

Transboundary COVID-19 response on health communication in Botswana, South Africa and Zimbabwe



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A global COVID-19 pandemic caused untold community disruptions, a huge toll on lives and placed major burdens on the economies of developing countries. It spread worldwide within a short period of time before nations could mobilise evidence for the best responses. Communities in Botswana, South Africa and Zimbabwe were heavily disrupted. This article focuses on exploring the transboundary differences in COVID-19 responses, plus the implications for improving the health communication strategies in a pandemic age. Health practitioners and governments were ill-prepared to inform the general public about the pandemic and enforced complete shutdowns of economic and social activities. With the COVID-19 pandemic ravaging communities, there was a dearth of focused health communication on COVID-19's end. New tools of communication and dissemination of information were embraced in the southern Africa country-specific cases. For example, content on precautionary lifestyles, individual or personal responsibility and utilisation of community health workers in the pandemic era was prioritised to prevent or minimise infections and avoid recurrence of the disease. New communication methods were important for addressing uncertainty and can be applied for any future pandemic. This health communication topic addresses the neglected, but important gap on the efficacy of processes towards better health communication strategies. The transdisciplinary methods include improved health communication strategies informed by the experiences of three Southern African Development Community countries. While such measures to arrest COVID-19 proved plausible, these countries' projections for the future are a concern, suggesting an urgent need to enhance and strengthen health communication in southern Africa.

Transdisciplinary contribution: This is a transdisciplinary exploration of health communication and its implications for COVID-19 and future pandemic responses in Botswana, South Africa and Zimbabwe.

Keywords: Botswana; communities; COVID-19; efficacy; health communication; information packages; pandemic; South Africa; Zimbabwe.

Introduction

This article explores transboundary differences and makes interesting comparisons between coronavirus disease 2019 (COVID-19) health communication strategies and responses in Botswana, South Africa and Zimbabwe. It also addresses the broader implications for improving health communication strategies in these countries. A health communication strategy is a plan or policy that aims to change people's knowledge, attitudes and behaviours during a health crisis; for example, a plan that increases risk perception, reinforces positive behaviours, influences social norms, and increases the availability of support and needed services in the face of a health pandemic. There has been wide-ranging multidisciplinary debate on health communication and its efficacy (capacity to produce an effect or the ability of an intervention to produce a desired effect) during the COVID-19 pandemic.¹ The efficacy of such communication in southern Africa can be measured through communication engagements by public health experts, health organisations, social science and humanities scholars, governments and their interactions with affected and infected communities.^{2,3}

The recent global COVID-19 pandemic caused untold community disruptions and a huge toll on lives and the economies of developing countries. The pandemic spread worldwide quickly,

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before nations could even mobilise information and preparedness. Using the humanities, science and social science interdisciplinary perspectives,⁴ the purpose of this article is to analyse the health communication strategy used during the COVID-19 pandemic. The implications on infection transmission and prevention or control of the disease in southern Africa are explored. The article's focal content explores the transboundary differences in Botswana, South Africa and Zimbabwe's COVID-19 responses. The implications for improving these countries' health communication strategies in a pandemic age are also described. This article provides an overview of the prevailing situation and the state of future (or post-pandemic) health communication in Southern African Development Community (SADC). Its societies and communities were heavily disrupted through the enforcement of complete shutdowns of economic and social activities. In addition, its health practitioners and governments were ill-prepared to communicate to the general public about the novel coronavirus disease 2019 (COVID-19) virus given that little scientific evidence existed around suitable interventions against it.⁵

This article's key research questions with respect to COVID-19 pandemic realities are:

RQ1: What were the differences in Botswana, South Africa and Zimbabwe's COVID-19 pandemic responses?

RQ2: How far were the implications for improving health communication strategies in these three countries illustrated?

