AFRO Weekly COVID-19 Literature Update

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Prepared by AFRO COVID-19 IMST through its information management cell, together with DAK team of the ARD’s office

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Due to the abundance of information and literature produced on COVID-19 in the world in general and in Africa in particular, the WHO Regional Office for Africa is publishing a weekly "Weekly COVID Literature Update" to highlight the most important literature. Each week we will select some articles per topic as well as reports and grey literature when available.

The aim is to provide an easy-to-read summary of each publication. This Bulletin is organised according to several categories of interest.

The publications shared are the result of a bibliographic research work carried out regularly on several online information sources with a major search strategy "COVID-19 AND Africa" in combination with the following keywords: epidemiology (response activities OR hygiene practices OR social distancing OR case management), vaccination, public perceptions, other diseases and other sectors. For this issue, the list of information sources is as follows: WHO Covid-19 database, PubMed, BioMed Central, Lancet (including sister journals), One library, African Index Medicus, Nature (including sister journals), Science (including sister journals), PLOS, Google scholar, the BMJ, Oxford University Press, Taylor & Francis, Springer.

The list is subject to change and kindly note that the choice of the publications to be included in this update is subjective.

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En raison de l'abondance d'informations et de littérature produites sur la COVID-19 dans le monde en général et en Afrique en particulier, le Bureau régional de l'OMS pour l'Afrique publie chaque semaine "Weekly COVID Literature Update" pour mettre en évidence la littérature la plus importante. Chaque semaine, nous sélectionnerons quelques articles par sujet ainsi que les rapports et la littérature grise quand c'est disponible.

L'objectif est de fournir un résumé facile à lire de chaque publication. Ce bulletin est organisé suivant plusieurs catégories d'intérêt.

Les publications partagées sont le résultat d'un travail de recherche bibliographique effectué régulièrement sur plusieurs sources d'information en ligne avec une comme
stratégie de recherche majeure "COVID-19 ET Afrique" combinés aux mots clés suivants : epidemiology (response activities OR hygiene practices OR social distancing OR case management), vaccination, public perceptions, other diseases and other sectors. Pour ce numéro, la liste des sources d'information utilisées est la suivante : WHO Covid-19 database, PubMed, BioMed Central, Lancet (including sister journals), One library, African Index Medicus, Nature (including sister journals), Science (including sister journals), PLOS, Google scholar, the BMJ, Oxford University Press, Taylor & Francis, Springer.

Cette liste est susceptible d'être modifiée. Veuillez noter que le choix des publications à inclure dans cette mise à jour est subjectif.

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Devido à abundância de informação e literatura produzida sobre a COVID-19 no mundo em geral e em África em particular, o Escritório Regional da OMS para África está a publicar semanalmente uma "Weekly COVID Literature Update" para destacar a literatura mais importante. Cada semana iremos selecionar alguns artigos por tópico, bem como relatórios e literatura cinzenta, quando disponível.

O objectivo é fornecer um resumo de fácil leitura de cada publicação. Este boletim está organizado de acordo com várias categorias de interesse.

As publicações partilhadas são o resultado de um trabalho de pesquisa bibliográfica realizado regularmente em várias fontes de informação em linha com uma grande estratégia de pesquisa "COVID-19 E África" em combinação com as seguintes palavras-chave: epidemiology ( response activities OR hygiene practices OR social distancing OR case management), vaccination, public perceptions, other diseases and other sectors. Para esta edição, a lista de fontes de informação é a seguinte: WHO Covid-19 database, PubMed, BioMed Central, Lancet (including sister journals), One library, African Index Medicus, Nature (including sister journals), Science (including sister journals), PLOS, Google scholar, the BMJ, Oxford University Press, Taylor & Francis, Springer.

A lista está sujeita a alterações e note-se que a escolha das publicações a serem incluídas nesta actualização é subjectiva.
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A. COVID-19 EPIDEMIOLOGY/ SURVEILLANCE (trends/ distribution)

**Title:** Inter-Country COVID-19 Contagiousness Variation in Eight African Countries  
**Journal:** Frontiers Public Health  
**Publish Date:** June 2, 2022  
**URL:** [https://doi.org/10.3389/fpubh.2022.796501](https://doi.org/10.3389/fpubh.2022.796501)  
**Abstract:**  
The estimates of contagiousness parameters of an epidemic have been used for health-related policy and control measures such as non-pharmaceutical control interventions (NPIs). The estimates have varied by demographics, epidemic phase, and geographical region. Our aim was to estimate four contagiousness parameters: basic reproduction number ($R_0$), contact rate, removal rate, and infectious period of coronavirus disease 2019 (COVID-19) among eight African countries, namely Angola, Botswana, Egypt, Ethiopia, Malawi, Nigeria, South Africa, and Tunisia using Susceptible, Infectious, or Recovered (SIR) epidemic models for the period 1 January 2020 to 31 December 2021. For reference, we also estimated these parameters for three of COVID-19’s most severely affected countries: Brazil, India, and the USA. The basic reproduction number, contact and removal rates, and infectious period ranged from 1.11 to 1.59, 0.53 to 1.0, 0.39 to 0.81; and 1.23 to 2.59 for the eight African countries. For the USA, Brazil, and India these were 1.94, 0.66, 0.34, and 2.94; 1.62, 0.62, 0.38, and 2.62, and 1.55, 0.61, 0.39, and 2.55, respectively. The average COVID-19 related case fatality rate for 8 African countries in this study was estimated to be 2.86%. Contact and removal rates among an affected African population were positively and significantly associated with COVID-19 related deaths ($p$-value < 0.003). The larger than one estimates of the basic reproductive number in the studies of African countries indicate that COVID-19 was still being transmitted exponentially by the 31 December 2021, though at different rates. The spread was even higher for the three countries with substantial COVID-19 outbreaks. The lower removal rates in the USA, Brazil, and India could be indicative of lower death rates (a proxy for good health systems). Our findings of variation in the estimate of COVID-19 contagiousness parameters imply that countries in the region may implement differential COVID-19 containment measures.

**Title:** COVID-19 mortality rate and its associated factors during the first and second waves in Nigeria  
**Journal:** Plos Global Public Health  
**Publish Date:** June 9, 2022  
**URL:** [https://doi.org/10.1371/journal.pgph.0000169](https://doi.org/10.1371/journal.pgph.0000169)  
**Abstract:**  
COVID-19 mortality rate has not been formally assessed in Nigeria. Thus, we aimed to address this gap and identify associated mortality risk factors during the first and second waves in Nigeria. This was a retrospective analysis of national surveillance data from all 37 States in Nigeria between February 27, 2020, and April 3, 2021. The outcome variable was mortality amongst persons who tested positive for SARS-CoV-2 by Reverse-
Transcriptase Polymerase Chain Reaction. Incidence rates of COVID-19 mortality was calculated by dividing the number of deaths by total person-time (in days) contributed by the entire study population and presented per 100,000 person-days with 95% Confidence Intervals (95% CI). Adjusted negative binomial regression was used to identify factors associated with COVID-19 mortality. Findings are presented as adjusted Incidence Rate Ratios (aIRR) with 95% CI. The first wave included 65,790 COVID-19 patients, of whom 994 (1.51%) died; the second wave included 91,089 patients, of whom 513 (0.56%) died. The incidence rate of COVID-19 mortality was higher in the first wave [54.25 (95% CI: 50.98–57.73)] than in the second wave [19.19 (17.60–20.93)]. Factors independently associated with increased risk of COVID-19 mortality in both waves were: age ≥45 years, male gender [first wave aIRR 1.65 (1.35–2.02) and second wave 1.52 (1.11–2.06)], being symptomatic [aIRR 3.17 (2.59–3.89) and 3.04 (2.20–4.21)], and being hospitalised [aIRR 4.19 (3.26–5.39) and 7.84 (4.90–12.54)]. Relative to South-West, residency in the South-South and North-West was associated with an increased risk of COVID-19 mortality in both waves. In conclusion, the rate of COVID-19 mortality in Nigeria was higher in the first wave than in the second wave, suggesting an improvement in public health response and clinical care in the second wave. However, this needs to be interpreted with caution given the inherent limitations of the country’s surveillance system during the study.

Title: Modeling COVID-19 daily cases in Senegal using a generalized Waring regression model
Journal: Physica A: Statistical Mechanics and its Applications
Publish Date: July, 2022
URL: https://doi.org/10.1016/j.physa.2022.127245
Abstract: The rapid spread of the COVID-19 pandemic has triggered substantial economic and social disruptions worldwide. The number of infection-induced deaths in Senegal in particular and West Africa in general are minimal when compared with the rest of the world. We use count regression (statistical) models such as the generalized Waring regression model to forecast the daily confirmed COVID-19 cases in Senegal. The generalized Waring regression model has an advantage over other models such as the negative binomial regression model because it considers factors that cannot be observed or measured, but that are known to affect the number of daily COVID-19 cases. Results from this study reveal that the generalized Waring regression model fits the data better than most of the usual count regression models, and could better explain some of the intrinsic characteristics of the disease dynamics.

