frontiers in Public Health

ORIGINAL RESEARCH
published: 28 July 2020
doi: 10.3389/fpubh.2020.00416

Misconceptions on COVID-19 Risk Among Ugandan Men: Results From a Rapid Exploratory Survey, April 2020

Keneth Iceland Kasozi[1,2], Ewan MacLeod[1], Fred Ssempijja[2], Michael W. Mahero[3], Kevin Matama[4], Grace Henry Musoke[5], Kevin Bardosh[6], Robinson Ssebuufu[7], Florence Wakoko-Studstil[8], Isaac Echoru[9], Emmanuel Tiyo Ayikobua[10], Regan Mujinya[2], Grace Nambuya[2], Hope Onohuean[4], Gerald Zirintunda[11], Justine Ekou[11] and Susan Christina Welburn[1,12]**

[1] Infection Medicine, Deanery of Biomedical Sciences, College of Medicine and Veterinary Medicine, The University of Edinburgh, Edinburgh, United Kingdom, [2] Faculty of Biomedical Sciences, Kampala International University Western Campus, Bushenyi, Uganda, [3] Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, St. Paul, MN, United States, [4] School of Pharmacy, Kampala International University Western Campus, Kampala, Uganda, [5] Faculty of Science and Technology, Cavendish University, Kampala, Uganda, [6] Center for One Health Research, School of Public Health, University of Washington, Seattle, WA, United States, [7] Faculty of Clinical Medicine and Dentistry, Kampala International University Teaching Hospital, Bushenyi, Uganda, [8] Department of Criminal Justice & Sociology, College of Letters and Sciences, Columbus State University, Columbus, GA, United States, [9] Department of Anatomy, School of Medicine, Kabale University, Kabale, Uganda, [10] Department of Physiology, School of Health Sciences, Soroti University, Soroti, Uganda, [11] Faculty of Agriculture and Animal Sciences, Busitema University, Tororo, Uganda, [12] Zhejiang University-University of Edinburgh Institute, Zhejiang University School of Medicine, International Campus, Zhejiang University, Haining, China

OPEN ACCESS

Edited by:
Zisis Kozlakidis, International Agency for Research on Cancer (IARC), France

Reviewed by:
Joseph Ntayi, Makerere University, Uganda
David Kitara Lagoro, Gulu University, Uganda

***Correspondence:**
Keneth Iceland Kasozi
kicelandy@gmail.com
Susan Christina Welburn
sue.welburn@ed.ac.uk

Specialty section:
This article was submitted to Infectious Diseases - Surveillance, Prevention and Treatment, a section of the journal Frontiers in Public Health

Received: *04 June 2020*
Accepted: *13 July 2020*
Published: *28 July 2020*

Citation:
Kasozi KI, MacLeod E, Ssempijja F, Mahero MW, Matama K, Musoke GH, Bardosh K, Ssebuufu R, Wakoko-Studstil F, Echoru I, Ayikobua ET, Mujinya R, Nambuya G, Onohuean H, Zirintunda G, Ekou J and Welburn SC (2020) Misconceptions on COVID-19 Risk Among Ugandan Men: Results From a Rapid Exploratory Survey, April 2020. Front. Public Health 8:416. doi: 10.3389/fpubh.2020.00416

Background: Transmission of COVID-19 in developing countries is expected to surpass that in developed countries; however, information on community perceptions of this new disease is scarce. The aim of the study was to identify possible misconceptions among males and females toward COVID-19 in Uganda using a rapid online survey distributed *via* social media.

Methods: A cross-sectional survey carried out in early April 2020 was conducted with 161 Ugandans, who purposively participated in the online questionnaire that assessed understandings of COVID-19 risk and infection. Sixty-four percent of respondents were male and 36% were female.

Results: We found significant divergences of opinion on gendered susceptibility to COVID-19. Most female respondents considered infection risk, symptoms, severe signs, and death to be equally distributed between genders. In contrast, male respondents believed they were more at risk of infection, severe symptoms, severe signs, and death (52.7 vs. 30.6%, RR = 1.79, 95% CI: 1.14–2.8). Most women did not share this perception and disagreed that males were at higher risk of infection (by a factor of three), symptoms (79% disagree), severe signs (71%, disagree), and death (70.2% disagree). Overall, most respondents considered children less vulnerable (OR = 1.12, 95% CI: 0.55–2.2) to COVID-19 than adults, that children present with less symptoms (OR = 1.57, 95% CI: 0.77–3.19), and that there would be less mortality in children (OR = 0.92, 95% CI: 0.41–1.88). Of female respondents, 76.4% considered mortality from COVID-19 to be different between the young and the elderly (RR = 1.7, 95% CI: 1.01–2.92) and 92.7%

believed young adults would show fewer signs than the elderly, and 71.4% agreed that elderly COVID-19 patients would show more severe signs than the young (OR = 2.2, 95% CI: 1.4, 4.8). While respondents considered that all races were susceptible to the signs and symptoms of infection as well as death from COVID-19, they considered mortality would be highest among white people from Europe and the USA. Some respondents (mostly male 33/102, 32.4%) considered COVID-19 to be a "disease of whites" (30.2%).