Critics of health authoritarianism argue that COVID-19 was never a true pandemic in the first place.⁶ In contrast, the World Health Organization (WHO) argues that the world is in a 'post-pandemic' phase (post-peak period).⁷ This article takes issue with both of these positions, suggesting the importance of avoiding either extreme. It suggests that it never was a true pandemic because unlike malaria-like epidemics it will not magically turn into an endemic infection where levels stay constant for long periods. Equally, we are not in the 'post-pandemic' phase as sporadic outbreaks are still occurring in SADC and outside the region although such occurrences sometimes go unreported.

The COVID-19 pandemic ravaged global communities from 2019, and Africa since 2020. This pandemic led to health communication acquiring increased significance. On 05 May 2023, the WHO announced that COVID-19 was no longer a public health emergency. However, we argue that this announcement did not mean that COVID-19 was no longer an important threat. The end of the pandemic has largely been welcomed by Africans in the SADC subregion, as the return to normalcy was something they looked forward to. However, we argue that there was not enough communication on health issues and the challenges of COVID-19 health communication could outweigh the opportunities of increasing regional interest in pandemic research. New, albeit informal, ways and tools of communication and dissemination of information therefore

became important interventions with implications for improving health communication in country-specific cases such as Botswana, South Africa and Zimbabwe, to name a few regional cases. The diverse and transdisciplinary or multidisciplinary communication methods deployed in these countries were important in times of health emergency and uncertainty, now and in the future.⁸ However, while the measures to arrest the situation with its myriad implications on many countries were plausible, health communication in a public health emergency of the magnitude of COVID-19 was a good complementary element, but it was distinctly underwhelming in the three regional countries' projections for the future, hence the need to study these countries.

Brief background

Key literature on health communication strategies informed our study. Health communication strategies are critical and important in managing public health information across the SADC countries covered by our study. In the broad literature, health communication strategies have been documented and analysed. However, while the studies by Rimal and Lapinski⁹ and Adebisi et al.¹⁰ are important, often they are narrow, focusing on individual countries or specific health issues. There is not quite a consolidated research document on health communication strategies covering arguably the three major regional countries, Botswana, South Africa and Zimbabwe. Olaoye and Onyenakeya in their review have attempted to catalogue prevalent health communication strategies and how countries in the subregion have implemented these strategies and communicated the barriers to effective health communication practices in Africa.¹¹ While their work is plausible, our study uses very novel approaches to make an in-depth analysis of the unique communication strategies employed by the three SADC countries.

This section situates what the literature tells about the differing contexts of health communications in Botswana, South Africa and Zimbabwe. The literature review also contrasts these different countries of the region upfront. In each country's case, the health information about COVID-19 initially provided to the public seemed inadequate. To address this, awareness campaigns and control measures utilising community engagement, the media, government health ministries and story-telling were essential communication strategies that were prioritised in these countries that either had low or high infection rates.

The pandemic era in the countries under review was initially characterised by the usual normality experienced in any normal setting. People lived their day-to-day lives without thinking of any existing threat. The pandemic era was however later characterised by a changed way of life in all the three countries (and in fact others) as they were subjected to standard health guidelines by the WHO because of the invisible enemy, COVID-19, which was very difficult to control or prevent if people ignored or did not abide by

the regulations such as washing hands, social and physical distancing, masking up and staying at home (lockdowns) which were introduced. When COVID-19 was declared a pandemic by the WHO, immediately the whole world was put on hold. Without efficient communication systems in place, combined with transdisciplinary-oriented pandemic solutions to an emerging problem, it was very difficult for people to understand why they had to be locked in, but as soon as states started recording deaths in high numbers, people began to be frightened, hence strict adherence to health guidelines began. However, such adherence was not evidenced in South African and Zimbabwean squatter camps, where WHO guidelines seemed impractical to follow or implement, for example, maintaining six feet distancing from others and to not go outside into public settings.

