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CORONAVIRUS DISEASE: HOW CAN AFRICAN PHARMACISTS RESPONDS TO FUTURE OUTBREAKS?

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ABSTRACT

Coronavirus disease popularly known as COVID-19 is an pandemic disease caused by a newly discovered corona virus. The first report was confirmed on December 2020 in Wuhan, China. The initial confirmed case in Africa was found in Egypt, and the first confirmed case in sub-Saharan Africa was found in Nigeria. The lack of awareness by the healthcare professionals combined with the least responses from international community are major factors for the spreading of the disease. In the conditions of this outbreak, there is a lack to direct attention the roles and responsibilities of pharmacists, mostly in the African healthcare surrounding. In addition, the essential of diagnostic kits for the detection of the infection as well as pharmacists' consciousness of the present curative regimen are suggested. The health professionals have notified the disastrous virus could cause in Africa, where most hospitals are in need of equipment and well trained staffs. Corona virus has since spread to 52 African countries, but despite a steady rise in the number of confirmed cases, the continent continues to lag behind the global curve for infections and deaths. The continent has imperfect equipments to manage a crucial health disaster and is fight to test enough to detects virus occurrence. While the lockdowns are being noticed all over the universe and the national level pharmacy professionals are working as frontline part, this editorial draw attention to the role of pharmacists in the management of Corona virus 2019 pandemic.

KEYWORDS: COVID-19, Pharmacists, Africa, Healthcare.

1. INTRODUCTION

In December 2019, the first reports of the Corona Virus Disease 2019 (COVID-19) – an illness caused by the novel severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) – emerged from Wuhan, Hubei Province, China.[1] Since then, this disease has become a worldwide pandemic, with over two-hundred thousand deaths to date. Symptoms of SARS-Cov-2 infection range from asymptomatic disease to life-threatening acute respiratory distress syndrome (ARDS), severe pneumonia, acute kidney injury (AKI), myocarditis, eventual multi-organ failure, and death.[2] The COVID-19 pandemic was confirmed to have spread to Africa on 14 February 2020. The first confirmed case was in Egypt, and the first confirmed case in sub-Saharan Africa was in Nigeria. Most of the identified imported cases have arrived from Europe and the United States rather than from China.[3] Most of the reported cases are from four countries: South Africa, Morocco, Egypt and Algeria, but it is believed that there is widespread under-reporting in other African countries with less developed healthcare systems. Experts have worried about COVID-19 spreading to Africa, because many of the healthcare systems on the continent are inadequate, having problems such as lack of equipment, lack of funding, insufficient training of healthcare workers, and inefficient data transmission.[3] It was feared that the pandemic could be difficult to keep under control in Africa, and could cause huge economic problems if it spread widely. As of April 18, 2020, the supply of ventilators is low in much of Africa: 41 countries have only 2,000 ventilators between them, and ten countries have no ventilators at all. Even basic supplies like soap and water are subject to shortages in parts of the continent.[4,5] *Matshidiso Moeti* of the World health organisatin said: "We need to test, trace, isolate and treat. Many preventive measures have been implemented in different countries in Africa, including travel restrictions, flight cancellations, event cancellations, school closures, and border closures. Experts say that experience battling Ebola helped some countries prepare for COVID-19.[6] The local health authorities and the international communities were initially ill-prepared to effectively respond to an outbreak of such magnitude. Poor knowledge about the disease among most healthcare professionals including pharmacists and the populace combined with a dysfunctional health system due to the prolonged civil conflicts and an initial piece-meal response from the international community led to the spread of COVID-

19.[7] Provision of pharmaceutical care by pharmacists through assessment of patient therapeutic needs, monitoring medication adherence and prevention of medication errors has been documented in the literature. In addition, pharmacists have been involved in public health related activities such as immunization, contraception, prevention and control of infectious and non-communicable diseases and emergency preparedness.[8]

