our findings will offer insights and highlight the needs of communities in ways that are critical to holistic future preparedness and healthcare planning."

Recruited patients have exhibited a range of underlying conditions including hypertension, diabetes, coronary artery disease, stroke, obesity, kidney disease, tuberculosis and HIV.

While in-hospital deaths were close to 14%, a further four per cent had succumbed to illness one month after leaving hospital, leaving one per cent requiring re-hospitalisation.

The leading causes of death were respiratory failure and complications of heart failure including sudden cardiac death. In fact, a third of the deaths were sudden and not due to lung disease or respiratory failure.

"Our data are rather special as the population is younger and has different co-morbidities [to those from previous studies in the Global North]. We also collected specific information on the healthcare set up which, as you can imagine, is different to the western countries," Sliwa said.

An almost accidental yet valuable outcome of the study is an emerging, interconnected group of experts spanning parts of the world that are often under-served in health provision.

"Many of the hospitals had no cardiologists or respiratory physician specialist, as well as limited advanced care such as ventilators," she mentioned.

Healthcare workers and cardiologists involved at several sites have been able to strengthen respective life-saving efforts and build collective knowledge.



Prof Karen Sliwa

Photo: Supplied

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