Communication about the risk of infection during and even before a pandemic necessitated constant community involvement. In order to prepare for the impending pandemic, it was essential for all members of the public national task force in all spheres of society to receive induction and training in the subject. This included epidemiology, pertinent social dynamics and the sociocultural diversity of the country's rapidly shifting media landscape. The management of pandemics and the quickly evolving cultural and economic context depended on leadership. When executed effectively by the right professionals, communication strategies encouraged public confidence and, more crucially, compliance with the behaviours required of individuals, communities, organisations and entire countries. Gaining the public's trust and cooperation to contribute to the solution was a crucial aspect of the leadership's job during a public health emergency. A leading expert on health communication strategy, Professor Everett et al.,¹² argues that the formulation of the message should be transparent, grounded in research and based on interactions with relevant stakeholders and community members to avoid unnecessary contradictions. This had to take into account people's cultural preferences and societal conventions. A person's background, cultural and social identity, age, gender, and resource access all had a significant impact on how people interacted with their society and how they responded to public health information and messaging or messages in a transboundary context. These variables affected the creation of suitable tactics and preferred communication channels. Keeping up with relatives, neighbours, and co-workers and preventing exposure to a highly contagious sickness were common objectives. Little has been written concerning how health communication strategies should suit particular southern African groupings and communities. In response, we propose a novel solution in each country. The solution, in line with the study's aim and objectives, is one of the study's major contributions to the health communication of regional (southern African) societies. These societies were diverse but at the same time confronted by a pandemic that called for the embracing of standard emergency and community-conscious solutions.

Study aim and objectives

The purpose of this study is to analyse and assess the impact of the health communication strategies used during the COVID-19 pandemic. Furthermore, the implications of the strategy on infection transmission and prevention in three SADC countries are assessed. Strategies that contributed to controlling and preventing the spread of the disease had to be prioritised. For example, in 2020, the WHO implemented a global COVID-19 surveillance network that provided health information (health communication) on the emergence and spread of the novel coronavirus after declaring the disease a global pandemic.¹³ The leading role played by the WHO compelled governments to adopt containment measures, which were more commonly understood as government policy interventions restricting people's movement via lockdowns and curfews among other actions. Containment measures such as border closures, closure of early childhood development centres (ECDs), primary and secondary schools and universities (tertiary institutions), bans on public gatherings such as churches and music shows, bans on the sale of beer and cigarettes after 17:00, closure of night clubs and other COVID-19 lockdown protocols varied from country to country but helped to delay the onset of the disease for a few weeks in Botswana, South Africa and Zimbabwe.

In South Africa – a more developed part of SADC – these protocols were a major health communication strategy to control the pandemic.¹⁴ In the Republic, which confirmed its first positive COVID-19 case on 05 March 2020, the pandemic resulted in extreme measures to prevent its spread, including a national lockdown and various restrictions on movement. Coronavirus also resulted in one of the most widespread health communication campaigns since the human immunodeficiency virus (HIV) epidemic during the 2000s.¹⁴ Hence the country was at the centre of one of the world's greatest health communication crusades or operations during the COVID-19 and post-COVID-19 pandemic eras in southern Africa. However, while communication strategies on the one hand were transboundary in nature, they were not homogeneous in the regional context as it was not a one-size-fits-all situation. On the other hand, research on the COVID-19 response and likely vaccine hesitancy in parts of South Africa, unlike other southern African or SADC countries such as Botswana and Zimbabwe, found that on the ground, the Ministry of Health was absent as an authoritative voice about COVID-19 and vaccinations. Instead, community leaders in South Africa had to rely on popular media and the 'family meetings' hosted by the country's President, Cyril Ramaphosa, for information.¹⁵ As a consequence, despite being in the throes of the COVID-19 crisis, community leaders and outreach community workers were asking for education to enhance their understanding of the pandemic and to build their capacity to respond to questions and health emergencies in their areas.

