

43. Corona virus pandemic response among health workers in selected health facilities in Meru County

Kubai, Patrick Kinyua¹

¹Meru University of Science and Technology
Corresponding author email: pkubai@must.ac.ke

Subtheme: Health interventions for Sustainable development amidst Global Crises

Abstract

Corona virus pandemic has exerted an unprecedented burden on health care systems, governments and health workers across the world. It has hampered health care delivery globally with far reaching effects in African countries that are already struggling with weak health systems (WHO, 2020) and limited resources (The World Economic Forum, 2020). The first case of the novel coronavirus was reported in Wuhan city Hubei Province of China (WHO, 2020). Since then, the virus has spread across the globe with Kenya confirming 186,000 cases by July 2021 (Worldometer, 2021). Transmission pathways of Corona virus include person-to-person such as coughing, sneezing, aerosol inhalation as well as contact transmission with nasal or mucus membrane from humans or contaminated surfaces (Peng et al, 2020). Health care workers are at the frontline of COVID-19 response and yet are at a high risk infection. This has been linked to inadequate personal protective equipment (PPEs), exposure to infected patients, poor infection control and work overload (Viswanath & Monga, 2020); Mhango et al, 2020; Bai Y et al, 2020). It has been reported that healthcare workers and patients admitted to health facilities for other medical reasons are particularly vulnerable to infection from super spreading cases. This was witnessed in Wuhan, China where Corona virus infection occurred among a group of healthcare workers and hospitalized patients originating from a patient who was admitted in a surgical ward (Wang et al, 2020). Control and management of highly infectious patients within health facilities requires adequate resources which limited in resource scarce settings. Initial report from China revealed that inadequate PPEs as the major risk factor for COVID among healthcare workers (Ran L et al, 2020). In addition, long working hours with minimal rest and overstretched health system due to rising number has been shown to contribute to risk of COVID19 transmission among healthcare workers (Wang J, Zhou M, Liu F, 2020). Emerging research recognize that risk of COVID-19 infection among healthcare workers is compounded by contaminated working environment owing to insufficient infection control and lack of protocols (Viswanath & Monga, 2020; Bai Y et al, 2020). Work environment is key as a transmission route of various infections. It was reported that more than half of all infections among healthcare workers in United States of American occurred in a healthcare facility (Ref). A study conducted among healthcare workers in a health facility in Wuhan, China demonstrated that use of appropriate PPEs coupled with observance to standard recommendations were effective against COVID-19 infection (Min Liu et al., 2020). Africa region continue to be at high risk for COVID19 pandemic, with relatively low capacity to manage the health emergency. While many countries in Africa are stepping up their preparedness for COVID-19 (Gilbert et al, 2020), assessments by WHO

point to substantial limitations in response capacity (WHO, 2020). Risks of infection to healthcare workers requires adequate resources within the facilities, which are limited in many Africa settings. Nevertheless, WHO report indicate that global stock of PPEs is insufficient to meet the rising demand (WHO, 2020). A similar situation is experienced in Kenya and more so exacerbated by reduced supply hence, increase prices for essential PPEs. In addition, healthcare workers require training and supervision in donning and doffing of PPEs to ensure effective protection. Adequate knowledge and skills in use of PPEs may increase risk of infection where healthcare workers may not yet be familiar with their use. In the wake of Corona virus pandemic, WHO developed an algorithm for triage of patients and referral for resource scarce settings. Effective patient triage is necessary to respond to majority of the corona cases who can be treated as outpatients. This ensures prudent allocation of scarce resources and protect healthcare workers (WHO, 2020). In Kenya, lack of national triage guidelines is a limiting factor for effective response to corona virus infection. This was a cross sectional study design conducted among health care workers in selected health facilities in Meru County to evaluate their response to Corona virus pandemic. The study involved primary healthcare workers and specialists practicing in health facilities in Igembe South, Meru County. Slovin's formula was used to determine the required sample size as indicated: $n = \frac{N}{1 + N(e)}$ Where: n is the desired minimum sample size N is the population size of health workers in the Igembe South sub-County (320 health workers) E is the precision error allowed (10%) Hence: $n = \frac{320}{1 + 320(0.1)} \approx 77$ health. Cluster sampling approach applied and simple random sampling was used to select six out of 10 Health Facilities in Igembe South Sub-County. The first step was to develop a sampling frame of all health facilities owned by the Meru County Government in Igembe Sub-County. This was obtained from the website of e-Health -Kenya updated as at June 2013. Health facilities were then grouped into public, private and faith based institutions. From each category, a list of facilities with average monthly Staff reporting of between 2 of 50 and above were obtained from the six selected health facilities. Number of participants per facility was distributed proportionately based on the average monthly staff reporting. A list of eligible participants was drawn from the monthly staff returns register and shared with research assistant. Eventually, 87 healthcare workers were recruited into the study after the principal investigator highlighted the nature of the study and its benefits in responding to corona virus pandemic. Data entry and analysis was done using SPSS;25. Descriptive statistics was used to explain study variables. The Results from 87 health care workers mean age 34 ± 9 (SD) were enrolled in the study. Most (32; 36.8%) of the participants were nurses. Other professional disciplines included nutritionists, records officers, supporting staff, social workers among others. Slightly half (49; 56.3%) of the participants were females. Most (48; 55.2%) of the participants revealed that they had worked in that particular health facility for a period of 1 – 3 years with a small proportion (6; 6.9%) indicating that they had worked in that health facility for 7 – 9 years. Almost half (43; 49.4%) of the participants had practiced their professional discipline for more than 5 years. **CONCLUSION:** The Health care workers (HCWs) within Meru County face an unprecedented occupational risk of morbidity and mortality owing to SARS-COV-2 pandemic. Generally, there is increased uptake of IPC measures due to improved awareness levels about the risks of SARS-COV-2 infections among HCWs. Occupational exposure to asymptomatic SARS-COV-2 infected patients, partial adherence to infection prevention and control (IPC) protocols as required by the ministry of health, and preexisting medical

conditions put HCWs at risk for nosocomial Covid-19 infection. Hence, there is need for development of sustainable approaches to familiarize health care personnel with technical updates on COVID-19 and provide appropriate tools to assess, triage, test, and treat patients, and to share IPC information with patients and the public.

Keywords: *Pandemic Response, Knowledge, Preparedness, COVID -19, Corona Virus, Health Care workers.*