Title: Adding up the numbers: COVID-19 in South Africa
Journal: South African Journal of Science
Publish Date: May 31, 2022
URL: https://doi.org/10.17159/sajs.2022/13874
Abstract: No abstract

Title: High SARS-CoV-2 seroprevalence in HIV patients originating from sub-Saharan Africa in the Ile-de-France area
Journal: Journal of Infection
Publish Date: June, 2022
**Title:** SARS-CoV-2 transmission, persistence of immunity, and estimates of Omicron’s impact in South African population cohorts  
**Journal:** Science Translational Medicine  
**Publish Date:** May 31, 2022  
**URL:** https://doi.org/10.1126/scitranslmed.abo7081  
**Abstract:**
Understanding the build-up of immunity with successive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variants and the epidemiological conditions that favor rapidly expanding epidemics will help facilitate future pandemic control. We analyzed high-resolution infection and serology data from two longitudinal household cohorts in South Africa to reveal high cumulative infection rates and durable cross-protective immunity conferred by prior infection in the pre-Omicron era. Building on the history of past exposures to different SARS-CoV-2 variants and vaccination in the more representative urban cohort given South Africa’s high urbanization rate, we used mathematical models to explore the fitness advantage of the Omicron variant and its epidemic trajectory. Modelling suggests the Omicron wave likely infected a large fraction (44% - 81%) of the population, leaving a complex landscape of population immunity primed and boosted with antigenically distinct variants. We project that future SARS-CoV-2 resurgences are likely under a range of scenarios of viral characteristics, population contacts, and residual cross-protection.

**Title:** Using Google Health Trends to investigate COVID-19 incidence in Africa  
**Journal:** Plos One  
**Publish Date:** June 7, 2022  
**URL:** https://doi.org/10.1371/journal.pone.0269573  
**Abstract:**
The COVID-19 pandemic has caused over 500 million cases and over six million deaths globally. From these numbers, over 12 million cases and over 250 thousand deaths have occurred on the African continent as of May 2022. Prevention and surveillance remains the cornerstone of interventions to halt the further spread of COVID-19. Google Health Trends (GHT), a free Internet tool, may be valuable to help anticipate outbreaks, identify disease hotspots, or understand the patterns of disease surveillance. We collected COVID-19 case and death incidence for 54 African countries and obtained averages for four, five-month study periods in 2020–2021. Average case and death incidences were calculated during these four time periods to measure disease severity. We used GHT to characterize COVID-19 incidence across Africa, collecting numbers of searches from GHT related to COVID-19 using four terms: ‘coronavirus’, ‘coronavirus symptoms’, ‘COVID19’, and ‘pandemic’. The terms were related to weekly COVID-19 case incidences for the entire study period via multiple linear and weighted linear regression analyses. We also assembled 72 variables assessing Internet accessibility, demographics, economics, health, and others, for each country, to summarize potential mechanisms linking GHT searches and COVID-19 incidence. COVID-19 burden in Africa increased steadily during the study period. Important increases for COVID-19 death incidence were observed for Seychelles and Tunisia. Our study demonstrated a weak correlation between GHT and COVID-19
incidence for most African countries. Several variables seemed useful in explaining the pattern of GHT statistics and their relationship to COVID-19 including: log of average weekly cases, log of cumulative total deaths, and log of fixed total number of broadband subscriptions in a country. Apparently, GHT may best be used for surveillance of diseases that are diagnosed more consistently. Overall, GHT-based surveillance showed little applicability in the studied countries. GHT for an ongoing epidemic might be useful in specific situations, such as when countries have significant levels of infection with low variability. Future studies might assess the algorithm in different epidemic contexts.

**B. COVID-19 RESPONSE ACTIVITIES**

*hygiene practices, social distancing, case management*

**Title:** Clinical trial registration during COVID-19 and beyond in the African context: what have we learned?
**Journal:** BMC
**Publish Date:** June 6, 2022

**Abstract:** Since the outbreak of COVID-19, many lives have been impacted especially on the African continent which is already fighting the burden of multiple diseases of poverty. However, clinical research has offered hope for treatment and prevention options for this infectious disease. Despite many COVID-19 clinical trials conducted globally, three countries in Africa account for more than 80% of all trials from the continent registered trials in clinical trial registries. This indicates geographic disparity among COVID-19 research in Africa. From the perspective of clinical trial registration, transparency in clinical research and the availability of data became important for making informed decisions to manage the pandemic. Registries serve as a source of planned, ongoing, and completed trials while allowing efficient funding allocation for research that would not duplicate efforts. Additionally, research gaps can be identified, which provide opportunities for collaboration among researchers. Therefore, a critical lesson learnt during this pandemic is that clinical trial registration is important in facilitating the process of tracking changes made to protocols and minimizing publication bias, thereby promoting and advocating for clinical research transparency. Moreover, registration in a clinical trial registry is a condition for publication and allows for trial summary results to be publicly available. Adhering to the principle of results sharing is especially important for the rapidly growing clinical research activities racing to find evidence-based interventions to end the COVID-19 pandemic.

**Title:** Culturally relevant COVID-19 vaccine acceptance strategies in sub-Saharan Africa
**Journal:** The Lancet Global health
**Publish Date:** June 9, 2022
**URL:** [https://doi.org/10.1016/S2214-109X(22)00251-0](https://doi.org/10.1016/S2214-109X(22)00251-0)

**Abstract:** No abstract
Title: Cost-analysis of COVID-19 sample collection, diagnosis, and contact tracing in low resource setting: The case of Addis Ababa, Ethiopia

Journal: Plos One

Publish date: June 9, 2022

URL: https://doi.org/10.1371/journal.pone.0269458

Abstract:

Background

Ethiopia has been responding to the COVID-19 pandemic through a combination of interventions, including non-pharmaceutical interventions, quarantine, testing, isolation, contact tracing, and clinical management. Estimating the resources consumed for COVID-19 prevention and control could inform efficient decision-making for epidemic/pandemic-prone diseases in the future. This study aims to estimate the unit cost of COVID-19 sample collection, laboratory diagnosis, and contact tracing in Addis Ababa, Ethiopia.

Methods

Primary and secondary data were collected to estimate the costs of COVID-19 sample collection, diagnosis, and contact tracing. A healthcare system perspective was used. We used a combination of micro-costing (bottom-up) and top-down approaches to estimate resources consumed and the unit costs of the interventions. We used available cost and outcome data between May and December 2020. The costs were classified into capital and recurrent inputs to estimate unit and total costs. We identified the cost drivers of the interventions. We reported the cost for the following outcome measures: (1) cost per sample collected, (2) cost per laboratory diagnosis, (3) cost per sample collected and laboratory diagnosis, (4) cost per contact traced, and (5) cost per COVID-19 positive test identified. We conducted one-way sensitivity analysis by varying the input parameters. All costs were reported in US dollars (USD).

Results

The unit cost per sample collected was USD 1.33. The unit cost of tracing a contact of an index case was USD 0.66. The unit cost of COVID-19 diagnosis, excluding the cost for sample collection was USD 3.91. The unit cost of sample collection per COVID-19 positive individual was USD 11.63. The unit cost for COVID-19 positive test through contact tracing was USD 54.00. The unit cost COVID-19 DNA PCR diagnosis for identifying COVID-19 positive individuals, excluding the sample collection and transport cost, was USD 37.70. The cost per COVID-19 positive case identified was USD 49.33 including both sample collection and laboratory diagnosis costs. Among the cost drivers, personnel cost (salary and food cost) takes the highest share for all interventions, ranging from 51–76% of the total cost.

Conclusion

The costs of sample collection, diagnosis, and contact tracing for COVID-19 were high given the low per capita health expenditure in Ethiopia and other low-income settings. Since the personnel cost accounts for the highest cost, decision-makers should focus on minimizing this cost when faced with pandemic-prone diseases by strengthening the health system and using digital platforms. The findings of this study can help decision-makers prioritize and allocate resources for effective public health emergency response.

Title: Enforcement of COVID-19 pandemic lockdown orders in Nigeria: Evidence of public (Non)compliance and police illegality
Journal: International Journal of Disaster Risk Reduction
Publish Date: June 7, 2022
URL: https://doi.org/10.1016%2Fj.ijdrr.2022.103082
Abstract:
Given the public resentment that trailed the unprecedented lockdown order enforced as a public health emergency control strategy to contain the spread of Coronavirus Disease (COVID-19) pandemic, this study explored citizens’ compliance with the order and how its enforcement occasioned illegal police practices in Nigeria. With a qualitative approach, this study recruited 90 participants from Ilorin, Nigeria, with varieties of sampling methods to understand public behaviour and police conduct in the enforcement of the order. From the insights gathered with a semi-structured interview and analysed with the thematic analysis method, the study observed that economic hardship, unavoidable matters from the citizens’ end and mistrust of authorities fueled non-compliance. Such mistrust amplified misinformation during the pandemic. Although there was a reasonable level of compliance, the pre-existing police illegalities (extortion and bribery) facilitated the cases of non-compliance in Nigeria. Also, hostility ensued between police personnel and citizens during the enforcement of the lockdown. Therefore, this study advised the government and stakeholders on the imperatives of adequate socio-economic preparations, emphasising public trust and the provision of relief materials. Additionally, it suggested to the police authorities reform ideas to better equip, monitor, and manage police resources for effective handling of future pandemics.