Coronavirus disease 2019 health communication beyond South Africa or across regional boundaries therefore required a qualitative research approach using different communication narratives in the humanities and sciences in order to investigate and understand the lived experiences of the broader SADC region. To achieve this, the main objectives to guide the line of qualitative reporting for this article were to: (1) assess the communication strategy and information used to control and prevent COVID-19 infection transmission in Botswana, South Africa and Zimbabwe; (2) analyse the impact of the diverse communication strategies used in these three countries; and, last but not least, (3) recommend culturally effective and acceptable communication strategies appropriate for similar communities confronting a pandemic.

Overview of health communication literature

The criteria scholars use determine an effective health communication strategy. An effective communication strategy should not only be relevant and accurate but also unbiased and nonjudgemental. It should be culturally competent (taking into consideration the differences in the people's educational levels, religious and cultural beliefs) and should be easily accessible in terms of location, language and format.¹⁶ Since the outbreak of the pandemic, there have been a number of explorations on how people and countries engaged with COVID-19 information online, digitally, through the media, scholarly publications and indeed via other avenues. The efficacy of health communication using numerous methods (as outlined here) transcends regional boundaries. Much scholarship exists regarding the search for effective health communication strategies, as well as their broad implications on infection transmission and prevention of disease versus a global pandemic. These scholars have also sparked conversation around the rapid knowledge development and what can be considered accurate health communication during a pandemic. The article 'Who is watching the World Health Organisation?' situates how the WHO has set a public research agenda to address the problems of a massive amount of widely and rapidly circulating information about a medical crisis or controversial health issue. This may consist of a confusing combination of fact, falsehood, rumour and opinion, termed *infodemics*.¹⁷ In an infodemic, 'an overflow of information of varying quality surges across digital and physical environments'. The WHO has aptly raised concerns that this can contribute to negative health behaviours and an erosion of trust in health authorities and public health responses. In this agenda and in the 'post-truth' moments that were rife during the COVID-19 public health emergency, the WHO clearly positioned itself as a custodian of health information that can flag illegitimate narratives (misinformation), the spread of which can potentially result in societal harm. Of concern is that there is no organisation to provide checks-and-balances versus the WHO, a powerful United Nations global health institution.

Arguably, what is perceived as rumours, disinformation, misinformation and malinformation in health communications emerged as a pressing global concern during COVID-19. Prior to its appearance in Africa in 2020, the WHO Director-General Tedros Adhanom Ghebreyesus had raised concerns that the disease outbreak was already accompanied by an *infodemic* warning that an overflow of information of varying quality might surge during any public health event that begins suddenly and unexpectedly. The WHO Director-General argued that this posed a new health risk by interfering with the public's ability to find high-quality health information, which they could use to better protect themselves, their families and their communities from harm as revealed by other pandemic experiences. For instance, experiences with health misinformation during the Ebola, HIV, polio and Zika epidemics, it has been claimed, revealed costs to public health and to health systems when rumours and misinformation were amplified.¹⁷

While this health misinformation view has been portrayed by the WHO in relation to COVID-19, similar concern has been expressed by some scholars regarding spoken narratives or narrative health communication¹ about pandemics such as cancer and cancer awareness discourse. According to Sitto et al., narrative health communication has the potential for effective health promotion about cancer among youth from low- and middle-income countries such as South Africa.¹⁸ In fact, sub-Saharan Africa experiences a rising cancer-related disease burden with a predicted increase of over 85% by 2030. While promotion, through communication, of cancer prevention strategies targeting 18-year-olds to 29-year-olds remained scanty, it was crucial for cancer prevention behaviour as much as it was for COVID-19 before such diseases developed. As observed by Sitto et al., narratives served as important interventions in health-related communication as they have the potential to become an effective public health communication strategy for behaviour change and policy direction.¹⁸

It is, however, important to flag that there was dissent against most, if not all, COVID-19 policy interventions. This dissent is manifested in the broader critiques of health communication too. The broader critiques of health communication responses and what this might mean for the Botswana, South African and Zimbabwean contexts have also featured in the work of Bell and Green¹⁹; Bell and Khan²⁰; Leach et al.²¹; and Lansiaux et al.²² The former describe how the agility of scientific communication about the coronavirus is often positively contrasted with the 'sluggish' nature of scientific communication in prior decades. However, they raise serious concerns about the speed at which research is being produced in arguing around 'COVID-19, the vaccine, and the betrayal of sub-Saharan Africa'. Betrayal in the sense that child mortality increased across much of sub-Saharan Africa by December 2020. Compared to the developed world, Africa did not receive much moral and material support.