2. Who and Key Health Partners Join Forces To Fight Covid-19 In Africa

Since the start of the outbreak the World Health Organization (WHO) has been supporting African governments with early detection by providing thousands of COVID-19 testing kits to countries, training dozens of health workers and strengthening surveillance in communities. 44 countries in the WHO African region can now test for COVID-19. At the start of the outbreak only two could do so. WHO has issued guidance to countries, which is regularly updated to take into account the evolving situation. The guidelines include measures such as quarantine, repatriations of citizens and preparedness at workplaces. The Organization is also working with a network of experts to coordinate regional surveillance efforts, epidemiology, modeling, diagnostics, clinical care and treatment, and other ways to identify, manage the disease and limit widespread transmission.[9]

WHO is providing remote support to affected countries on the use of electronic data tools, so national health authorities can better understand the outbreak in their countries. Preparedness and response to previous epidemics is providing a firm foundation for many African countries to tackle the spread of COVID-19. Importantly, basic preventative measures by individuals and communities remain the most powerful tool to prevent the spread of COVID-19.[9] WHO is helping local authorities craft radio messaging and TV spots to inform the public about the risks of COVID-19 and what measures should be taken. The Organization is also helping to counter disinformation and is guiding countries on setting up call centres to ensure the public is informed. While high-level coordination is vital to effectively respond to COVID-19, there are a number of simple steps everyone can take to prevent it spreading further.[10] These include regular hand washing with soap and water; coughing or sneezing into a tissue or a bent elbow, being sure to safely dispose of the tissue afterwards; maintaining a social distance of at least one meter, particularly if that person if coughing or sneezing; avoiding touching the eyes, nose and mouth; and seeking medical attention early if a person develops a fever, cough or difficulty breathing.[11]

3. How Can Pharmacists Contribute?

In an emergency disease outbreak like COVID-19, pharmacists can involve in any of the key response areas, i.e. planning community and institutional response, disease surveillance, community and stakeholders engagement and mobilization, logistics and supplies and clinical management.[12] Other areas include preclinical and clinical investigation, quality assurance of new drugs or vaccination. Pharmacists must be proactive in taking up leadership roles in national and regional pharmacy organizations and collaborating with other international health partners to formulate workable policy guidelines and programs for training pharmacists in Africa to effectively respond in the future.[13,14] In the light of the current epidemic, curricula in pharmacy schools in Africa should be tailored to foster public health by including specialized training in infectious disease epidemiology.[13] In most of the African countries, a pharmacy is always the first port of call for sick patients. Pharmacists are well positioned for early disease detection within the community and provide referrals to patients for hospitals or isolation centers. Pharmacists at the community level are also well placed to educate and advise consumers on available and effective prevention and control measures, including information of new investigational drugs for the management of Covid-19.[13]

4. Pharmacists as a Trusted Healthcare Profession

As trusted health care professionals, they are in the right position to dispel myths or false rumors that have the potential to ferment the beginning of another outbreak. Furthermore, as promising vaccine candidates for COVID-19 are in the horizon,[15] pharmacists could serve as a valuable resource in vaccinating patients as it has been shown in other disease prevention programs.[16] Pharmacists must also support the healthcare team and infection preventionists to stop the spread of disease. We can take steps to minimize unnecessary PPE use by helping limit unnecessary entry into the patient room. This can be done by aligning medication administration times, IV to PO conversion when possible to decrease nurses needing to respond to pump alerts, and ensuring lab draws, including therapeutic drug monitoring are necessary and if possible are timed with other patient interactions. We can also limit staff to aerosolized exposure of the virus by developing treatment protocols that limit unnecessary nebulizer use and instead favor use of metered dose inhalers for inpatients. Furthermore, medication teaching of patients who are COVID-19-positive or persons under investigation for COVID-19 can be facilitated by telehealth approaches to minimize exposure to pharmacists (see Fig 1.2). Pharmacists working in the hospital settings, especially in critical care, emergency and infectious departments, should develop workable policies and standard operating procedures to prepare for any future outbreak (see Fig. 1.1). Guidelines and standard operating procedures should address staff protection, patient isolation, handling of orders, dispensing of medications and proper disposal of chemicals, including medications from isolation units.[17]