Conclusion: The WHO has identified women and children in rural communities as vulnerable persons who should be given more attention in the COVID-19 national response programs across Africa; however, our study has found that men in Uganda perceive themselves to be at greater risk and that these contradictory perceptions (including the association of COVID-19 with "the white" race) suggest an important discrepancy in the communication of *who* is most vulnerable and *why*. Further research is urgently needed to validate and expand the results of this small exploratory study.

Keywords: COVID-19, COVID-19 response in Africa, impact of COVID-19 in Uganda, myths about COVID-19, United Nations emergency appeal response to COVID-19, gender matters in COVID-19 response, impact of COVID-19 in children, efforts to mitigate and adapt to COVID-19

INTRODUCTION

The new pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged in late 2019, disrupting health systems and critical care, even within the most developed heath systems and economies (1). As of April 22nd, 2020, 2.5 million confirmed cases of COVID-19 have been reported globally (2). Sustained community transmission is expected in low- and middle- income countries (LMICs) where COVID-19 containment strategies continue to be a challenge (3). Extreme mitigation strategies have been put in place in many countries to control COVID-19, to reduce disease transmission and to avoid overburdening healthcare systems including mass lockdowns, curfews, and social distancing measures (4). SARS-CoV-2 and interventions to reduce transmission are negatively impacting already impoverished communities in LMICs and will test heath systems that have little capacity for the management of high dependency patients, or sufficient PPE to protect health workers (5). Interventions will have long-lasting detrimental impacts on LMIC economies, and, in the absence of reliable and efficient tools for early detection of infected and exposed individuals, are likely to extend beyond 2020/21 including in Africa (6).

Africa is vulnerable to being overwhelmed by COVID-19. The World Health Organization (WHO) Director General Dr. Tedros Ghebreyesus, stated that the greatest concern was COVID-19 transmission in countries with weaker health systems than in developed nations (7). On Apr 17, 2020, the WHO estimated 10 million cases of COVID-19 spreading rapidly across Africa and up to 3 million deaths within 6 months (8). Cases are expected to rise quickly due to a chronic lack of testing, lack of personal protective equipment (PPE), and poor patient care facilities of basic equipment to contain the pandemic, such as PPE (9, 10). The ability to contain COVID-19 will depend on the success of social distancing and the ability to diagnose, isolate, and treat cases (11).

Case finding and reporting for COVID-19 in Africa is making less than ideal progress. Data from the African Centers for Disease Control (CDC) shows that while risk of importation of COVID-19 to Africa was lower than that to Europe (1 vs. 11%), response and reaction capacity are also lower; the latter being intrinsically linked to individual country wealth and resources for detection, prevention, and control (12). In late March, Africa had reported 41 local transmissions and only 9 imported cases, by 7 April 2020, 9,888 of 9,971 cases (99.2%) were community acquired with only 83/9,971 cases being imported. As of 18 April 2020, Africa had reported 1,000 deaths with COVID-19 and more than 19,800 cases in 52 out of 54 countries on the African continent (13). With travel restrictions in place, all cases of COVID-19 are considered community acquired (14). While many African nations have employed lessons learned from Ebola (15). COVID-19 is far more challenging to manage. Quantifying the pandemic growth across the African sub-continent and assessing the impact of interventions put in place will be compromised by the lack of diagnostic capacity (16).

Across East Africa, in April 2020, countries lack a coordinated response against COVID-19. While the WHO/AFRO are making strong recommendations, many governments are taking their own approach. The president of Tanzania encouraged people to "pray for 3 days" against COVID-19 and has not imposed any movement restrictions—places of worship remain open (17). In Kenya, only a partial lockdown is in place in major cities and many are not prepared for a total lockdown of the country (18, 19). In Uganda and Rwanda more extreme actions have been taken with total national lockdowns that have involved closure of all non-essential businesses, public transport, and the closure of schools and universities. Only local food stores,

Abbreviations: nCTF, National COVID-19 Task Force; WHO, World Health Organization; LMIC, Low Middle income Countries; BAME, Black, Asian, Minority Ethnic; CDC, Center for Disease Control.