1. Narrative health communication is a form of persuasive communication in which a health message is presented in the form of a fictional or nonfictional story, as opposed to being presented as statistical evidence or arguments to promote health-related behaviours.¹⁸

From a health communication perspective, numbers or mortalities were possibly under-reported as remote cases were missed and testing was extensive, but not intensive. Other researchers have flagged how with certain pandemics and epidemics, the lack of resonance of risk communication messaging with local people's understandings was a drawback.²¹ Another important concern was the issue of informed consent. While the potential upsides of COVID-19 interventions were promoted and strongly communicated, a myriad of potential downsides were ignored.²²

Clearly, health communication is an emerging field within the broader study of communication, but the contexts of communication in Africa and beyond vary. Health communication occurs in various contexts, notably the intrapersonal, interpersonal, small group, organisational, mass and public.²³ This has also influenced scholars' focus on how communication for health can be operationalised as interpersonal. These communications occur between healthcare provider and patient; small group among teams of healthcare professionals; within organisational settings such as hospitals, clinics or health promotion and education organisations and at mass or public level often involving the media.²³ Although other contexts of communication have been addressed, this article focuses on interpersonal, organisational and mass contexts. Communication in these core areas affects most of Africa's population in relation to existing health needs and responses.

By 2021, African countries in general, and SADC nations in particular, had greatly improved and bolstered their COVID-19 response with respect to communication aspects for surveillance, testing and treatment. Significant health communication strategies were recorded in sub-Saharan Africa (which includes the whole of southern Africa, East and West Africa, but excludes North Africa) according to Olaoye and Onyenakeya.¹¹ They describe how countries in this region applied risk communication to reduce the risk of transmitting and spreading SARS-COV-2 in African countries.¹¹ Adebisi et al.¹⁰ concurred with this uptake of COVID-19 health communication strategy, as did Lagerwerf et al.²⁴ with respect to southern Africa. Here, increased and better HIV and AIDS communications were required well before COVID-19. Discourse analysts have turned their attention to the ways health and risk communication has increasingly become mediated through technologies.²⁵ Other means to prevent the spread and transmission of diseases have included community development agents, plus government information and communication guidelines being deployed to prevent stigmatisation during the pandemic. Abdelhafiz and Alorabi, Bhanot et al., Ransing et al., Turner-Musa et al., and Villa et al.^{26,27,28,29,30} have all reflected on past epidemics such as tuberculosis, HIV and AIDS, leprosy, Ebola and H1N1 when describing stigmatisation during COVID-19. This social process ostracises those who were perceived to be the potential source of disease and therefore a threat to the public.^{26,27,28,29,30} Thus, precise communication to prevent stigma was imperative.

The common topic Manganello et al. and Noar and Austin tackle is the changing information and miscommunication about COVID-19 and deplore the latter as misleading the public. Not focusing on stigmatisation, Manganello et al. have analysed coronavirus and other pandemics in a rapidly changing information environment in a media landscape.³¹ Whether it is in reference to the media, community players, governments, health ministries or any other source, Noar and Austin have, in particular, deplored miscommunication about COVID-19 as this fuelled or increased instead of preventing disease transmission.³² However, this study on COVID-19 pandemic health communication strategies and their implications on infection transmission and prevention in southern Africa identifies both constructive and negative effects of health communication. In the first instance, correct and positive information epitomizes opportunities. By contrast, miscommunication presents barriers to effective communication. Overall, the dissemination of critical and reliable information is valuable in containing disease transmission and ensuring prevention.