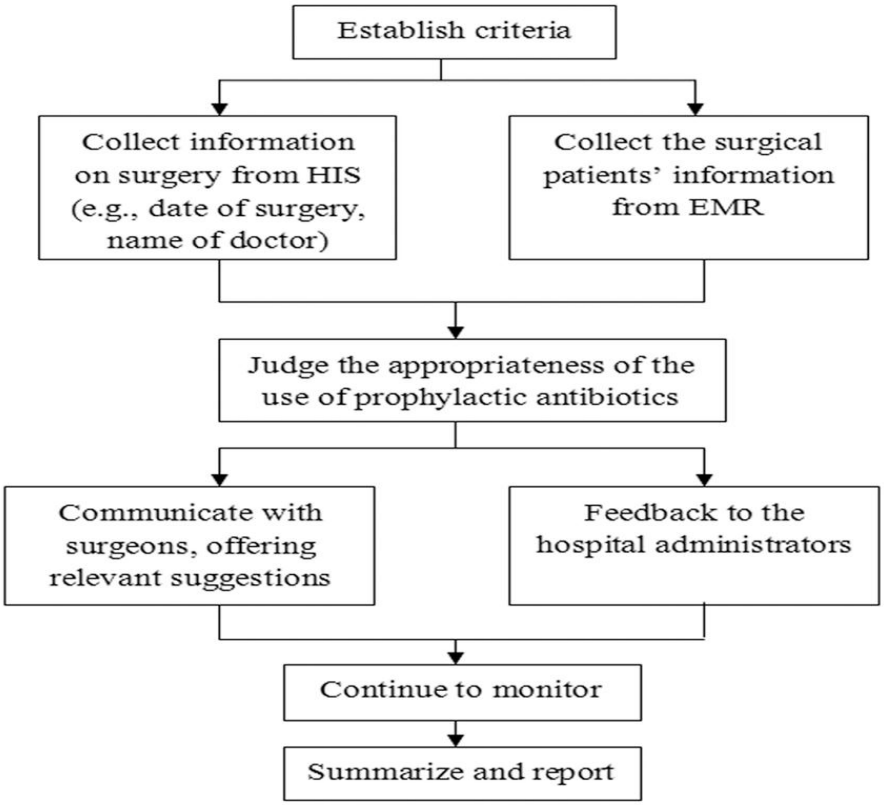

Figure 1: Flowchart-for-pharmacist-intervention-Hospital-Information System EMR.

Pharmacy staff including technicians and other support staff should obtain regular refresher training in new drug products and procedures or techniques essentially to respond effectively to Corona virus in the future.[15] National Institute of Health (NIH) begins clinical trial of hydroxychloroquine and azithromycin to treat COVID-19.[16] Glenmark begins phase 3 of clinical trials for Favipiravir, potential COVID-19 Drug in India.[17] Remdesivir for severe acute respiratory syndrome corona virus 2 causing COVID-19: an evaluation of the evidence.[18]

5. Methods to limits the contagion

To avoid contacting by the disease the physicians are advised to wear personal protective equipment (PPE) such as goggles, gloves, gowns and mask only when visiting the patient showing respiratory symptoms. The suspended outpatient should take future advices via telemedicine which serves as best solution to avoid physical attendance of hospitals and contain contagion; this will help to reduce the skipping admissions and re-admission, after the emergency. However, guidelines along with the advices should be recommended to the patient, this will also help to limits the contagion.[19] (See Fig. 2)

Figure 2: Covid- 19 Prevention.

6. Reasons behind the shift of caring role from physicians to pharmacists under COVID – 19

In a view of this pandemic there is a need to highlight the roles of community pharmacists, pharmacists can involve in any of the key response areas, i.e. planning community and institutional response, disease surveillance, community and stakeholders engagement and mobilization, logistics and supplies and clinical management. Other areas include preclinical and clinical investigation, quality assurance of new drugs or vaccination. Furthermore, medication teaching of patients who are COVID-19-positive or persons under investigation for COVID-19 can be facilitated by telemedicine approaches to minimize exposure to pharmacists. Telemedicine is a newly development in healthcare which improved accessibility to care, optimized use of professionals time, enhance connection between professionals, its allows healthcare experts to connect with or without their patients presence to connect with each other (see Fig 3). Telemedicine has shown a great result in the management of disease like Covid-19 pandemic. This also helps the geriatric patients to connects with healthcare professionals. Telemedicine can be categorized as tele-visits, tele-supervision, tele-monitoring, tele-interpretation and tele-consultation.[20]