Title: A New Architecture for Global Health Emergency Preparedness and Response—The Imperative of Equity
Journal: JAMA Health Forum
Publish Date: June 2, 2022
URL: JAMA Health Forum – Health Policy, Health Care Reform, Health Affairs | JAMA Health Forum | JAMA Network
Abstract:

Title: Public-making in a pandemic: The role of street art in East African countries
Journal: Political Geography
Publish Date: October 2022
URL: https://doi.org/10.1016/j.polgeo.2022.102692
Abstract:
Street artists around the world have been prominent in depicting issues concerning COVID-19, but the role of street art in public-making during the pandemic is unexplored. Despite burgeoning street art scenes in many African countries since the early 2000s, African street art is relatively neglected in critical street art scholarship. In response, this paper examines street art created during the pandemic in East African countries, principally Uganda, Kenya, Rwanda, and Tanzania, and explores the ways in which it is engaged in highly distinctive forms of public-making. Drawing primarily on qualitative online interviews with East African artists creating street art, and image analysis using online search tools, the paper argues that street art in urban areas is attempting to create knowledgeable publics through countering disinformation about the pandemic, to responsibilize publics through public health messaging and, through community activism, to build resilient...
The paper concludes that street art is potentially an important tool in tackling the COVID-19 pandemic in East African countries due to the proximity, and mutual constitution of, creative practices and publics, which emerge from the embedding of street art within the social spaces of cities and everyday experiences of the pandemic.

**Title:** Effect of Molnupiravir on Biomarkers, Respiratory Interventions, and Medical Services in COVID-19: A Randomized, Placebo-Controlled Trial  
**Journal:** Annals of Internal Medicine  
**Publish Date:** June 7, 2022  
**URL:** [https://doi.org/10.7326/m22-0729](https://doi.org/10.7326/m22-0729)  
**Abstract:**  
**Background:** In the MOVe-OUT trial, molnupiravir showed a clinically meaningful reduction in the risk for hospitalization or death in adults with mild to moderate COVID-19 and risk factors for progression to severe disease.  
**Objective:** To identify other potential clinical benefits of molnupiravir versus placebo.  
**Design:** Secondary analysis of the randomized, double-blind, placebo-controlled phase 3 component of MOVe-OUT. (ClinicalTrials.gov: NCT04575597).  
**Setting:** 107 sites globally.  
**Participants:** 1433 nonhospitalized adults aged 18 years or older with mild to moderate COVID-19.  
**Intervention:** Molnupiravir, 800 mg, or placebo every 12 hours for 5 days.  
**Measurements:** Changes from baseline in C-reactive protein (CRP) concentration and oxygen saturation (Spo₂), need for respiratory interventions (including invasive mechanical ventilation), and need for medical services in all randomly assigned participants through day 29, and need for respiratory interventions and time to discharge in the subgroup of participants who were hospitalized after randomization.  
**Results:** Participants receiving molnupiravir showed faster normalization of CRP and Spo₂, with improvements observed on day 3 of therapy, compared with placebo. Molnupiravir-treated participants had a decreased need for respiratory interventions versus placebo-treated participants (relative risk reduction [RRR], 34.3% [95% CI, 4.3% to 54.9%]), with similar findings in participants who were hospitalized after randomization (RRR, 21.3% [CI, 0.2% to 38.0%]). Hospitalized participants who received molnupiravir were discharged a median of 3 days before those who received placebo. Acute care visits (7.2% vs. 10.6%; RRR, 32.1% [CI, 4.4% to 51.7%]) and COVID-19-related acute care visits (6.6% vs. 10.0%; RRR, 33.8% [CI, 5.6% to 53.6%]) were less frequent in molnupiravir-versus placebo-treated participants.  
**Limitations:** Some analyses were performed post hoc. Longer-term benefits of molnupiravir therapy were not evaluated. Participants were not immunized against SARS-CoV-2.  
**Conclusion:** The findings suggest there are additional important clinical benefits of molnupiravir beyond reduction in hospitalization or death.

**Title:** Disability inclusiveness in Covid-19 pandemic policies in West Africa: “Are we left behind?”  
**Journal:** Cogent Social Sciences  
**Publish Date:** May 31, 2022
Abstract:
People with Disabilities (PwDs) suffer and are susceptible to social inequalities, especially during the Covid-19 pandemic. In West Africa, these are influenced by how services geared towards PwDs are administered. This study explores the government policies implemented in West Africa during the Covid-19 pandemic and their impact on PwDs in line with the SDGs with disability targets. Thematic analysis was adopted to analyze eighty-one (81) documents, including legislation, reports and official documents that communicated measures taken in response to Covid-19 and SDGs with disability targets. The study found that various governments outlined pragmatic steps to address the needs of PwDs. It was unraveled that the policies and recommendations that the governments have published on disability inclusiveness in response to Covid-19 did not reflected in the lives PwDs. This is evident based on the difficulty PwDs have to go through to access all the available benefits. It takes a while to see such policies and recommendations reflected in the lives of PwDs. Measuring the expected improvements in the lives of PwDs relative to the SGD’s attainment can not happen overnight. This study is the first of its kind in West Africa and urges various governments to pay close attention to their policies to improve their policies toward PwDs. The study recognizes governments’ vital role in ensuring that PwDs are better off, especially during the Covid-19 pandemic. However, the government needs to provide adequate education on how PwDs will readily access policies to better their lives.

Title: From Protection to Repression: State Containment of COVID-19 Pandemic and Human Rights Violations in Nigeria
Journal: Victims & Offenders
Publish Date: June 7, 2022
URL: https://doi.org/10.1080/15564886.2022.2077494

Abstract:
While previous studies have assessed the linkages between the implementation of the coronavirus disease 2019 (COVID-19) lockdown and human rights issues in non-African contexts, how the state containment of COVID-19 pandemic affected human rights in African context has been understudied, particularly in Nigeria. Using a qualitative-dominant mixed methods approach, this study assessed how state containment of COVID-19 pandemic affected human rights in Nigeria. It demonstrated that the state’s security operatives repressed the citizens during the implementation of COVID-19-induced full and partial lockdown in Nigeria. Despite the prospects of COVID-19 lockdown in mitigating the spread of the virus, state repression of citizens has implications for shrinking the civic spaces and engendering human rights violations. The study concluded that judicial reform and promotion of rights-based education among security operatives involved in the implementation of COVID-19 lockdown present opportunities for regulating the excesses of the state officials during public health emergencies, preserving human rights as well as advancing democracy and development in Nigeria.

Title: Socio-economic and demographic determinants of COVID-19 infections and spread at household level: case study from Nigeria
Journal: South African Geographical Journal
Publish Date: June 6, 2022
URL: https://doi.org/10.1080/03736245.2022.2081593

Abstract:
Many studies have associated the dynamics of diseases' prevalence with differences in social, economic and demographic status, but it is not yet clear if the same variables explain the spatial distribution of COVID-19 infections in parts of sub-Saharan Africa. This study assessed the spatial spread of COVID-19 infections in relation to socio-demographic risk factors in a typical administrative state – a relatively typical ethnocentric community – in Southwestern Nigeria. Data used were socio-demographics, income variables, COVID-19 status and travel history of 40,300 households. Data were analysed for frequency, prevalence and spatial distributions. The results revealed that COVID-19 cases were heterogeneously distributed within the state. The number of cases was relatively higher in the north and south-eastern parts of the State than in other areas. Male respondents had a higher prevalence (3.7%) of COVID-19 cases compared to their female (2.4%) counterparts. Transmission was most dominant among respondents aged above 70 years old (3.5%), widowed (3.3%) and those who lived in households with between 6 and 10 (4.9%) members. Transmission was also relatively high among those with travel history within the State (9.1%), those that acquired tertiary education (3.8%) and self-employed (3.0%). The study associated imbalanced socio-economic distributions to a diverse range of COVID-19 transmission in the area and therefore advocated for improved policy on residents' education and sustainable living.