Research methods and design

This study follows the interdisciplinary approach of public health experts such as Kivits et al. who agree that targeting population health improvement entails embedding research and intervention using a variety of complementary disciplinary approaches.³³ This helps to draw appropriately from several disciplines (separate branches of learning or fields of expertise) to define problems and reach solutions based on a new understanding of complex situations. For this study, an array of data collection methods was used: data collection tools included questionnaires deployed in the communities, oral interviews, occasional observations and case study surveys. The study is answering the research question by using a case study method, which is a popular and versatile research methodology that involves an in-depth analysis of a specific phenomenon, context or individual. It provides rich and detailed insights into complex and real-world situations, but it has weaknesses and limitations. Some of its limitations and challenges are that it only studies one case using a small sample size, and this reduces usefulness or accuracy and cannot have the same statistics replicated or performed on it compared to larger studies.³⁴ Empirical and nonempirical research methods and data collection tools were combined for this study.

We chose to follow a novel approach and method that also links to similar studies that other experts have performed. One of the research projects our study draws on is the SADC regional media development project on communication strategies through social networking and shared knowledge strategy in support of effective COVID-19 action. To analyse the health communication strategy employed during the COVID-19 pandemic and its implications on Botswana, South Africa and Zimbabwe, the study used various interdisciplinary data collection methods of direct engagement across all three countries using individual

questionnaire and focus group discussions with individuals and communities to obtain information. Among the many sources, information for the study was also obtained from the Rapid Response Teams in the regional Ministries of Health, the Ministry of Health portal and provincial and district health teams (COVID-19 task forces in each country), Departments of Immigration, public health institutions' public information platforms, and WHO information portals. Data portals were internet or website pages that held data from different sources organised under subsets or categories such as COVID-19 pandemic health communication in different countries. Although the interview method was the main strategy of data collection, the structuring of the interviews was performed differently bearing in mind the different social and cultural backgrounds of these countries.

In Zimbabwe, a structured electronic questionnaire was administered to assess the impact of COVID-19 health communication and was deployed through emailing. The data analysis method involved the interpretation of data gathered through the use of analytical and logical reasoning to determine patterns, relationships and trends. This study has a significant focus on community engagement. Its inclusion of communities derives from one currently running COVID-19 project focusing, *inter alia*, on Zimbabwe and South Africa in southern Africa and transcontinental perspectives including North Africa, the United States and Canada. That project was carried out under the auspices of the National Research Foundation of South Africa (NRF) and other international strategic partners. Another was a COVID-19 study conducted in the rural areas of Zimbabwe that was approved by the Medical Research Council of Zimbabwe (MRCZ/A/2711), established and supported by the Government of Zimbabwe through the Ministry of Health and Child Care. In the Zimbabwe study, an interview questionnaire for a randomised controlled community (cluster) trial in pandemic risk mitigation for COVID-19 transmission, preparedness and prevention in rural settings was administered to solicit for responses on COVID-19 risk mitigation and health communication in the country's outlying areas and other aspects of pandemic response. The data collection tools were divided into four sections: demographics, knowledge, attitude and practice sections for the two rural districts where a buffer zone was created to avoid some methodological challenges. On the whole, the study design relied on information available in the public domain from scholars, health agencies and other studies from which data were extracted by sifting through country-specific web records.

