COVID-19 and Older People in Africa: A Thematic Analysis of Twitter Content

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Abstract
COVID-19 has impacted every aspect of society, particularly older vulnerable adults. In Africa where many older people are at a greater risk for experiencing ill-health, poverty and social exclusion, they will likely be disproportionately impacted by COVID-19. We explored Twitter content in relation to this population with an aim to understand those involved in sharing tweets on the topic, the type of tweets shared and the content of tweets. Data were collected on the 14th and 15th of October 2020, a period preceded by a sharp increase in COVID-19 infections and deaths in the African region. We used combined descriptive and inductive thematic analysis to identify key theme. We analysed 39 individual Twitter accounts and 19 from organisations. Thematic analysis resulted in four main themes, namely i) the perceived risks factors for COVID-19 ii) Knowledge about infection rates in different population segments iii) protecting older people during the pandemic and iv) the impact of COVID-19 on older people's livelihoods. This study demonstrated that the situation of older people in Africa in the context of the COVID-19 pandemic has received public interest globally. Government agencies were largely underrepresented in the Twitter content, although our data cannot be considered representative of the Twitter population. Our findings do not tell us anything about the relative visibility or invisibility of older people in Africa during the pandemic. Future research could explore this topic. There is need for governments to invest into funding research that examines the health care and support needs of older people in SSA, and to introduce robust health monitoring frameworks across the life span.

Keywords: COVID-19; Corona Virus, Older People, Africa, Social Media; Twitter

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1. Background

COVID-19 (coronavirus disease 2019) has upended every aspect of our society and daily lives. The pronouncement by the World Health Organization (WHO) that the world was experiencing a pandemic came on 11th March, 2020. At the time 18,000 cases had been reported in 114 countries, and 4,291 had died from COVID-19 (WHO, 2020b). At the time of writing, 47 million infections had been reported and nearly 1.2 million people had succumbed to the virus globally (John Hopkins University, 2020). There is now overwhelming evidence that people aged 65 and over, particularly those with co-morbidities, are more likely to succumb to the virus compared to younger people (CDCMMWR, 2020). Evidence from the US and the UK has shown that between 80-92.5 percent of the COVID-19 deaths were in this older population (Calgary, 2020; Office of National Statistics, 2020).

Similarly, in the African region older people (70 years and over) have been disproportionately impacted; a south African study showed that older adults accounted for 55 percent of COVID-19 deaths (Silal et al., 2020). Increased vulnerability to COVID-19 for older people in Africa is heightened by sustained years of ill-health, poverty, social exclusion, no safety nets or long term care plans for this population. The focus of most health care policies and investment has rested mainly on younger populations (Nabalambaa & Chikoko, 2011) to ensure countries' economic viability and stability. As the continent with one of the most fragile and under-resourced health and social care systems, older people in the region will likely be severely impacted by the effects of COVID-19.

A number of countries in Africa have in place national policies and legal responses geared towards addressing issues affecting older people in the region. However, few policies make it to the implementation stage, complicating the realization of key objectives set out to improve the health and well-being of older persons (Aboderin & Owii, n.d.). In the context of COVID-19, *cocooning*, which entails staying at home and reducing contact with other people, has been recommended in various countries for older people and vulnerable groups to minimise the risk of contracting the virus. For some older people in Africa, this is a far cry; in the absence old-age protection policies (Bloom & McKinnon, 2013) older people are left with little choice but continue with income generating activities, including running small business or selling wares in the markets to earn a living. Moreover, the HIV/AIDS epidemic has meant that older people often take on the responsibility of providing and caring for orphans (de-Graft Aikins et al., 2010). Emerging evidence from Africa suggests that public health measures currently in place to stop the spread of the virus have imperilled family and community supports systems, with the potential to exacerbate poverty, hunger and social isolation of older people(Gyasi, 2020). Notable, however is the ongoing efforts by African governments in developing and communicating responses in regards to the pandemic in Africa (Massinga Loembé et al., 2020).

Since March 2019 much has been published to highlight the precarious situation older people in Africa find themselves in. At the outset, the WHO urged governments to prioritise their safety (Xinhua, 2020) and the need to adopt an age perspective in countries' COVID-19 plan of actions was reiterated (Lloyd-Sherlock, Ebrahim, Geffen, & McKee, 2020). A

particular call on African governments and their international counterparts to integrate the care of older people into regional and national healthcare systems has been sounded (Devermont & Harris, 2020). Outside of the mainstream academic and policy discourse, the issue of COVID-19 and older people has been gaining traction through social media platforms. These platforms have proven an effective way of sharing information and keeping people connected and became particularly important during the lockdowns.