Title: Drugs repurposing for SARS-CoV-2: new insight of COVID-19 druggability
Journal: Expert Review of Anti-infective Therapy
Publish Date: June 6, 2022
URL: https://doi.org/10.1080/14787210.2022.2082944

Abstract:
The ongoing epidemic of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) creates a massive panic worldwide due to the absence of effective medicines. Developing a new drug or vaccine is time-consuming to pass safety and efficacy testing. Therefore, repurposing drugs have been introduced to treat COVID-19 until effective drugs are developed. Repurposed drugs have been used since COVID-19 to eradicate disease propagation. Drugs found effective for MERS and SARS may not be effective against SARS-CoV-2. Drug libraries and artificial intelligence are helpful tools to screen and identify different molecules targeting viruses or hosts.
Title: Health system resilience during COVID-19 understanding SRH service adaptation in North Kivu  
Journal: Reproductive Health  
Publish Date: June 6, 2022  
Abstract:  
Background  
There is often collateral damage to health systems during epidemics, affecting women and girls the most, with reduced access to non-outbreak related services, particularly in humanitarian settings. This rapid case study examines sexual and reproductive health (SRH) services in the Democratic Republic of the Congo when the COVID-19 hit, towards the end of an Ebola Virus Disease (EVD) outbreak, and in a context of protracted insecurity.  
Methods  
This study draws on quantitative analysis of routine data from four health zones, a document review of policies and protocols, and 13 key-informant interviews with staff from the Ministry of Public Health, United Nations agencies, international and national non-governmental organizations, and civil society organizations.  
Results  
Utilization of SRH services decreased initially but recovered by August 2020. Significant fluctuations remained across areas, due to the end of free care once Ebola funding ceased, insecurity, number of COVID-19 cases, and funding levels. The response to COVID-19 was top-down, focused on infection and prevention control measures, with a lack of funding, technical expertise and overall momentum that characterized the EVD response. Communities and civil society did not play an active role for the planning of the COVID-19 response. While health zone and facility staff showed resilience, developing adaptations to maintain SRH provision, these adaptations were short-lived and inconsistent without external support and funding.  
Conclusion  
The EVD outbreak was an opportunity for health system strengthening that was not sustained during COVID-19. This had consequences for access to SRH services, with limited-resources available and deprioritization of SRH.  

Title: A mixed-methods study on health learning materials utilization for COVID-19 risk communication and community engagement among health workers in Arsi Zone, Ethiopia: Implication for response to pandemic  
Journal: Plos One  
Publish Date: June 7, 2022  
URL: https://doi.org/10.1371/journal.pone.0269574  
Abstract:  
Background  
Risk communication and community engagement are among the key strategies used in response to pandemics. Effective risk communication and community engagement can be achieved when assisted by health learning materials. However, their utilization was not known in Ethiopia. Therefore, the present study aimed to assess the utilization of COVID-19 health learning materials (HLMs), and explore barriers and facilitating factors.
Methods
A sequential explanatory mixed-methods study consisting of two phases was carried out. The first phase was a cross-sectional survey to assess the utilization of COVID-19 HLMs and their predictors. In this phase, a multistage sampling technique was used to select 530 health workers. A self-administered structured questionnaire was used for data collection. Epi-data manager version 4.6.0.2 and STATA version 16 were used for data entry and analyses, respectively. Descriptive analyses were carried out as necessary. Ordinal logistic regression analyses were done to identify the predictors of COVID-19 HLMs utilization. Phase two is a qualitative study to explore enablers and barriers to COVID-19 HLMs utilization. A judgmental sampling technique was used and 14 key informants were recruited. The collected data were uploaded into Atlas ti version 7.0.71. An inductive process of thematic analysis was employed and the data were coded, categorized, and thematized.

Results
Findings showed that out of the total 530 respondents, 210(39.6%), 117(22.1%), and 203(38.3%) of them never use COVID-19 HLMs, use sometimes, and always, respectively. Health workers’ perceived quality of COVID-19 HLMs [AOR = 6.44 (95% CI: 4.18–9.94)], health workers’ perceived usefulness of COVID-19 HLMs [AOR = 2.82 (95% CI: 1.88–4.22)], working facility [AOR = 1.83 (95% CI: 1.07–3.14)], educational level of the respondents [AOR = 1.73 (95% CI: 1.11–2.72)] and availability of COVID-19 HLMs [AOR = 1.45(95% CI: 1.01–2.08)] had statistically significant association with the utilization status of COVID-19 HLMs. Findings from the qualitative study showed that materials-related factors, and structure and health workers-related factors had influence on HLMs utilization.

Conclusions
In this study, we found that only a few of the respondents were regularly utilizing COVID-19 HLMs. Perceived quality, usefulness, and availability of HLMs, and health workers’ educational status and working facility determined the level of COVID-19 HLMs utilization. There is a need for giving due attention to HLMs, evaluating their quality, availing them to health facilities, and providing training for health workers.

Title: The Relationship Between Community Adherence to COVID-19 Containment Measures and the Wellbeing of Older Adults in Rural Kenya
Journal: Gerontology and Geriatric Medicine Journal
Publish Date: June 6, 2022
URL: https://doi.org/10.1177%2F23337214221105981
Abstract:
The COVID-19 pandemic has disrupted lives globally but disproportionately affected older adults due to their increased vulnerability to severe illness and higher mortality. To protect older adults from infection, community members in rural Kenya have ensured enhanced adherence to COVID-19 containment measures. However, while restricted social contact is highly recommended in the control of COVID-19 infection, limited research exists on its effect on the psychosocial wellbeing of older adults. This study therefore assessed the relationship between community adherence to COVID-19 containment measures and the overall wellbeing of older adults. Nyeri County in Central Kenya was selected for the study and all adults aged 70 years and above targeted. Snowball sampling was used to collect data from a sample of 360 respondents. Both descriptive and inferential statistics were
used in data analysis. The study established a significant inverse relationship between the level of community adherence to COVID-19 protocols and the wellbeing of older adults. Furthermore, the wellbeing of most older adults had deteriorated during the pandemic, with older married women with higher incomes being less affected. The study concluded that although the COVID-19 pandemic had affected everyone, effective containment is a multi-dimensional issue that requires targeted interventions.

Title: Health system resilience during COVID-19 understanding SRH service adaptation in North Kivu
Journal: Reproductive Health
Publish Date: June 6, 2022
URL: https://doi.org/10.1186%2Fs12978-022-01443-5

Abstract:

Background
There is often collateral damage to health systems during epidemics, affecting women and girls the most, with reduced access to non-outbreak related services, particularly in humanitarian settings. This rapid case study examines sexual and reproductive health (SRH) services in the Democratic Republic of the Congo when the COVID-19 hit, towards the end of an Ebola Virus Disease (EVD) outbreak, and in a context of protracted insecurity.

Methods
This study draws on quantitative analysis of routine data from four health zones, a document review of policies and protocols, and 13 key-informant interviews with staff from the Ministry of Public Health, United Nations agencies, international and national non-governmental organizations, and civil society organizations.

Results
Utilization of SRH services decreased initially but recovered by August 2020. Significant fluctuations remained across areas, due to the end of free care once Ebola funding ceased, insecurity, number of COVID-19 cases, and funding levels. The response to COVID-19 was top-down, focused on infection and prevention control measures, with a lack of funding, technical expertise and overall momentum that characterized the EVD response. Communities and civil society did not play an active role for the planning of the COVID-19 response. While health zone and facility staff showed resilience, developing adaptations to maintain SRH provision, these adaptations were short-lived and inconsistent without external support and funding.

Conclusion
The EVD outbreak was an opportunity for health system strengthening that was not sustained during COVID-19. This had consequences for access to SRH services, with limited-resources available and deprioritization of SRH.

Title: Implementing an emergency risk communication campaign in response to the COVID-19 pandemic in Nigeria: lessons learned
Journal: BMJ
Publish Date: June 9, 2022
URL: http://dx.doi.org/10.1136/bmjgh-2022-008846
Abstract:
At the onset of the COVID-19 pandemic, the WHO recommended the prioritisation of risk communication and community engagement as part of response activities in countries. This was related to the increasing spread of misinformation and its associated risks, as well as the need to promote non-pharmaceutical interventions (NPIs) in the absence of an approved vaccine for disease prevention. The Nigeria Centre for Disease Control, the national public health institute with the mandate to prevent and detect infectious disease outbreaks, constituted a multidisciplinary Emergency Operations Centre (EOC), which included NCDC staff and partners to respond to the COVID-19 outbreak. Risk communication, which also comprised crisis communication, was a pillar in the EOC. As the number of cases in Nigeria increased, the increasing spread of misinformation and poor compliance to NPIs inspired the development of the #TakeResponsibility campaign, to encourage individual and collective behavioural change and to foster a shared ownership of the COVID-19 outbreak response. Mass media, social media platforms and community engagement measures were used as part of the campaign. This contributed to the spread of messages using diverse platforms and voices, collaboration with community leaders to contextualise communication materials and empowerment of communication officers at local levels through training, for increased impact. Despite the challenges faced in implementing the campaign, lessons such as the use of data and a participatory approach in developing communications campaigns for disease outbreaks were documented. This paper describes how a unique communication campaign was developed to support the response to the COVID-19 pandemic.