Data and results from other studies were used to inform our study. In the analysis of the empirical research data, rural cluster interviews together with established health communication research by the WHO, Lagerwerf et al. and Moola^{24,35,36} in particular, were useful to ensure data quality and effective reporting. The studies used are renowned works in southern Africa's COVID-19 information and

communication strategies which use people as social and behavioural beings.³⁷

No ethical clearance issues were involved or required in the study. Its chosen research method had more strengths than weaknesses: empirical and nonempirical research methods,³⁸ and data collection tools used are effective in times of health emergency and uncertainty. The use of several data sources focused on the same phenomenon (COVID-19 health communication) justifies the triangulation method.³⁹ It is a strength that adds credibility to our findings as triangulation helps to reduce research bias that comes from using a single method, theory or investigation. It also enhances validity by approaching the same topic with different tools, but a focused research problem. Primary sources such as oral interviews, in particular, complemented secondary documents as data gathering tools. Interviews and our engagement with secondary sources were important in situating the study in the context of broader health communication literature on Botswana, South Africa and Zimbabwe. This provided meaningful signposts towards data collection as well as theoretical and practical application. Overall, the data collection methods for this study were employed to collect data to answer the three key objectives of the study. All these tools were therefore used to collect data from information sources that were brought together through a multidisciplinary and interdisciplinary approach for final analysis and conclusion.

The study developed three regional case studies to facilitate an understanding of what their different health communication strategies entailed and their differing efficacy levels against the COVID-19 pandemic. Cases for Botswana, South Africa and Zimbabwe are developed to explore evidence on health communication strategies. The differences and similarities of each case's COVID-19 pandemic information structure are presented as a precursor to the findings and recommendations of the study.

Discussion

Botswana

Botswana, inhabited by a small population, boasts of effective collaboration between their statistical system and the media. Following on PARIS21, Statistics Botswana and the WHO Botswana have helped the country to develop a communication training programme specifically targeting communicating health data and statistics. The country believes that 'tackling health challenges is a daunting task but possible', hence health data were important to inform people's daily lives. Although most Botswana did not have access to television (TV), radio or mobile internet, television was the most popular media for health communication outreach. The Botswana Ministry of Health played an active role designing the country's health communication strategy with a relatively positive impact on its COVID-19 statistics. Television was one of the trusted sources of information during health crises, and it can be acknowledged to graciously

merge with other technological forms such as social media apps to harness rapid information delivery.⁴⁰ Botswana just like other southern African countries was able to fully utilise this to its advantage as the numbers of viewers kept on increasing. In comparison to other southern African countries, Botswana had very low infection rates. This was attributed to its low population and therefore ease of communication.

Television seemed central to Botswana's health communication strategies particularly among the underprivileged women. In contrast to and more than its two neighbours, Botswana television's functionalist communication strategy was robust in reaching out to women in the pandemic period. Botswana television played a commendable role in harnessing the right to health information and social inclusion of women during the COVID-19 pandemic, although most women were dedicated to issues of gender equality during the pandemic and topics that discussed the vulnerability of women.

While television was an important communication medium, the interviews with the Botswana did not suggest that they received most of their information from the television. Some Botswana also did not believe it was genuine health communication. Therefore, because of their small population size compared to South Africa and Zimbabwe, they relied on their traditional structures for information. Beyond television, Botswana had a dynamic and robust village structure, which made it easy to communicate health issues as the numerous chiefs in charge of the villages ensured efficient dissemination of information and adherence to WHO guidelines. In the COVID-19 and indeed post-COVID-19 age, like most countries, not much has been done in terms of health communication. People were concentrating on improving their economic situations and strengthening sociocultural ties (dislocated during the pandemic) with relatives, making up for what they failed to do during the pandemic. The positive and negative roles played by technology worldwide, however, cannot be overemphasised.

South Africa

Health communication strategies received with mixed feelings in South Africa

South Africa has a large population and is far more racially and culturally diverse than Botswana. Given the diversity of the South African population, when aiming to positively alter the mindset of individuals, behaviour change communication was needed to cater for differing social and cultural aspects.²⁴ With the arrival of the COVID-19 virus in South Africa, awareness of the virus became critical. The news media was informing yet fuelling fear with stories of ever-stricter preventive measures. Action was needed to change behaviour positively, to prevent transmission.²⁴ South Africa's implementation of counter-pandemic policies was decided by its national government or the pertinent governmental agencies.⁵ President Cyril Ramaphosa rapidly established a Coronavirus National Command Council (CCC) on 15 March 2020 and announced a state of disaster and lockdown measures ensued. Lockdowns affected social

