African authorship on African papers during the COVID-19 pandemic

Antoinette Vanessa Naidoo, Peter Hodkinson, Lauren Lai King, Lee A Wallis

Division of Emergency Medicine, University of Cape Town, Cape Town, Western Cape, South Africa

Correspondence to
Professor Lee A Wallis;
lee.wallis@uct.ac.za

With no known cure or vaccine, sharing of information and experiences in real-time became imperative to improving the standard of medical care during the COVID-19 pandemic. Cases rapidly surged worldwide, and so too did medical publications.[1] The international media and scientific community reported grave concerns about the capacity of fragile, overburdened healthcare systems as cases began to rise in low-resource settings (LRS), such as those in Africa.[2 3] African voices and research are needed to guide the local pandemic response. But, historically, African authors have been underrepresented in medical literature related to the burden of disease on their continent[4–6]; it may well be the case that the same has happened during the COVID-19 pandemic.[7] We aimed to investigate the representation of African authors publishing research and commenting on COVID-19 in Africa.

A systematic search was conducted using MeSH (medical search heading) terms and other keywords to identify articles about COVID-19 indexed in PubMed between 1 January 2020 and 30 September 2020. While we followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology, only articles published in the top five medical general medical and top five global health journals, as ranked by impact factors, were included. Articles that were duplicates, not from the selected journals or outside the specified time period were removed. Remaining articles were screened at the title, abstract and full-text level by two authors to ensure content was related to COVID-19. A third author resolved any disagreements regarding inclusion. Subgroup analyses were performed to assess the number of articles containing content explicitly related to Africa or any African country, and the number of articles and authors with African primary affiliations represented in the sample. While we recognise that authors may self-identify in various

Summary box

► Previous studies suggest that Africans have been underrepresented in medical literature related to the burden of disease on their continent, with their research sector producing less than 1% of the world's health research each year.
► Results from the 10 journals included in this analysis suggest that African representation in African COVID-19 literature is insufficient, particularly in opinion-based articles oriented towards providing advice on system response and clinical care.
► Seventeen per cent of the world's population lives in Africa, but only 3.9% of articles related to COVID-19 published in the top 10 medical journals is relevant to the continent.
► One in five African COVID-19 papers had no African authors, and 66.1% of authors on African papers were not from Africa.
► We recommend that journals develop inclusivity policies for content related to low-resource settings to accelerate progress towards better representation of local populations in the medical literature that affects them directly.

ways, we chose primary listed affiliation as a consistent and easy to identify indicator.

A total of 2196 articles related to COVID-19 were included in this review (table 1A, figure 1), with 9222 authors listed across them (table 1B). Of these, just 94 articles (4.3%) contained content related to Africa or a specific African country, and there were 292 (3.2%) authors indicating an African primary affiliation. The mean number of authors per article was 4.2 overall, with a mean 0.13 (3.1%) of these authors being African. Given that high-income countries have been found to have upwards of 40 times the number of health researchers than in low-income countries[8]—many of which are on the African continent—it is unsurprising that African contributions to the global body of evidence during the pandemic remain low.

Across articles with African content, there were 619 authors; only 210 (33.9%) of these authors had an African affiliation. There were

Table 1 Representation of African authors in COVID-19 literature

A

	COVID-19 articles not related to Africa (N=2196)	COVID-19 articles related to Africa (N=94)
Total number of articles with any African author(s)	35 (1.6%)	75 (79.8%)
No of articles with African first author	11 (0.5%)	39 (37.2%)
No of articles with African last author	5 (0.2%)	18 (19.1%)
No of articles with African first and last authors	1 (0.05%)	13 (13.8%)

B

	Authors of all COVID-19 articles not related to Africa (N=8603)	Authors of all COVID-19 articles related to Africa (N=619)
Total number of African authors	82 (3.1%)	210 (34.3%)
Mean number of authors per article across	4.2	6.6
Mean number of African authors per article	0.1	2.2

a mean of 6.6 authors per African article, 2.2 of whom were African. On average, authorship groups on African-related papers were more than 50% larger than those from the rest of the world. This may be a reflection of the tendency for Africans to publish in collaboration

Figure 1: Process of identifying articles for inclusion.

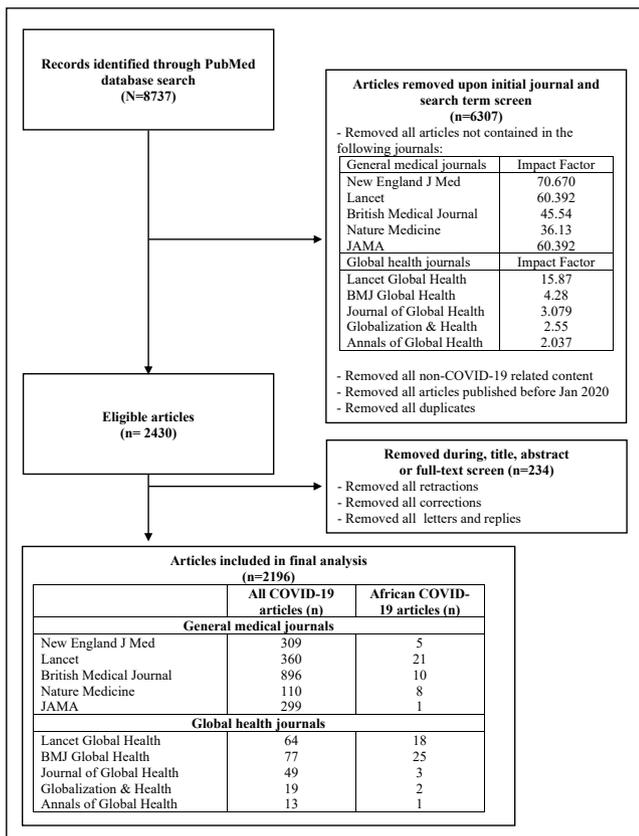**Figure 1** Process of identifying articles for inclusion.