Title: HIV and COVID-19 co-infection: A mathematical model and optimal control
Journal: Informatics in Medicine Unlocked
Publish Date: May 30, 2022
URL: https://doi.org/10.1016/j.imu.2022.100978
Abstract:
A new mathematical model for COVID-19 and HIV/AIDS is considered to assess the impact of COVID-19 on HIV dynamics and vice-versa. Investigating the epidemiologic synergy between COVID-19 and HIV is important. The dynamics of the full model is driven by that of its sub-models; therefore, basic analysis of the two sub-models; HIV-only and COVID-19 only is carried out. The basic reproduction number is computed and used to prove local and global asymptotic stability of the sub-models’ disease-free and endemic equilibria. Using the fmincon function in the Optimization Toolbox of MATLAB, the model is fitted to real COVID-19 data set from South Africa. The impact of intervention measures, namely, COVID-19 and HIV prevention interventions and COVID-19 treatment are incorporated into the model using time-dependent controls. It is observed that HIV prevention measures can significantly reduce the burden of co-infections with COVID-19, while effective treatment of COVID-19 could reduce co-infections with opportunistic infections such as HIV/AIDS. In particular, the COVID-19 only prevention strategy averted about 10,500 new co-infection cases, with similar number also averted by the HIV-only prevention control.

Title: The use of ivermectin for the treatment of COVID-19: Panacea or enigma?
Journal: Clinical Epidemiology and Global Health
Publish Date: June 8, 2022
URL: https://doi.org/10.1016%2Fj.cegh.2022.101074
Abstract:
The outbreak of SARS-CoV-2 pandemic has triggered unprecedented social, economic and health challenges. To control and reduce the infection rate, countries employed non-pharmaceutical measures such as social distancing, isolation, quarantine, and the use of masks, hand and surface sanitisation. Since 2021 a global race for COVID-19 vaccination ensued, mainly due to a lack of equitable vaccine production and distribution. To date, no treatments have been demonstrated to cure COVID-19. The scientific World is now considering the potential use of Ivermectin as a prophylactic and treatment for COVID-19. Against this background, the objective of this study is to review the literature to demystify the enigma or panacea in the use of Ivermectin. This paper intends to investigate literature which supports the existence or shows the nonexistence of a causal link between Ivermectin, COVID-19 mortality and recovery. There are inconsistent results on the effectiveness of Ivermectin in the treatment of COVID-19 patients. Some studies have asserted that in a bid to slow down the transmission of COVID-19, ivermectin can be used to inhibit the in vitro replication of SARS-CoV-2. The pre-existing health system burdens can be alleviated as patients treated prophylactically would reduce hospital admissions and stem the spread of COVID-19. On a global scale, Ivermectin is currently used by about 28% of the world's population, and its adoption is presently about 44% of countries. However, the full administration of this drug would require further tests to establish its clinical effectiveness and efficacy.

C. COVID-19 VACCINATION

Title: Intention to vaccinate against COVID-19 and adherence to non-pharmaceutical interventions against COVID-19 prior to the second wave of the pandemic in Uganda: a cross-sectional study
Journal: Global health
Publish Date: June 2, 2022
URL: http://dx.doi.org/10.1136/bmjopen-2021-057322
Abstract:
Objectives The resurgence in cases and deaths due to COVID-19 in many countries suggests complacency in adhering to COVID-19 preventive guidelines. Vaccination, therefore, remains a key intervention in mitigating the impact of the COVID-19 pandemic. This study investigated the level of adherence to COVID-19 preventive measures and intention to receive the COVID-19 vaccine among Ugandans.
Design, setting and participants A nationwide cross-sectional survey of 1053 Ugandan adults was conducted in March 2021 using telephone interviews.
Main outcome measures Participants reported on adherence to COVID-19 preventive measures and intention to be vaccinated with COVID-19 vaccines.
Results Overall, 10.2% of the respondents adhered to the COVID-19 preventive guidelines and 57.8% stated definite intention to receive a SARS-CoV-2 vaccine. Compared with women, men were less likely to adhere to COVID-19 guidelines (Odds Ratio (OR)=0.64, 95% CI 0.41 to 0.99). Participants from the northern (4.0%, OR=0.28, 95% CI 0.12 to 0.92), western (5.1%, OR=0.30, 95% CI 0.14 to 0.65) and eastern regions (6.5%, OR=0.47, 95% CI 0.24 to 0.92), respectively, had lower odds of adhering to the
COVID-19 guidelines than those from the central region (14.7%). A higher monthly income of ≥US$137 (OR=2.31, 95% CI 1.14 to 4.58) and a history of chronic disease (OR=1.81, 95% CI 1.14 to 2.86) were predictors of adherence. Concerns about the chances of getting COVID-19 in the future (Prevalence Ratio (PR)=1.26, 95% CI 1.06 to 1.48) and fear of severe COVID-19 infection (PR=1.20, 95% CI 1.04 to 1.38) were the strongest predictors for a definite intention, while concerns for side effects were negatively associated with vaccination intent (PR=0.75, 95% CI 0.68 to 0.83).

**Conclusion** Behaviour change programmes need to be strengthened to promote adherence to COVID-19 preventive guidelines as vaccination is rolled out as another preventive measure. Dissemination of accurate, safe and efficacious information about the vaccines is necessary to enhance vaccine uptake.

**Title:** A vaccination model for COVID-19 in Gauteng, South Africa  
**Journal:** Infectious Disease Modelling  
**Publish Date:** June 9, 2022  
**URL:** [https://doi.org/10.1016/j.idm.2022.06.002](https://doi.org/10.1016/j.idm.2022.06.002)

**Abstract:**
The COVID-19 pandemic provides an opportunity to explore the impact of government mandates on movement restrictions and non-pharmaceutical interventions on a novel infection, and we investigate these strategies in early-stage outbreak dynamics. The rate of disease spread in South Africa varied over time as individuals changed behavior in response to the ongoing pandemic and to changing government policies. Using a system of ordinary differential equations, we model the outbreak in the province of Gauteng, assuming that several parameters vary over time. Analyzing data from the time period before vaccination was widely available gives the approximate dates of parameter changes, and those dates are linked to government policies. Unknown parameters are then estimated from available case data and used to assess the impact of each policy. Looking forward in time, possible scenarios give projections involving the implementation of two different vaccines at varying times. Our results quantify the impact of different government policies and demonstrate how vaccinations can alter infection spread.

**Title:** The ethics behind mandatory COVID-19 vaccination post-Omicron: The South African context  
**Journal:** South African Journal of Science  
**Publish Date:** June 2022  
**URL:** [https://doi.org/10.17159/sajs.2022/13239](https://doi.org/10.17159/sajs.2022/13239)

**Abstract:**
The legitimacy of mandatory vaccine policies is underscored by a public health ethics framework based on the principles of limited autonomy, social justice and the common good. Ideally, vaccine uptake ought to occur on a voluntary basis as an act of solidarity to ensure that everyone is protected. Given that the altruistic approach has failed and vaccine uptake remains sub-optimal in South Africa, in this paper, I argue for vaccine mandates, in a post-Omicron context. This viewpoint is substantiated by several considerations. Healthcare workers are fatigued after 2 years of treating COVID-19 and many are still treating patients with post-viral syndromes, mental health conditions and cardiovascular complications. Health systems remain under pressure as people with non-COVID
diseases, neglected during the pandemic, are also now presenting to medical practices and hospitals. Although South Africa has emerged from a relatively less severe fourth wave of COVID-19, there have been many deaths. Vaccine and natural immunity in a relatively young general population has been advantageous. However, the country has a high prevalence of HIV and those who are untreated may not be able to clear the coronavirus easily. Similarly chronic illnesses place many at risk for severe disease from COVID variants, especially if unvaccinated. The future is shrouded in uncertainty. The next variant could be similar to or less severe than Omicron, yet still impact negatively on health systems, education and the economy. Physical distancing is not ideal in many low socio-economic settings, making vaccines an important component of our prevention toolbox. Our safest option now is to ensure that as many South Africans as possible are vaccinated and receive boosters. Vaccine mandates work to achieve this end.

Title: Addressing vaccine inequity: African agency and access to COVID-19 vaccines
Journal: China International Strategy Review
Publish Date: June 6, 2022
URL: https://doi.org/10.1007%2Fs42533-022-00105-2

Abstract:
The COVID-19 pandemic has had global consequences, both from a health and economic perspective. The African continent, although affected at a relatively low level in terms of official deaths and infections, has not been spared. While many expected the COVAX program—a joint initiative between the World Health Organization, Gavi (formerly the Global Alliance for Vaccines and Immunization), the Coalition for Epidemic Preparedness Innovations, and other non-profits and largely funded by the European Union—to provide two billion vaccines to developing countries, it failed to deliver more than half of the promised doses. This is largely due to vaccine hoarding by Western countries, which prevented African countries from placing their vaccine orders. Yet, this setback has not led African institutions and actors to stay inactive. This commentary investigates the question of access to vaccines in Africa and the agency exercised by African actors in this process. It shows that despite evolving in a constrained environment, several African actors, both at the national and regional level, have exercised agency by using a range of specific actions to address vaccine shortages. In doing so, this commentary aims to unpack the modalities and actions that have been carried out and adds to a growing literature on African agency in global relations.

