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Need for standardization and compliance to treatment protocols for COVID-19 within the African Region of the World Health Organization

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Abstract:

COVID-19 pandemic changed the face of global health and brought about new issues in global health security and economy. The World Health Organization published guidelines for clinical management of COVID-19 four months after declaration of COVID-19 as a pandemic. Scholarly reviews and studies from member states within WHO AFRO reveals significant deviation from the WHO published protocols on COVID-19. Assessment of national treatment protocols of 30 of 47 WHO AFRO member states showed widespread inappropriate use of antimicrobial agents for patients, which may worsen the global and concerning threat of antimicrobial resistance. There is need for adopting interventions that optimize antimicrobial use in the context of pre- and post-pandemic preparedness to ensure long-term effectiveness and sustainability for antimicrobials. Treatment guidelines are to be adopted or adapted depending on best clinical evidence available. Non-compliance with guidelines might lead to mismanagement of infectious diseases with attendant negative consequences including antimicrobial resistance and misdirection of critical resources and supplies amongst others.

Keywords: COVID-19, treatment guidelines, azithromycin, hydroxychloroquine, chloroquine, antimicrobial resistance

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Nécessité de normalisation et de respect des protocoles de traitement du COVID-19 dans la région africaine de l'Organisation mondiale de la santé

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Résumé:

La pandémie de COVID-19 a changé le visage de la santé mondiale et a soulevé de nouveaux problèmes en matière de sécurité sanitaire et d'économie mondiale. L'Organisation mondiale de la santé a publié des lignes directrices pour la gestion clinique du COVID-19 quatre mois après la déclaration du COVID-19 comme pandémie. Les revues scientifiques et les études des États membres de l'OMS AFRO révèlent un écart significatif par rapport aux protocoles publiés par l'OMS sur le COVID-19. L'évaluation des protocoles nationaux de traitement de 30 des 47 États membres de l'OMS AFRO a révélé une utilisation inappropriée et généralisée d'agents antimicrobiens chez les patients, ce qui pourrait aggraver la menace mondiale et préoccupante de résistance aux antimicrobiens. Il est nécessaire d'adopter des interventions qui optimisent l'utilisation des antimicrobiens dans le contexte de la préparation pré et post-pandémique afin de garantir l'efficacité et la durabilité à long terme des antimicrobiens. Les directives thérapeutiques doivent être adoptées ou adaptées en fonction des meilleures preuves cliniques disponibles. Le non-respect des directives pourrait conduire à une mauvaise gestion des maladies infectieuses avec des conséquences négatives qui en découlent, notamment la résistance aux antimicrobiens et une mauvaise orientation des ressources et fournitures essentielles, entre autres.

Mots-clés: COVID-19, lignes directrices thérapeutiques, azithromycine, hydroxychloroquine, chloroquine, résistance aux antimicrobiens

Introduction:

A cluster of cases of pneumonia of undetermined aetiology that was later identified as coronavirus disease 2019 (COVID-19), was reported in China on December 31, 2019 (1). As COVID-19 spreads through the global community, it became a pandemic with increasing morbidity and mortality across different regions and countries (2). The COVID-19 pandemic brought up challenges to critical supplies, emergency medication and rationalization for treatment options. Within WHO AFRO, Algeria reported the first case of COVID-19 in late February 2020 (3). By February 18, 2022, there were 418,650,474 COVID-19 cases globally with 5,856,224 deaths (4). Africa had reported 11,095,734 confirmed cases and 246,142 deaths (5).

In response to the pandemic, the global community activated a coordinated system of experts and partners to provide guidance and protocols to be updated and adapted during the life span of the pandemic (3). In January 2020, the World Health Organization (WHO) activated its incident management system to respond to the COVID-19 pandemic in a coordinated fashion for the provision of diagnostics, therapeutics and vaccines towards control measures. Three months later, the WHO launched the COVID-19 Solidarity Therapeutics Trial to curtail the pandemic and give direction for therapy (3).

The challenge of COVID-19 treatment within African Region:

In the WHO AFRO region, with scarce resources, many countries recommended or administered unproven treatments to patients with COVID-19. These include previously known anti-infective drugs/supplements ranging from hydroxychloroquine/chloroquine (HCQ/CQ) combinations, ivermectin, azithromycin, vitamin D, vitamin C, amongst others.

WHO guidance on COVID-19:

To provide practical guidance on COVID-19, the WHO published different guidelines, including that on clinical management by the 6th month of the pandemic (6). The guideline categorizes COVID-19 patients for the purpose of clinical management into four; mild, moderate, severe and critical (6). The guideline was translated into treatment protocols for COVID-19 in some countries of the WHO AFRO region.