Twitter, a micro blogging tool, has become an important platform for sharing information by way of tweets and using hashtags to rally people and their support around certain topics (Kim et al., 2013). During the Ebola outbreak, for example social media platforms, including Twitter and Instagram were used to disseminate information to different organizations managing the pandemic (Guidry, Jin, Orr, Messner, & Meganck, 2017). Recent publications on the topic of COVID-19 and older people suggest the ever growing importance of social media platforms. Jimenez-Sotomayor and colleagues recently conducted an analysis of Twitter content relating to COVID-19 and older adults to identify ageist language (Jimenez-Sotomayor, Gomez-Moreno, & Soto-Perez-de-Celis, 2020) while Rufai and Bunce (Rufai & Bunce, 2020) analysed how world leaders used Twitter to respond to the pandemic. A recent study based in South Africa explored emerging topics in relation to COVID-19 in the country (Mutanga & Abayomi, 2020).For a novel virus, accurate information shared by individuals, organizations and government bodies are critical as they can inform the design, roll-out and uptake of context specific interventions to maximize impact.

Statement of the Problem

COVID-19 has impacted people of all ages but older people (ages 65 and over), particularly those with co-morbidities, are more likely to suffer severe disease if they contact the virus. In Africa older people are at a greater risk for experiencing ill-health, poverty and social exclusion, and yet they are often not prioritised in national policy agenda's. This has implications for their health and well-being and increases their vulnerability during the pandemic. Twitter has emerged as an important platform for sharing information and updates about COVID-19, including that of the situation of older people. The aim of this study is to explore Twitter content in relation to COVID-19 and older people in Africa. Specific objectives include;

1) To identify those involved in sharing tweets on COVID-19 and older people in Africa
2) To examine the type of tweets posted
3) To describe the content of the tweets

2. Methods

2.1 Data collection

The first author developed a search strategy that included the following key words "'COVID-19', 'coronavirus' 'older people' and 'Africa'" Using the key words we then conducted a manual Twitter search to identify relevant data. Data were collected on the 14th and 15th of October 2020 which was consistent with the period preceding a sharp increase in COVID-19 infections and deaths in the WHO African region (WHO, 2020a). Within this region which includes 47 countries, a 21% increase (from 45 countries) in new confirmed COVID-19 cases was reported on 14th October 2020 from 26 416 (30 September - 7 October

2020) to 29 618 (7 to 13 October 2020). The cumulative cases reported in the region as of the 14th of October 2020 was 1, 232 030 with 27, 684 COVID-19 fatalities (WHO, 2020a). Of the total deaths between the 7th and 13th of October 2020, South Africa recorded the highest number (925 deaths compared to 436 in the previous seven days (WHO, 2020a).

Tweets were eligible for inclusion if:
- They explicitly referred to COVID-19 or corona virus in combination with older people and Africa
- Tweets referred to a country in the WHO African region

Tweets were excluded if:
- They referred to older people outside the WHO African region

However, tweets originating from any location were considered for inclusion as long as they carried the key search words. Tweets captured from both days were combined into one dataset and duplicates were removed. A total of 98 tweets were obtained and subsequently copied manually from Twitter and pasted into a spreadsheet. The dataset was reviewed to identify tweets that were relevant to the study aim. We were interested in original tweets and hence replies and retweets were excluded from the final dataset. In total 61 tweets met our inclusion criteria (see Figure 1 below)

