Mortality, cardiovascular disease and long covid at 3 months in individuals hospitalized with covid-19- a whf study

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Background: COVID-19 pandemic presents a number of unpredictable and long-lasting challenges. Understanding the short- and long-term effects of COVID-19 infection is crucial for better planning of preventive and management strategies for future pandemics. This study aims to determine short- and long-term clinical sequelae among COVID-19 hospitalized patients across low-middle-, upper-middle and high-income countries.

Methods: This global, multi-centre, prospective cohort study across 16 countries aimed to recruit 3300 patients hospitalized with COVID-19. We evaluated persistent long COVID symptoms, re-admissions, death, cardiovascular disease complications, new onset hypertension or diabetes, reinfection with COVID-19, vaccination, quality of life and costs at 1, 3, 6, 9-12-months post-hospital discharge using a standardized questionnaire over the phone. We are reporting interim descriptive analysis including demographic characteristics and short-term (3-month) clinical sequelae among COVID-19 hospitalized patients.

Results: We present baseline characteristics and follow-up data for 1,474 patients at the 3 months visit after hospital discharge. The patients were predominantly Asian (97%), male (55%) with a mean age (SD) of 56 (19.6) years and from low- and middle-income (82%), upper middle-income (4%) and high-income (14%) countries. 60% of the patients had received 2 doses of COVID-19 vaccination. 92% patients had fever and 90% had cough when admitted to hospital. More than one-third of patients (38%) reported at least one long COVID-19 symptom. Most commonly reported long COVID-19 symptoms were fatigue (22%), memory impairment, concentration, or decision-making (15%), and feeling more anxious (11%). Nearly half of the patients reported mild fatigue (46%) and 8% had severe fatigue. Less than 1% of patients reported loss of smell or taste. Most commonly reported post-discharge complications (new onset illnesses) were pulmonary embolism (8%), kidney involvement (2%) and new onset hypertension (1%). A quarter of patients reported problems in self-care, and 7%-12% patients reported pain or mobility issues or anxiety/depression. At 3-month follow-up, 3% of the patients had died and the most common causes of death were sudden cardiac arrest (33%), liver dysfunction/end stage renal disease (31%) and stroke or respiratory illness (13%).

Conclusions: Three months after hospitalized COVID-19, our interim analysis revealed a 3-month mortality rate of 3% mostly due to sudden cardiac arrest, liver dysfunction, stroke and respiratory diseases (relatively higher compared to studies from other regions). Patients commonly reported persistent symptoms, such as fatigue, memory/concentration impairment, and anxiety. Further, long-term follow-up data will guide health policies to prevent and manage long COVID sequelae worldwide.

Table 1: Demographic characteristics, clinical sequelae and outcomes at 3-month follow up

Demographic Characteristics (N=1474)	N (%)
Age, mean (SD)	56.3 (19.6)
Male	815 (55.3)
Female	658 (44.6)
Asian	1427 (96.9)
Outcomes at 3-month follow up (n=1474)	**N (%)**
Alive	1403 (95.2)
Re-hospitalized	4 (0.3)
Death	45 (3.1)
Unknown/Loss-to-follow-up	22 (1.5)
Causes of Deaths (n=45)	**N (%)**
Sudden cardiac death	15 (33.3)
Heart Failure	4 (8.9)
Stroke	6 (13.3)
Respiratory Diseases	6 (13.3)
Other	14 (31.1)
Persistent symptoms at 3-month follow up (n=1405)	**N (%)**
Fatigue (worn out/lacking energy or zest)	311 (22.1)
Problems with memory, concentration or decision making	208 (14.8)
Feeling more anxious/worrying	145 (10.3)
Chest pain	59 (4.2)
Breathlessness	41 (2.9)
Palpitations	31 (2.2)
Myalgia (muscles aches)	18 (1.3)
Anosmia (no sense of smell)	4 (0.3)
No sense of taste	7 (0.5)
EQ5D dimensions (n=1405)	**N (%)**
Mobility	140 (10)
Self-Care	263 (18.7)
Usual Activities	393 (28)
Pain/Discomfort	97 (6.9)
Anxiety/Depression	163 (11.6)

Table 1

Figure 1: Countries participating in WHF COVID-19 Long-term follow-up study

Figure 1