Title: Adverse events following introduction of ChAdOx1 nCoV-19 vaccine in Somalia, 2021: findings from a fragile setting and implications for the future
Journal: IJID Regions
Publish Date: June 6, 2022
URL: https://doi.org/10.1016%2Fj.ijregi.2022.06.001

Abstract:
Background
Vaccination for COVID-19 began in Somalia on 16 March 2021 with Covishield (ChAdOx1 nCoV-19) and by the year’s end, only a small percentage of the population were fully vaccinated. Because side effects play an important role in determining public confidence
in vaccines and their uptake, we aimed to examine reported adverse events following immunization (AEFIs) of vaccine recipients.

**Methods**

This cross-sectional survey-based study was conducted between March and October 2021 in Somalia. Inclusion criteria was vaccine recipients eligible for first dose of ChAdOx1 nCoV-19 vaccine, and p-value <0.05 was considered significant.

**Results**

Of the 149,985 who received the first dose of ChAdOx1 nCoV-19 vaccine, 378 vaccine recipients reported side effects. This represented a reported AEFI rate of 2.5 per 1000 population in our study. Amongst those who reported adverse events, males (2.8 per 1000; P < 0.001), the 35-49 year old age group (3.3 per 1000; p =0.001) and teachers (3.5 per 1000; p=0.000) had higher rates of adverse events compared to females and in other age group and occupations. Amongst the population settlement type, higher rate of AEFI was observed amongst the refugees (23.9 per 1000; p=0.000) and IDPs (19 per 1000; p=0.000). Nearly half of the vaccine recipients who have reported side effects (48%) reported only one local symptom and most of the symptoms were mild in nature. However, the probability of having acute and severe side-effects was found to be 66% less among males than females (OR: 0.44; CI: 0.26–0.73; p =0.002) and people over 60 years (OR: 1.52; CI: 0.64–3.62; p=0.34) were also at higher odds to develop acute and severe AEFI in response to COVID-19 vaccines. Not included in our study population were any reports of severe life-threatening symptoms or death.

**Conclusion**

Though some variables (sex, profession, age) put recipients at higher odds of reporting acute and severe AEFIs, the ChAdOx1 nCoV-19 vaccine produced mild side effects in a small proportion of the vaccinated population in Somalia. Our study confirms that COVID-19 vaccines are safe, and their benefits clearly outweigh any associated risk.

**Title:** Prioritizing Pregnant Women for Coronavirus Disease 2019 Vaccination in African Countries

**Journal:** Clinical Infectious Diseases

**Publish Date:** June 8, 2022

**URL:** [https://doi.org/10.1093/cid/ciac362](https://doi.org/10.1093/cid/ciac362)

**Abstract:**

Coronavirus disease 2019 (COVID-19) in pregnancy is associated with excess maternal and infant morbidity and mortality in both African and higher-resource settings. Furthermore, mounting evidence demonstrates the safety and efficacy of COVID-19 vaccination for pregnant women and infants. However, national guidelines in many African countries are equivocal or lack recommendations on COVID-19 vaccine in pregnancy. We summarize key data on COVID-19 epidemiology and vaccination among pregnant African women to highlight major barriers to vaccination and recommend 4 interventions. First, policymakers should prioritize pregnant women for COVID-19 vaccination, with a target of 100% coverage. Second, empirically supported public health campaigns should be sustainably implemented to inform and support pregnant women and their healthcare providers in overcoming vaccine hesitancy. Third, COVID-19 vaccination for pregnant women should be expanded to include antenatal care, obstetrics/gynecology, and targeted
mass vaccination campaigns. Fourth, national monitoring and evaluation of COVID-19 vaccine uptake, safety, surveillance, and prospective outcomes assessment should be conducted.

Title: Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Infection and Pregnancy in Sub-Saharan Africa: A 6-Country Retrospective Cohort Analysis
Journal:
Publish Date:
URL: https://doi.org/10.1093/cid/ciac294
Abstract:
Background
Few data are available on COVID-19 outcomes among pregnant women in sub-Saharan Africa (SSA), where high-risk comorbidities are prevalent. We investigated the impact of pregnancy on SARS-CoV-2 infection and of SARS-CoV-2 infection on pregnancy to generate evidence for health policy and clinical practice.
Methods
We conducted a 6-country retrospective cohort study among hospitalized women of childbearing age between 1 March 2020 and 31 March 2021. Exposures were (1) pregnancy and (2) a positive SARS-CoV-2 RT-PCR test. The primary outcome for both analyses was intensive care unit (ICU) admission. Secondary outcomes included supplemental oxygen requirement, mechanical ventilation, adverse birth outcomes, and in-hospital mortality. We used log-binomial regression to estimate the effect between pregnancy and SARS-CoV-2 infection. Factors associated with mortality were evaluated using competing-risk proportional subdistribution hazards models.
Results
Our analyses included 1315 hospitalized women: 510 pregnant women with SARS-CoV-2, 403 nonpregnant women with SARS-CoV-2, and 402 pregnant women without SARS-CoV-2 infection. Among women with SARS-CoV-2 infection, pregnancy was associated with increased risk for ICU admission (adjusted risk ratio [aRR]: 2.38; 95% CI: 1.42–4.01), oxygen supplementation (aRR: 1.86; 95% CI: 1.44–2.42), and hazard of in-hospital death (adjusted sub-hazard ratio [aSHR]: 2.00; 95% CI: 1.08–3.70). Among pregnant women, SARS-CoV-2 infection increased the risk of ICU admission (aRR: 2.0; 95% CI: 1.20–3.35), oxygen supplementation (aRR: 1.57; 95% CI: 1.17–2.11), and hazard of in-hospital death (aSHR: 5.03; 95% CI: 1.79–14.13).
Conclusions
Among hospitalized women in SSA, both SARS-CoV-2 infection and pregnancy independently increased risks of ICU admission, oxygen supplementation, and death. These data support international recommendations to prioritize COVID-19 vaccination among pregnant women.

Title: Determinants of COVID-19 vaccine acceptance in Ethiopia: A systematic review and meta-analysis
Journal: Plos One
Publish date: June 2022
URL: https://doi.org/10.1371/journal.pone.0269273
Abstract:
**Background**

Vaccination is the promising strategy to control the coronavirus disease 2019 (COVID-19) pandemic. However, the success of this strategy will rely mainly on the rate of vaccine acceptance among the general population. Therefore, this systematic review and meta-analysis aimed to estimate the pooled prevalence of COVID-19 vaccine acceptance and its determinants in Ethiopia.

**Methods**

We searched PubMed, Scopus, Google Scholar, African Journals Online, and Web of Sciences database to retrieve related articles. Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines were used for this study. Funnel plot and Eggers test were done to assess publication bias. Cochrane Q-test and $I^2$ statistic were done to check evidence of heterogeneity. Subgroup analysis was computed based on the study region and the study population. Data were extracted using a Microsoft Excel spreadsheet and analyzed using STATA version 14 statistical software. Weighted inverse variance random effect model was run to estimate the pooled prevalence of COVID-19 vaccine acceptance.

**Results**

A total of 12 studies with 5,029 study participants were included. The pooled prevalence of COVID-19 vaccine acceptance in Ethiopia was 51.64% (95%CI; 43.95%-59.34%). Being male (AOR = 4.46, 1.19–16.77, $I^2 = 88$%), having secondary and above educational status (AOR = 3.97, 1.94–8.12, $I^2 = 69$%), good knowledge (AOR = 3.36, 1.71–6.61, $I^2 = 93$%), and positive attitude (AOR = 5.40, 2.43–12.00, $I^2 = 87$%) were determinants of COVID-19 vaccine acceptance in Ethiopia.

**Conclusion**

The pooled prevalence of COVID-19 vaccine acceptance was low. Being male, having secondary and above educational status, good knowledge, and positive attitude were the determinants of COVID-19 vaccine acceptance. High level of COVID-19 vaccine acceptance among the general population is crucial to achieve herd immunity in the community. Therefore, policymakers, vaccine campaign program planners, and stakeholders should target to improve public awareness of vaccination that enhances vaccine acceptance and in turn helps to control the pandemic.