Figure 1: Screening and Identification of Tweets for Analysis
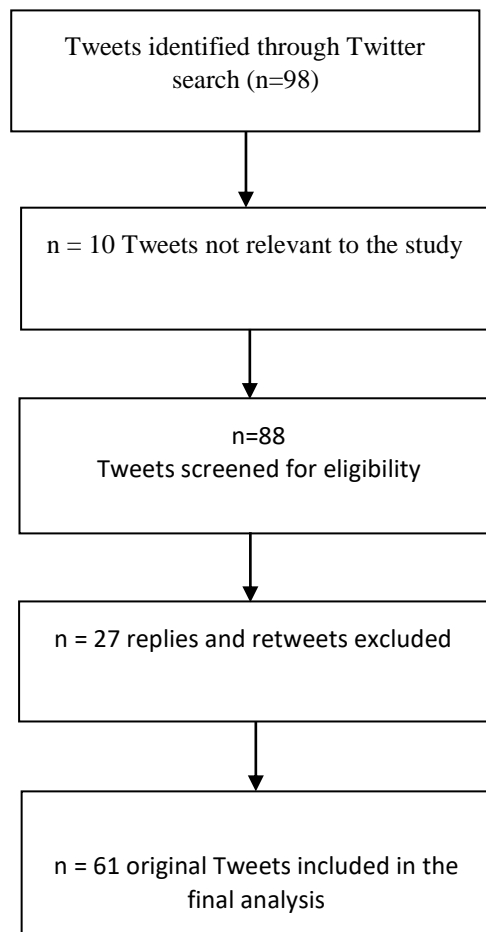
Source: Twitter, 14th and 15th of October 2020

2.2 Data analysis

We used descriptive statistics to summarize the data (Table 1 and 2) and thematic analysis to identify key themes (Table 3). The analysis was guided by the three main research questions from our study;

(1) Who is involved in sharing tweets on COVID-19 and older people in Africa?
(2) What type of tweets were shared?
(3) What is the content of tweets shared?

3. Discussion of Results and Findings

3.1 Who is involved in sharing tweets about COVID- 19 and older people in Africa?
Based on a sample of n=61 Twitter accounts (=one tweet per account) majority (n=39;63%) were individual accounts. Most tweets(n=17;27.9%) came from Twitter accounts identifying with the Not-for Profit sector for example NGOs. Most (n=27;44.2%) came from Africa and South Africa topped the list as the country with the most tweets(n=10;16.4%).The tweets

were sent between March 16th and October 15th, 2020. Table 1 provides a detailed description of the sample characteristics.

Table 1 Social-demographics

		N=61	%
Type of Twitter profile	Individual	39	63
	Organization	19	31
	Website	2	3.3
	Blog	1	1.6
Profession/Sector	Health Care Professionals	5	8.2
	Academic	12	19.7
	Humanitarian/ NGOs/civil society/ Activist	17	27.9
	Media	12	19.7
	Unknown	10	16.4
	Other	5	8.2
Location	Ethiopia	1	1.6
	Uganda	1	1.6
	Nigeria	7	11.5
	Kenya	6	9.8
	South Africa	10	16.4
	Malawi	1	1.6
	Zambia	1	1.6
	United States	7	11.5
	Canada	2	3.3
	United Kingdom	5	8.2
	Italy	3	4.9
	Belgium	1	1.6
	Malta	1	1.6
	Pakistan	1	1.6
	India	1	1.6
	Global	9	14.8
	Unknown	4	6.6
Continent	Africa	27	44.2
	North America	9	14.8
	Europe	10	16.4
	Asia	2	3.3
	Global	9	14.8
	Unknown	4	6.6

Source: Twitter, 14th and 15th of October 2020

3.2 What type of tweets were shared?

We classified tweets into five categories; Emotional statements, research evidence, government/policy-related, webinars/conferences and campaigns. Most   tweets (27/61

(44.3%)) carried an emotional message and most (14/26 (51.9%)) were from Africa. There were 14/61 (23%) tweets sharing research evidence, with most (6/14 (43%)) coming from Africa. Webinars/conferences accounted for 10/61(16.3%) of the tweets with 1/10 (10%) from Africa. This was followed by government/policy-related tweets (5/61)(8.2%)) with most of these tweets (4/5)(80%)) from Africa. Finally, 5/61(8.2%) of the tweets were about campaigns and advocacy as it related to older people during the pandemic with 3/5(60%) of these from Africa. Table 2 details the type of tweets shared.

Table 2 Type of tweets

Content	Number of Tweets	%	Location of Twitter user
Emotional statements	14	51.9	Africa
	2	7.4	Global
	6	22.2	Europe
	2	7.4	North America
	3	11.1	Unknown
Total	27	100	
Research evidence/ opinion pieces	6	43	Africa
	2	14	Global
	1	7	Europe
	4	29	North America
	1	7	Unknown
Total	14	100	
Webinar/Conference	1	10	Africa
	1	10	Global
	3	30	Europe
	3	39	North America
	2	20	Asia
Total	10	100	
Government/ policy related	4	80	Africa
	1	20	Global
Total	5	100	
Campaigns	3	60	Africa
	1	20	Global
	1	20	Europe
Total	5	100	

Source: Twitter, 14th and 15th of October 2020

3.3 What is the content of tweets shared?

Four main themes emerged from our data. The themes captured i) The perceived risks factors for COVID-19 among older people ii) Knowledge about infection rates in different population segments iii) protecting older people during the pandemic and iv) the impact of COVID-19 on older people's livelihoods. The tweets are denoted by a (T) followed by a number and illustrative tweets are presented in Table 3.