Symptomatic therapy was advocated for mild to moderate cases (40% of global cases of COVID-19) by administration of analgesics, antipyretics and other supportive measures without the need for antibiotics except if there is clinical evidence of bacterial infection (6). However, for severe cases (15% of global cases), oxygen therapy, antimicrobial therapy for any possible pathogens, systemic corticosteroids and cautious intravenous fluid were advocated where the indication has been well established at the clinician's judgement (6). Critical cases (5% of global cases) require intensive care support with provision of mechanical ventilation in intensive care units, use of corticosteroids, crystalloids, vasopressors in addition to other measures outlined for severe cases (6). At the time of publication of the WHO guideline on clinical management of COVID-19, several treatment modalities were undergoing clinical trials for the pharmacologic management of COVID-19 without any shown to be safe and effective then.

Practice across WHO AFRO member states:

Six months into WHO guideline for clinical management of COVID-19, an assessment of quality of care was made within WHO AFRO, by conducting comparison of country treatment protocol to the WHO recommendations in 30 of the 47 member states of the region (7). More than half of the 30 countries were recommended HCQ/CQ combinations for major categories of COVID-19 cases (mild, moderate and severe), and a third recommended same drug combination for critical cases (7). Conversely, the protocols from the countries showed convalescent plasma was least recommended for critical and severe cases of COVID-19 (7). One-sixth of the countries recommended the use of lopinavir/ritonavir to replace HCQ/CQ combinations in case of allergy and a quarter of the countries recommended remdesivir for severe and critical diseases. Corticosteroid use was only for severe and critical cases in about a half of the countries while the use of interferon alfa-2 beta was only for mild and moderate cases in less than one-tenth of the countries (7).

The review of the protocols further showed that against the recommendations of WHO guideline, 53% and 80% of the protocols recommended antibiotics for mild and moderate COVID-19 respectively (7). This has grave consequences for the epidemic of AMR, as overuse and misuse of antimicrobials constitute the largest drivers of AMR. Overuse and misuse of antimicrobials increases selection pressure for AMR genetic determinants in microorganisms with consequent widespread difficult-to-treat or completely untreatable AMR infections.

Findings of the assessment raises the question of the quality of care that the COVID-19 patients received during a pandemic in view of the best clinical evidence available. It highlights major deviation(s) of the treatment protocol for COVID-19 across countries in the WHO AFRO region and shows increased drive

for AMR due to widespread use antimicrobials.

The threat of AMR posed by misuse and abuse of antimicrobials was amplified by the unwarranted use of antibiotics during the COVID-19 pandemic (8-12). Although, a known fact that prior to COVID-19 pandemic, AMR was a global health priority, the impact and effect of the changing dynamics of AMR in the context of the pandemic is still evolving and poses an existential threat if not handled properly (13). Further implication to this finding is that the prevalence of AMR may increase across member states within the WHO AFRO region which can then have a spillover effect globally as a consequence to the overuse and misuse of antimicrobials in the treatment of COVID-19 pandemic (13).

The consequences of the COVID-19 pandemic and its direct impact on the AMR threat in the WHO African region maybe far reaching. However, improved access to timely and quality diagnostics, widespread use of non-pharmacologic preventive measures and equitable access to vaccines may mitigate the initial impact seen on the over reliance and inappropriate use of antimicrobials (13,14). Integrated antimicrobial stewardship (AMS) that incorporates not only optimizing antimicrobial use but other health system strengthening components including interventions that address the balance between excess and access to antimicrobial medicines, infection prevention and control (IPC) and water, sanitation and hygiene (WASH), strategic and targeted awareness and education needs to be promoted and implemented across all the member states within the WHO-AFRO region (15,16).

Conclusions/Recommendations:

For COVID-19 pandemic and in anticipation of future infectious diseases outbreak a timely release of standardized protocol by the WHO is highly recommended. Treatment protocols including standard treatment guidelines, National Essential Medicine Lists (NEML) incorporating WHO AWaRe categorization guiding optimization of antibiotic use should be treated as living documents and amended based on the available best clinical evidence in order to provide best quality of care. This is essential to enable access within the context of Sustainable Development Goals (SDGs) and Universal Health Coverage (UHC) and also to maintain the critical balance necessary between access and inappropriate use of antimicrobial medicines.

As the global community moves forward in its COVID-19 response, we must not lose focus on antimicrobial overuse and misuse which drive up resistance and its deleterious consequence to overall health and the economies of member states. It is essential to have in place a systems-based approach that ensures an interdisciplinary crosstalk that will not only address AMR but strengthens/build a resilient health system to tackle future pandemics. While most member states in the AFRO region have developed AMR National Action Plans (NAPs) and are currently implementing same, it is critical to break the 'silos' in line with the 'One-Health' approach. This means effectively linking and mainstreaming at the regional and national levels, supply chain, vaccines, and regulatory strategies. In light of this, we propose WHO-AFRO support member states providing the needed technical support, tools, platforms and convening power for building the necessary advocacy capacity to ensure the breaking of 'silos' and the linking of such critical strategies to boost the overall health security of member states.

Contributions of authors:

WLF was involved in study conceptualization, methodology, original draft preparation, review and editing of the manuscript; AOA was involved in methodology, original draft preparation, review and editing of the manuscript; IM, JBN and YAA were involved in original draft preparation review and editing of the manuscript. All authors read and approved the published version of the manuscript.

Conflict of interest:

Authors declare no conflict of interest.

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