with academic and funding partners, most of whom are situated overseas. In line with this, while non-Africans comprise 66.1% of authorship on African papers, Africans comprise just 3.1% of authors on non-African papers. One in five African COVID-19 papers (n=19) had no African authors. Some 39 (41.5%) of these articles had an African first author, and 18 (19.1%) had an African last author. African authors occupied both of these prime authorship positions in 13 articles (13.8%). This is in contrast to 60 instances of Africans occupying prime authorship positions in non-African content (2.9%)

While 1.3 billion people—17% of the world's population—live in Africa,[9] only 3.9% of articles related to COVID-19 published in the top 10 medical journals is relevant to the continent. Considering only those 372 articles that would constitute research, 16 (4.3%) relate to Africa. Although this is a very low figure, it is perhaps higher than originally anticipated (Table 2). A 2018 analysis showed that, although Africa's research sector is growing faster than any other region, it still produces less than 1% of the world's research each year.[10] Given that they were hit by the pandemic earlier and have more robust research capacities, it is unsurprising that high-income countries have produced the preponderance of publications. While these factors provide rationale for why there are fewer COVID-19 articles in the African setting, the literature that is available remains disproportionate in the context of Africa's large population.

While the raw number of African research articles is extremely low at nine, this reflects just less than 10% of all available literature on the subject and is proportional to what is available in the rest of the world. Again, this surpasses initial hypotheses based on existing data describing Africa's research capacities.

Health policy is not only informed by original research; sensible, contextually appropriate guidelines, opinions and commentary are also essential to improving the functioning of healthcare systems. This is especially true

Table 2 Distribution of global and African COVID-19 literature across various article types

Article type	COVID-19 articles not related to Africa (N=2102) (n (%))	COVID-19 articles related to Africa (N=94) (n (%))
Research		
Original research	183 (8.7)	9 (9.6)
Literature reviews, systemic reviews and meta-analyses	30 (1.4)	3 (3.2)
Practice guidelines	45 (2.1)	2 (2.1)
Case study/series	98 (4.7)	2 (2.1)
Opinion-based		
Editorial	207 (9.8)	2 (2.1)
Opinion/Commentary	561 (26.7)	56 (59.6)
Correspondence	385 (18.3)	8 (8.5)
News		
News	593 (28.2)	12 (12.8)

during times of surge, when original research can be challenging to produce in LRS, like those in Africa. Of the 94 articles related to COVID-19 in Africa, almost three-quarters were opinion-based, compared with just over half for those not related to Africa. Nearly 90% of the opinion-based articles related to Africa had non-African authors, while only 2.4% of opinion-based articles not related to Africa had African authors.

It is essential that clinicians and policy makers alike have access to reliable, factually accurate news articles, so that they stay up-to-date on key response and research information. COVID-19 news coverage in medical journals was found to be exceptionally disproportionate, with only 12 of 605 (2.0%) news pieces related to Africa.

Results from the 10 journals included in this analysis—which have a disproportionately strong influence on healthcare worldwide— suggest that African representation in African COVID-19 literature is insufficient. There are extremely few COVID-19-related news articles describing the outbreak and response efforts across the African continent. While the share of global research originating in Africa was expectedly low at 4.3%, as a proportion of total publications, the 10% of African articles pertaining to research was similar to the rest of the world. Africans do, however, remain underrepresented in terms of absolute numbers of articles compared with the population. The overwhelming minority of opinion-based articles, which are largely oriented towards providing advice on system response and clinical care, were authored by Africans. Further, Africans appeared to have almost no input into the wider global response, contributing to only 1 in 40 similar papers originating in other regions of the world.

While it is beyond the scope of this review to investigate the causes of underrepresentation, the reasons behind this are worthy of investigation. These findings add to the evidence of coloniality in global health research and decision-making.[4–6] Ultimately, the responsibility lies in the hands of individual researchers and institutions to ensure appropriate cultural and contextual input in their work. Journals do, however, play a gatekeeping role in controlling what information is disseminated widely throughout the medical community[9]; this uniquely poises them to address the inequity head-on and influence change in the global health sphere. The time has come that authoritative journals need to turn to authors and ask where local representation is on papers describing health systems in regions that are not their own—else the inequity and coloniality highlighted in this review are perpetuated. In this spirit, we recommend that journals develop inclusivity policies for content related to LRS to accelerate progress towards better representation of local populations in the medical literature that affects them directly.

ORCID iD
Lee A Wallis http://orcid.org/0000-0003-2711-3139

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