Theme 1*:* Perceived risks factors for COVID-19 among older people
This theme highlighted the perceived risks factors of contracting the virus among older people in Africa. Older people were deemed to be at a higher risk of developing severe disease and dying if they contracted the virus (T9, T26, T32, T37, and T61) although one tweet (T34) stated that severe disease and death could occur in any age group. Older people's lower immune function was linked to a greater probability of severe illness (T5,T26,T52,and T56). Furthermore, those with chronic conditions, more generally, were cited as high-risk for severe illness (T26). According to one tweet citing research evidence, older men were deemed to be disproportionately affected by COVID-19 and have higher mortality rates (T30). Some tweets shared webinar details in relation to gender perspectives on COVID-19 and older people in low and middle-income countries (T18); and others highlighted on-going research on the continent examining risk factors for COVID-19 deaths in the African region (T44).

Theme 2*:* Knowledge about infection rates in different population segments
Regarding infection rates, Africa was deemed to have a major advantage over Western countries (T37). Accordingly, the rates of infection in most African countries were considered low, with Twitter users alluding to few cases of infections and mortality from COVID-19 (T3, T10, T12, T21, T37, T39, T53, and T67). This was linked to a relatively younger population in the African continent (T3, T10, T12, T21 and T61) who rarely develop severe disease from COVID-19 (T37). Other tweets suggested that, most older people in Africa are not as fragile as those in Western countries and hence are less likely to be severely impacted by the virus (T19, T39). Besides, caregiving arrangements for older people in Western countries, which include care in long-term facilities, were believed to be a key source of infection spread among older people (T53). With most older people more likely to be living in rural areas in Africa, it was suggested that this likely explained the low infection rates in the region (T53). One tweet (T61) implied that the lower infection rate could be attributed to the hotter climate in the region.

Theme 3 Protecting older people during the pandemic
A number of tweets made reference to potential effective strategies to mitigate the spread of COVID-19 and protect older people. A consistent theme was the need to act with urgency (T2, T57) to shield older people who were deemed more vulnerable than the general population (T20, T11) and for people to check frequently on 'older folks' (T27) and protect them against violent crimes (T47). In view of the protection of and dignity for older people, reference was made specifically to older persons in congested prisons, and the importance of putting in place preventive and containment measures for COVID-19 in these settings (T42). A few tweets shared webinar details in relation to the impact of containment and mitigation strategies on the rights of older people in Africa (T25 and T45).

Several tweets (T6, T8, T14, T16, T23, T27, T29, T36 and T55) made reference to the role that health and social care systems, communities and families can play in facilitating and enhancing these protections. Apparently, based on the weak health and social care systems in most of Africa, countries were deemed ill-prepared to deal with the imminent burden presented by COVID-19 (T8). In one tweet, stakeholders in Nigeria called for urgent medical attention for older people based on their perceived vulnerability to COVID-19 (T41). A number of tweets shared publications in relation to access to healthcare for older adults in Africa and the implications for COVID-19 response (T48, T50 and T51) as well as webinars discussing the inclusion of older people in COVID-19 policy responses in Africa (T59).

Theme 4: Impacts of COVID-19 on the livelihood of older people
COVID-19 and subsequent lockdowns and restrictions have impacted negatively on the global economy, but disproportionate effects are being felt by fragile economies such as those of Africa (T3). Some tweets highlighted instances where people 60 years and older from one company were sacked at the same time in the weeks following the pandemic (T54), pointing to prevailing stigma and discrimination of this population. In another tweet, older people were considered at risk of both Covid-19 and of hunger due to the floods (T2).There was a perception that older people's well-being on the continent had been ignored by global agencies, policy makers and the media (T60). The importance of 'not leaving older people behind' was reiterated in a number of tweets that shared publications related to coping with the COVID-19 crisis in Africa (T7, T15). The potential role of partnerships in responding to the impact of COVID-19 on older people in Africa was echoed in tweets that shared a webinar link (T22).