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**D. COVID-19 PUBLIC PERCEPTIONS AND EFFECTS**

**Title:** “This pandemic has changed our daily living”: Young adults’ leisure experiences during the COVID-19 pandemic in South Africa

**Journal:** Journal of Occupational Science

**Publish Date:** June 5, 2022

**URL:** [https://doi.org/10.1080/14427591.2022.2078995](https://doi.org/10.1080/14427591.2022.2078995)

**Abstract:**

The COVID-19 pandemic is a global human ecosystem disruption affecting almost every facet of daily living. South Africa adopted a risk-adjusted approach comprising five-levels to curb the spread of COVID-19. Early in 2020, the country experienced level 5 and 4 restrictions, indicating high COVID-19 spread with low to moderate health system readiness. South Africans were largely confined to their homes. This study explored young...
adults’ experiences of leisure engagement during the confinement, adaptations made, and the influence on health and well-being. Thirteen occupational therapy student researchers conducted individual qualitative, exploratory-descriptive studies on young adults’ leisure experiences during the level 5 and 4 confinements. The authors used a qualitative meta-analytic approach to review the student researchers’ primary studies and synthesize findings for this paper. The sample comprised 65 participants aged 18 to 32 years (mean age 22.2 years), the majority being either students or employed. Participants were interviewed online or submitted written responses to open-ended questions focusing on their leisure engagement during the confinement. Relevant data were extracted from the primary studies and analyzed thematically. Four themes emerged: 1) disruption, 2) time, 3) adaptations to change, and 4) leisure benefits. Although participants experienced the confinement as disruptive, and restricting their leisure and social engagement, they adapted and developed new leisure occupations, which had a positive influence on their health and well-being. In conclusion, the young adults dealt with the occupational injustices of confinement by adapting their leisure engagement, thus displaying occupational resilience, which positively influenced health and well-being.

Title: Understanding determinants of COVID-19 vaccine hesitancy; an emphasis on the role of religious affiliation and individual’s reliance on traditional remedy

Journal: BMC Public Health
Publish Date: June 7, 2022

Abstract:
Background
The damage COVID-19 has caused in terms of mortalities, economic breakdown and social disruption is immense. The COVID-19 vaccine has been one of the efficient prevention strategies so far in preventing the pandemic. However, the publics’ hesitancy towards vaccines has enormously affected this task. With emerging research findings indicating that a substantial proportion of adults are hesitant about a vaccine for COVID-19, important work that identifies and describes vaccine hesitant individuals is required to begin to understand and address this problem.

Objective
This study assessed public attitude towards COVID-19 Vaccine and identified important factors that lead to its hesitancy.

Methods
A web and paper-based cross-sectional survey study was conducted from July 31 to August 12, 2021. The study participants are staffs and students at Jimma University. A total of 358 participants were selected using stratified simple random sampling and requested to fill a survey questionnaire. Binomial logistic regression analysis was done to identify factors associated with COVID-19 vaccine hesitancy.

Results
Half of the participants were found to be hesitant to COVID-19 vaccine. The odds of becoming vaccine hesitant among middle income was two times more than those with lower income (AOR 2.17, 95% CI 1.05–4.5). Furthermore, respondent’s extent of exposure was associated with vaccine hesitancy with the odds of becoming vaccine hesitant among
those whose source of COVID-19 information is from four media sources (Social Media, Mass Media, Health care worker and Friends/family/Neighbor) being 74% lower (AOR .26, 95% CI .09–.69) than those with one media source. Concern towards vaccine side effect, vaccine effectiveness and having the belief to treat COVID-19 with traditional remedies were found to increase the odds of becoming vaccine hesitant by 31%, 42% and 37% respectively. Moreover, the association between side-effect concern and vaccine hesitancy was moderated by participant’s religious affiliation.

E. COVID-19 EFFECTS ON OTHER DISEASES AND SECTORS

Title: Experience of Kenyan researchers and policy-makers with knowledge translation during COVID-19: a qualitative interview study
Journal: Health policy
Publish Date: June 2022
URL: http://dx.doi.org/10.1136/bmjopen-2021-059501

Abstract:

Objectives Researchers at the KEMRI-Wellcome Trust Research Programme (KWTRP) carried out knowledge translation (KT) activities to support policy-makers as the Kenyan Government responded to the COVID-19 pandemic. We assessed the usefulness of these activities to identify the facilitators and barriers to KT and suggest actions that facilitate KT in similar settings.

Design The study adopted a qualitative interview study design.

Setting and participants Researchers at KWTRP in Kenya who were involved in KT activities during the COVID-19 pandemic (n=6) were selected to participate in key informant interviews to describe their experience. In addition, the policy-makers with whom these researchers engaged were invited to participate (n=11). Data were collected from March 2021 to August 2021.

Analysis A thematic analysis approach was adopted using a predetermined framework to develop a coding structure consisting of the core thematic areas. Any other theme that emerged in the coding process was included.

Results Both groups reported that the KT activities increased evidence availability and accessibility, enhanced policy-makers’ motivation to use evidence, improved capacity to use research evidence and strengthened relationships. Policy-makers shared that a key facilitator of this was the knowledge products shared and the regular interaction with researchers. Both groups mentioned that a key barrier was the timeliness of generating evidence, which was exacerbated by the pandemic. They felt it was important to institutionalise KT to improve readiness to respond to public health emergencies.

Conclusion This study provides a real-world example of the use of KT during a public health crisis. It further highlights the need to institutionalise KT in research and policy institutions in African countries to respond readily to public health emergencies.

Title: Gendered time use during COVID-19 among adolescents and young adults in Nairobi, Kenya
Journal: eClinicalMedicine
Publish Date: July 2022
URL: https://doi.org/10.1016/j.eclinm.2022.101479
Abstract:

Background
Gender disparities in time use contribute to poor outcomes in women. Large-scale disruptions can affect time use. The objectives of this study were to characterize time use across the pandemic by gender and to assess how gender associates with 2021-time use, overall and by 2020 economic dependency status.

Methods
A prospective cohort of youth in Nairobi, Kenya, completed phone-based surveys in August-October 2020 and April-May 2021. Time use was characterized at both time points and 1,777 participants with complete time use data at both time points were included in the analysis. 2021-time use was regressed on gender and stratified by 2020 economic dependency status.

Findings
At both time points, significant gender differences in time use found young men with more time on paid work and less time on domestic work [1.6 h; 95% CI: 1.1, 2.2] and [-1.9 h; 95% CI: -1.1, -1.5], respectively; 2021. In adjusted models, the gender differential in unpaid domestic work were significant overall and at all levels of economic dependency (dependent, semi-dependent, independent). The gender differential in paid work was evident among semi-dependent and independent.

Interpretation
Young women spent less time on paid work and more time on domestic duties than male counterparts, consistently across a six-month period during the pandemic, suggesting gendered time poverty. Resulting gendered gaps in earnings can contribute to women's longer-term economic vulnerability.

Title: Product-access challenges to menstrual health throughout the COVID-19 pandemic among a cohort of adolescent girls and young women in Nairobi, Kenya

Journal: eClinicalMedicine

Publish Date: July 2022

URL: https://doi.org/10.1016/j.eclinm.2022.101482

Abstract:

Background
Access to menstrual hygiene products enables positive health for adolescent girls and young women (AGYW). Among AGYW in Nairobi, Kenya, this prospective mixed-methods study characterised menstrual health product-access challenges at two time points during the COVID-19 pandemic; assessed trajectories over the pandemic; and examined factors associated with product-access trajectories.

Methods
Data were collected from an AGYW cohort in August–October 2020 and March–June 2021 (n=591). The prevalence of menstrual health product-access challenges was calculated per timepoint, with trajectories characterizing product-access challenges over time. Logistic regression models examined associations with any product-access challenge throughout the pandemic; multinomial and logistic regressions further assessed factors associated with trajectories. Qualitative data contextualize results.

Findings
In 2020, 52.0% of AGYW experienced a menstrual health product-access challenge; approximately six months later, this proportion dropped to 30.3%. Product-access challenges during the pandemic were heightened for AGYW with secondary or lower education (aOR=2.40; p<0.001), living with parents (aOR=1.86; p=0.05), not the prime earner (aOR=2.27; p=0.05); and unable to meet their basic needs (aOR=2.25; p<0.001). Between timepoints, 38.0% experienced no product-access challenge and 31.7% resolved, however, 10.2% acquired a challenge and 20.1% experienced sustained challenges. Acquired product-access challenges, compared to no challenges, were concentrated among those living with parents (aOR=3.21; p=0.05); multinomial models further elucidated nuances. Qualitative data indicate deprioritization of menstrual health within household budgets as a contributor.

**Interpretation**

Menstrual health product-access challenges are prevalent among AGYW during the pandemic; barriers were primarily financial. Results may reflect endemic product-access gaps amplified by COVID-specific constraints. Ensuring access to menstrual products is essential to ensure AGYW's health needs.

