

Cardiovascular health and COVID-19: A Bangladesh perspective

Saifur Rahman Chowdhury^{1,2}

AFFILIATION

1 Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan, Saskatoon, Canada

2 Department of Public Health, North South University, Dhaka, Bangladesh

CORRESPONDENCE TO

Saifur Rahman Chowdhury, Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan, Saskatoon, Canada.

E-mail: saifur.rc@usask.ca ORCID ID: <https://orcid.org/0000-0003-4361-0792>

KEYWORDS

Bangladesh, cardiovascular health, COVID-19

Received: 4 January 2022, **Revised:** 12 March 2022, **Accepted:** 4 April 2022

Public Health Toxicol. 2022;2(2):9

<https://doi.org/10.18332/pht/148141>

Dear Editor,

The coronavirus disease 2019 (COVID-19) pandemic has been spreading swiftly since its outbreak and has made an unprecedented impact upon health systems worldwide, consuming enormous public health resources to limit its effects. Up to February 2022, the virus has resulted in the deaths of more than 6 million people worldwide¹, and has exacerbated existing health inequalities. Bangladesh is no exception, more than 1.9 million individuals have been infected with COVID-19 and the total number of deaths was more than 29000 people from the inception of COVID-19 to February 2022², even though the government took numerous preventive steps³ and other health services in the country were improved^{3,4}. According to the WHO COVID-19 detailed surveillance data dashboard, in Bangladesh, from the beginning of the outbreak, the infection rate (male/female ratio = 1.53) and case fatality rate (male/female ratio = 1.77) are higher among males than females, and the mortality rate is higher among individuals aged older than 60 years⁵. Among the Bangladeshi population, up to February 2022, only 73.9% received their first dose and 52.0% received their second dose of the COVID-19 vaccines².

Cardiovascular disease (CVD) is recognized as a significant risk factor for worse outcomes of COVID-19. A study has found that the relative risk of developing severe COVID-19 or death is almost two times higher in patients with risk factors for CVD (hypertension, diabetes) and three times higher in patients with CVD⁶. Similarly, a study conducted in Bangladesh found that COVID-19 patients with CVD had almost five times higher odds of death, and COVID-19 patients with CVD and diabetes had almost seven times higher odds of death⁷. As a lower middle-income

country of South-East Asia, with a population of over 170 million, Bangladesh faces many challenges related to health inequality and preventive strategies, particularly for non-communicable diseases. Bangladesh has witnessed an epidemiological transformation over the past 50 years, marked by declines in infectious diseases and rises in chronic diseases. Changes in the socioeconomic and cultural trends of the population, such as rapid urbanization and unequal economic growth, have contributed to changes in lifestyle patterns, including increasingly unhealthy dietary patterns and decreased physical activity, resulting in increased hypertension and CVD⁸.

According to the non-communicable diseases risk factors survey conducted in 2018, the prevalence of hypertension was 21.0%, and it was more prevalent in the urban area (25.2%) and among the richest in the population (24.9%)⁹. This result is supported by a meta-analysis that estimated the overall weighted pooled prevalence of hypertension as 20.0%¹⁰. However, in a previous survey on non-communicable disease risk factors conducted in 2010, the prevalence of self-reported hypertension was only 12.5%¹¹. The increased prevalence of CVD risk factors has resulted in a higher rate of development of CVD. In a meta-analysis that included studies up to April 2017, the weighted pooled prevalence of overall CVD was estimated as 5%. In the Bangladeshi population, the estimated pooled prevalence of overall CVD was higher in people of urban areas (8%) than their rural counterparts (2%). The meta-analysis also revealed that among CVD, heart disease (in defining heart disease, several conditions were considered) was the most prevalent disease (21%), while the least prevalent disease (1%) was stroke. The estimated pooled prevalence was