Table 3: Key themes supported with illustrative quotes

Main Themes	Sub-themes	Illustrative tweets
Theme 1 Perceived risks factors for COVID-19 among older people	Age	▪ The CDC says high-risk for severe illness from COVID-19 include people who are aged 65 years and older (T26) ▪ The casualties cut across age groups. From the death of a 6-year-old in Kenya, older patients in most instances and persons in the youth bracket (T34)
	Gender	▪ Evidence so far shows that older men are disproportionately affected by COVID-19 & have higher mortality rates (T30)
	Low immunity	▪ The CDC says high-risk for severe illness from COVID-19 include people who are immunocompromised (T26) ▪ Older people are at more risk from COVID-19 because of how the immune system ages (T52)
	Co-morbidities /Chronic conditions	▪ The CDC says high-risk for severe illness from COVID-19 include people who are recovering from a stroke (T26)
	Weak health and care system	▪ I think Countries with weaker health systems must act aggressively to contain the spread among early cases and prevent community transmission. If countries with better health systems are lost in a dark worldwide, what makes us special? (T8)
	Weather/climate	▪ [] do you think the hot climate and may be the lower average age in population is keeping numbers lower than everywhere else? (T61)
Theme 2 Knowledge about infection rates in different population segments	Lower infection rates due to a young population	▪ Africa has a younger population than the western countries due to their "average life expectancy". Risk groups for COVID-19 are older people & Comorbidities (T3)
	Residential facilities in Western countries viewed as super spreader hotspots	▪ While #elderly people in Western countries live in specialized homes which became places of contamination for #COVID19, "these homes are rare in most #African countries, where older people are more likely to be living in rural areas"(T53)
Theme 3 Protecting older people during the pandemic	Potential strategies to mitigate the spread and protect older people	▪ Urgent support is needed for the older people who have been left stranded and exposed to the potentially fatal COVID-19 (T2) ▪ Balance will be key when it comes to the needs of elderly people, who are most vulnerable to the COVID-19 virus (T20) ▪ Amnesty International call on Africa leaders to Decongest Prisons and conditional release of older prisoners and those with underlying medical conditions [] (T42)
	Upholding the human rights of older people	▪ The protection of the human rights of older people must be upheld in health and social care systems as well as in communities and within family settings (T6) ▪ Ethiopia ratifies the Africa Union Protocol on the Rights of Older People despite COVID-19 (T14 T36, T55)

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		▪ Remember, South Africa has an Older Persons Act, further enshrining the rights & value of the elderly (T27)
Theme 4 Impacts of COVID-19 on the livelihood of older people	Stigma and discrimination	▪ We know a well-established company that sacked all 60+ older people because of COVID-19. This is pure ageism (T54)
	Economic effects of COVID-19	▪ Lockdown hurts the fragile economy of the country (T3)
	Perceived lack of prioritisation of older people by governments	▪ Globally, we might say the same about older people in developing countries. Almost entirely ignored by global agencies, policy makers and the media (T60)

Source: Twitter, 14th and 15th of October 2020

4. Discussion

The corona virus SARS COVID-2 has impacted all countries, people of all ages and social-economic backgrounds, but it has become clear that older people, particularly those with underlying conditions and co-morbidities, are likely to develop severe disease and succumb to the virus. We conducted a Twitter search to gather the views of Twitter users in relation to COVID-19 and older people in Africa. We wanted to understand who was involved in tweeting on the topic, the type of tweets shared as well as the content of these tweets. To the best of our knowledge, this study is the first to explore content on Twitter as it relates to COVID-19 and older people in Africa.

Consistent with recent Twitter research on a similar topic (Jimenez-Sotomayor et al., 2020) most tweets were from individual accounts. We established that individuals or organizations identifying with the Not- for- Profit sector led in sharing tweets related to the topic of our study and these were followed by Twitter users in the academic sector. Few tweets carried government- related policy messages on COVID-19 and older people. This finding is surprising given the leading role that African governments have assumed in developing and communicating responses in regards to the pandemic (Massinga Loembé et al., 2020). This finding might suggest that, because our data were collected on two days only, it is possible that we missed some tweets shared by government organizations or representatives on other days.