**Title:** Covid-19 and Urban Migrants in the Horn of Africa: Lived Citizenship and Everyday Humanitarianism  
**Journal:**  
**Publish Date:**  
**Abstract:**

This article focuses on the everyday humanitarianism of migrant communities in three cities in the Horn of Africa: Nairobi, Addis Ababa, and Khartoum. It is framed around the concept of lived citizenship, defined as a means to secure wellbeing through everyday acts and practices. Based on an analysis of comparative interview data among Eritrean and Ethiopian migrant communities in each city, the article argues that the Covid-19 pandemic has impacted lived citizenship practices to different degrees, linked to previous forms of precarity, and the means and networks of coping with those. Disruptions of transnational support networks resulted in a turn towards local networks and everyday practices of solidarity. These forms of everyday humanitarianism range from spontaneous to more organised forms, united by a perceived lack of involvement by international humanitarian actors and the local state. The article raises important questions in relation to transnational humanitarian action in a global crisis.

**Title:** Impact of COVID-19 on renal replacement therapy: perspective from a Nigerian renal transplant centre  
**Journal:** Pan African Medical Journal  
**Publish Date:** June 2, 2022  
**URL:** [https://www.panafrican-med-journal.com/content/article/42/90/full/](https://www.panafrican-med-journal.com/content/article/42/90/full/)  
**Abstract:**

**Introduction:** COVID-19 has had a huge impact on the health system and the world at large. Patients with kidney failure are a select group which have been affected significantly by the scourge of the disease. In the COVID-19 era, renal replacement therapy (RRT) in the form of dialysis and kidney transplantation required modifications in many centres in
order to maintain high quality care and reduce infection rates among this susceptible group of patients. The objectives were to describe some of the challenges experienced in one of the leading renal care centres in Nigeria during the height of the COVID-19 pandemic and analyse the impact of practice changes on select outcomes.

Methods: A retrospective cross-sectional review of haemodialysis activities and kidney transplantation among chronic kidney disease patients was done over a 15-month period ranging from April, 2019 to June, 2021. Data was extracted from the electronic media record (EMR) and analysed using SPSS version 22.

Results: There was an initial significant drop in the number of haemodialysis sessions and kidney transplant surgeries by 16.7% and 66% respectively in the first 2 months of COVID-19 in our centre following the national lockdown. The mean monthly kidney transplant rate was 9±3.29 before the COVID-19 and the national lockdown, this figure reduced to 3.0±0.1 during the lockdown. Activities however normalized at 6 months following the initial lockdowns have remarkable exceeded pre-COVID numbers as at early 2021.

Conclusion: After the initial drop in numbers of patients for haemo-dialysis and renal transplantation, there was an increase in numbers in the following months. It was instructive to put several steps in place in order to continue to offer high level RRT in the COVID-19 pandemic. RRT can safely be practiced in the COVID-19 pandemic.

Title: Empirical analysis on the impact of the COVID-19 pandemic on food insecurity in South Africa
Journal: Physics and Chemistry of the Earth, Parts A/B/C
Publish Date: June 8, 2022
URL: https://doi.org/10.1016/j.pce.2022.103180
Abstract: The study sought to ascertain the changes in the food insecurity status of households during the COVID-19 pandemic. The study made use of secondary data obtained from the 5 Waves of the National Income Dynamics Study-Coronavirus Rapid Mobile Survey (NIDS-CRAM). Descriptive statistics, food insecurity index and independent sample t test were used to compare the mean differences in the food insecurity statuses of the households over the 5 Waves. The study found that there was an increase in food insecurity as the COVID-19 progressed from Wave 1 to 5. Significant differences at the 1% level were observed between Wave 5 and Wave 1 as well as between Wave 5 and Wave 3. The study concludes that there was food security in the initial progression of the COVID-19 pandemic which deteriorated. The study recommends a reconsideration of the scrapping of the top ups on the social grants. This will likely tighten the dire economic situation the households find themselves in. There is need to expand the social safety nets to accommodate the vulnerable in society. Short and localised value chains should be promoted to improve food accessibility during times of crisis.

Title: Psychological distress among healthcare workers accessing occupational health services during the COVID-19 pandemic in Zimbabwe
Journal: Comprehensive Psychiatry
Publish date: July 2022
URL: https://doi.org/10.1016/j.comppsych.2022.152321
Abstract:
Background: Healthcare workers (HCWs) have experienced anxiety and psychological distress during the COVID-19 pandemic. We established and report findings from an occupational health programme for HCWs in Zimbabwe that offered screening for SARS-CoV-2 with integrated screening for comorbidities including common mental disorder (CMD) and referral for counselling.

Methods: Quantitative outcomes were fearfulness about COVID-19, the Shona Symptom Questionnaire (SSQ-14) score (cutpoint 8/14) and the number and proportion of HCWs offered referral for counselling, accepting referral and counselled. We used chi square tests to identify factors associated with fearfulness, and logistic regression was used to model the association of fearfulness with wave, adjusting for variables identified using a DAG. Qualitative data included 18 in-depth interviews, two workshops conducted with HCWs and written feedback from counsellors, analysed concurrently with data collection using thematic analysis.

Results: Between 27 July 2020-31 July 2021, spanning three SARS-CoV-2 waves, the occupational health programme was accessed by 3577 HCWs from 22 facilities. The median age was 37 (IQR 30-43) years, 81.9% were women, 41.7% said they felt fearful about COVID-19 and 12.1% had an SSQ-14 score ≥ 8. A total of 501 HCWs were offered referral for counselling, 78.4% accepted and 68.9% had ≥1 counselling session. Adjusting for setting and role, wave 2 was associated with increased fearfulness over wave 1 (OR = 1.26, 95% CI 1.00-1.60). Qualitative data showed high levels of anxiety, psychosomatic symptoms and burnout related to the pandemic. Mental wellbeing was affected by financial insecurity, unmet physical health needs and inability to provide quality care within a fragile health system.

Conclusions: HCWs in Zimbabwe experience a high burden of mental health symptoms, intensified by the COVID-19 pandemic. Sustainable mental health interventions must be multisectoral addressing mental, physical and financial wellbeing.

Title: Product-access challenges to menstrual health throughout the COVID-19 pandemic among a cohort of adolescent girls and young women in Nairobi, Kenya

Journal: eClinicalMedicine

Publish Date: June 2022

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Abstract:
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Methods

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Interpretation
Menstrual health product-access challenges are prevalent among AGYW during the pandemic; barriers were primarily financial. Results may reflect endemic product-access gaps amplified by COVID-specific constraints. Ensuring access to menstrual products is essential to ensure AGYW's health needs.

Title: The impact of the coronavirus pandemic on SME's in Ghana
Journal: International Journal of Information, Business and Management
Publish Date: August 2022
URL: 
Abstract:
The coronavirus pandemic although a health crisis has affected a lot of businesses in the world and affected many economies negatively and one of the key sectors that was seriously affected in Ghana is the area of Small-Scale Enterprises (SMEs). Most of the decisions taken by the government in an attempt to solve or curb the impact of the virus had a toll on many businesses.

Title: Knowledge, practice, and impact of COVID-19 on mental health among patients with chronic health conditions at selected hospitals of Sidama regional state, Ethiopia
Journal: 
Publish Date: June 2022
URL: https://doi.org/10.1371/journal.pone.0269171
Abstract:
Background
COVID-19 causes worse outcomes and a higher mortality rate in adults with chronic medical conditions. In addition, the pandemic is influencing mental health and causing psychological distress in people with chronic medical illnesses.
Objective
To assess the knowledge, practice, and impact of COVID-19 on mental health among chronic disease patients at selected hospitals in Sidama regional state.
Method
A facility-based cross-sectional study was conducted. A total of 422 study subjects were enrolled in the study using a two-stage sampling technique. Data were coded and entered using Epi Data version 3.1 and exported to SPSS-20 for analysis. Descriptive analysis was used to present the data using tables and figures. Bivariate and multivariate logistic
analyses were used to identify factors associated with the initiation of preventive behavior of COVID-19. Variables with a P-value of less than 0.25 in bivariate analysis were considered as candidate variables for multivariable analysis. The statistical significance was declared at a P-value less than 0.05.

Result
More than half 237 (56.2%, 95% CI: 50.7–60.9) of the study participants had good knowledge of COVID-19. The practice of preventive measures toward COVID-19 was found to be low (42.4%, 95% CI: 37.9–47.2). Being widowed (AOR = 0.31, 95% CI (0.10, 0.92)), secondary and above educational status (AOR = 2.21, 95% CI (1.01, 4.84)), urban residence (AOR = 2.33, 95% CI (1.30, 4.19)) and good knowledge (AOR = 4.87, 95% CI (2.96, 8.00)) were significantly associated with good practice. In addition, more than one-third of the study participants 37% (95% CI 32.7, 41.5) were experiencing anxiety. While more than a quarter of respondents 26.8% (95% CI 22.5, 31.5) had depression.

Conclusion and recommendation
Despite more than half of the participants had good knowledge, the prevention practice was low. Hence, multiple information dissemination strategies should be implemented continuously among chronic disease patients. In addition, the magnitude of concurrent depression and anxiety in the current study was high.