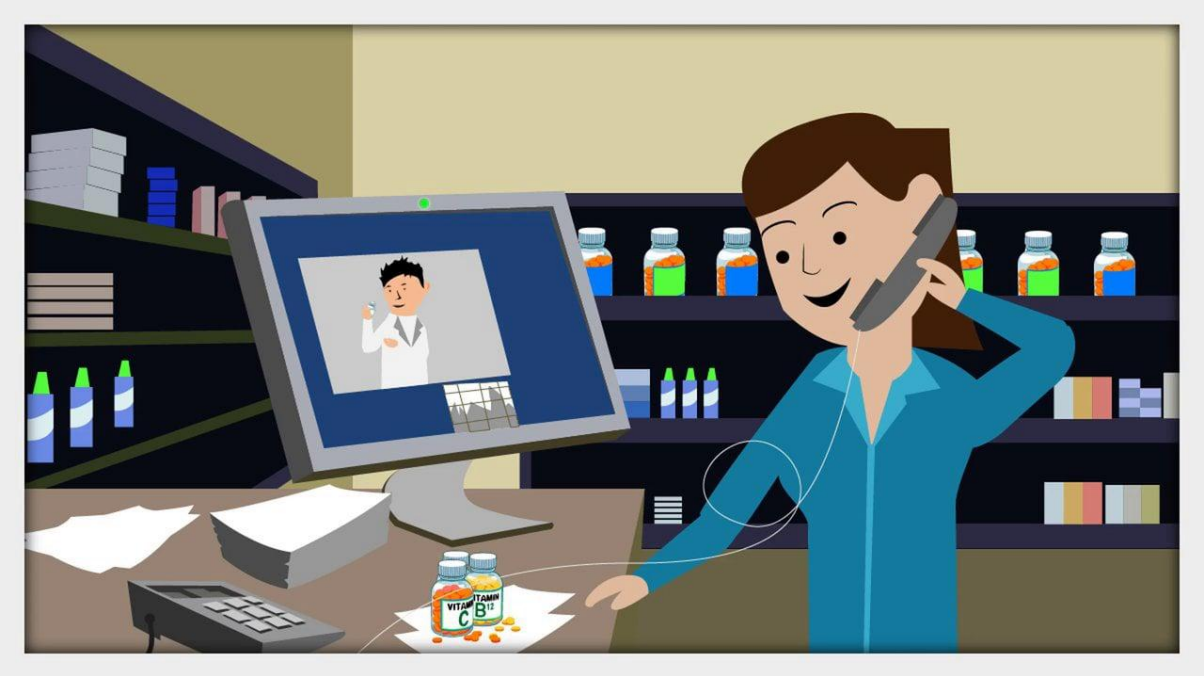

Figure 3: Telemedicine.

CONCLUSION

In conclusion, the genesis of the COVID-19 pandemic occurred less than four months ago, our knowledge about the disease is changing day by day, and it is uncertain how long the pandemic will last. Pharmacists play a vital role as the drug information expert in evaluating literature related to new or repurposed therapies and can help make system-level and patient-specific treatment decisions, as well as ensure access to these therapies and other drugs on shortage due the pandemic. By serving as a resource to physicians and other medical providers, patients, and the public, pharmacists are essential in reducing adverse consequences due to the COVID-19 pandemic. Moreover, pharmacists are a trusted and accessible resource for the public during this public health emergency, especially community pharmacists. Pharmacists must educate their patients and the public on effective strategies to prevent acquisition and further spread of infection (e.g., social distancing, optimal hand hygiene, staying home if having respiratory symptoms), symptomatic relief, and the best resources for current COVID-19 information (i.e., Center for disease control, local public health departments). In addition, prescriber inattention to refill requests may occur due to their own illness or increased need to focus on inpatient care; some states have invoked emergency pharmacist authorities to allow for pharmacist refilling. To increase testing access, some community pharmacies are also setting up COVID-19 testing sites. Lastly; future research attempt need to be thoroughly directed towards the Formulation of diagnostic kits for initial detection of infection. In all these resources, process and product developments, pharmacists would have adequate opportunities to be actively involved in testing their safety, efficacy and quality.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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