Alternatively these agencies may be using other platforms such as Facebook to share COVID-19 related information in relation to older people. It might also be the case that instead of social media platforms, government organizations and officials are using more traditional avenues by working directly with communities to disseminate relevant information on COVID-19 (WHO, n.d.). To be sure, the significance of social media as an effective communication avenue during crisis situations has been understated in some studies (Austin, Liu, & Jin, 2012) with traditional media, including radio and television, considered more effective avenues for reaching certain population groups to meet their information needs (Arlikatti, A. Taibah, & A. Andrew, 2014).

While the focus of our study was Africa, we gathered tweets posted by any Twitter user regardless of location in order to gain a fuller understanding of the topic from multiple locations. We determined that only 27 of the 61 tweets were sent by a user identifying with an African country. Within the African continent, South Africa which had recorded the highest number of infections and fatalities at the time of writing (WHO, 2020a) had the highest number of users sharing tweets relating to COVID-19 and older people.

The majority of tweets had an emotional content and only few provided guidance on strategies that would help contain and mitigate the spread of the virus in regards to older people. This is echoed in a Twitter study (Jimenez-Sotomayor et al., 2020) that found a lack of helpful content from organizations in relation to older people and COVID-19. Previous research has pointed to the critical role that representatives from government agencies including health organizations can play in social media spaces as they are often viewed as a source of reliable information in times of crisis (Park & Cameron, 2014).

A key theme emerging from our analysis was the perceived knowledge in view of COVID-19 infection rates in Africa, which were considered low. This was mostly linked to the continent's younger population. These would appear to be incorrect assumptions as age, in and of itself does not prevent against getting infected, although younger healthy people are less likely to develop severe disease if they contract the virus. A recent study by Dryhurst and colleagues (2020) on risk perceptions of COVID-19 around the world identify accurate risk perceptions by the public as crucial to correctly manage public health risks. Public's perceptions or misconceptions about lower infection rates among younger populations may place older people at a greater risk of contracting the virus from younger people, who believing they are 'immune', may deem the situation frivolous and fail to observe public health guidelines. Closely linked to the perception of infection rates among older population is the stigma and discrimination against older people which, while not a consistent theme across the tweets, was mentioned in a few. A recent UN policy brief calls for inclusive and targeted responses to address the myriad forms of discrimination that older people face and that have been aggravated by the pandemic (United Nations, 2020).

The Impacts of COVID-19 on the health and livelihoods of older persons was highlighted in a number of tweets. It was suggested in some tweets that older people in developing countries have been entirely ignored by global agencies, policy makers and the media (T60). This seems in keeping with a number of studies and reports (Nabalambaa & Chikoko, 2011) which point to a focus by African governments on investing in the health and well-being of much younger populations on the continent. Exclusively focusing on younger people ignores the contribution older people make in economic terms to society, providing child-care for working parents and saving the state money in providing shelter, food and care to orphans. The negative impacts older people have endured during the pandemic were reiterated in a recent UN report (United Nations, 2020). The need for African governments to integrate the care of older people into regional and national healthcare systems policies (Devermont & Harris, 2020) cannot be overstated.

5. Conclusion and study limitations

This study demonstrated that the situation of older people in Africa in the context of the COVID-19 pandemic has received public interest globally. According to our data, most of the tweets shared were of an emotional nature. Government agencies were deemed less engaged with the topic on older people and COVID-19 in the African setting, which was a surprising finding. In addition, knowledge in view of COVID-19 infection rates in Africa was wanting and some tweets alluded to the negative impacts of COVID-19 on older people.

Our study has a number of limitations; First our data was collected on two days only. It is possible that we missed some tweets and some users, for example those from government agencies, may be under represented as a result.

Second, our search strategy used only English key words, and hence tweets in the French, Swahili or Portuguese languages, which are spoken in Africa were not captured during the search.

Third, we did not include replies or retweets in our final dataset and hence important information that could have enhanced the study's findings may have been missed. Thus, it was impossible to capture a discourse of the themes among participants. Future studies that examine tweet replies could provide valuable insights into the topic by way of measuring users' engagement with the topic over time (Willis, Fisher, & Lvov, 2015).

Finally, our findings do not tell us anything about the relative visibility or invisibility of older people in Africa during the pandemic because the Twitter search was focused on older people. Future research could explore this topic. We recommend that governments invest into funding research that examines the health care and support needs of older people in SSA, and to introduce robust health monitoring frameworks across the life span.

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