well-being and 'piece job' opportunities for individuals worldwide.⁴¹ South Africa was hard-hit by the devastating effects of job losses and the resulting socioeconomic instability⁴² which was worsened by lockdowns, supermarket closures and beer (*booze*) and cigarette bans. To try and curb the spread of the virus, South Africa entered a national lockdown on 27 March 2020. The country moved through five different stages (phases) starting with five being the strictest and one heading towards an almost normal scenario. The lockdown caused a major crisis in the economic sector where businesses were shut down and households lost income because of retrenchments. According to Arndt et al., 'the lockdown measures that South Africa put into place to contain the novel coronavirus put negative implications for the factor distribution of income'.⁴³ Poverty and unemployment, already at a high level in South Africa, were worsened, impacting on living conditions.

The health communication strategy that South Africa followed was effective and had merits, but had its drawbacks. Misinformation related to myths emerged around the coronavirus vaccination drive in South Africa, i.e., the South African Chief Justice publicly said the COVID-19 vaccine was linked to satanic beliefs when administered. Stigma and prejudice also emerged within the social domain. For example, some believed that healthcare staff infected the general population.^{44,45} Crisis communication is needed to address these falsehoods by empowering citizens with correct and factual epidemiological information about the virus, its symptoms and how it is spread among other aspects.^{46,47}

Health promotional messages detailing preventive measures such as hand washing and maintaining social distance emerged with the aim of supporting the lockdown.⁴⁸ Health promotion was used as a communication tool to promote health education through the media in the form of message construction.⁴⁹ However, health messages needed to be reconstructed to take into account audience-specific social and cultural aspects. Literacy levels were low, yet there was an urgent need to communicate preventive measures to curb levels of infection.⁴⁶ Entertainment education (EE), via health promotion, was used to address both crisis and risk communication.⁵⁰ However, there were challenges associated with the end of the pandemic.

Zimbabwe

Pandemic control measures – Lockdown and banning of gatherings

In contrast to the other two SADC countries, Zimbabwe's population is larger than Botswana but smaller than South Africa. In Zimbabwe, the authorities who were responsible for protecting people against the COVID-19 pandemic were government, the Ministry of Health and its departments. The health communication strategies adopted by Zimbabwe were in some instances similar to, but in other cases they differed from, Botswana and the Republic of South Africa (RSA). For example, while the three countries are in the same SADC region, they are very different in their employment levels, gross domestic product (GDP) and

demographics. What this meant for the different health communication strategies that each country followed was that demographic aspects influenced response.

The government of Zimbabwe put in place measures to ensure adherence to standard operating procedures (SOPs) in a pandemic scenario. These included measures adopted by the authorities to curb the pandemic such as lockdown and the banning of gatherings as their health communication strategy versus COVID-19. The impact of this on Zimbabwe's COVID-19 statistics was a lowering of cases and fatalities. The government also spread communication on the positive effect of vaccination, for example, the Sinovac-CoronaVac (COVID-19) vaccine and Sinopharm COVID-19 vaccine, while the COVID-19 Vaccines Global Access (Covax) represented the facility or the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator. Vaccination uptake increased, and the vaccination drive awareness targeting wide populations and communities using radio and television as the most popular media for health communication outreach increased. The government incorporated the door-to-door method of outreach engagement. The Ministry of Health and Child Care can be commended for the education campaigns and the need to vaccinate and adhere to SOPs in Zimbabwe. In the cases of resistance to vaccination or immunisation against COVID-19, it was just the unwillingness on the part of the population to adhere to COVID-19 protocols that had become the 'pandemic' itself, but the government tried to fight against such attitudes sometimes without success.

To avert this 'new pandemic', the Education Department (an arm of government) continued health communication by ensuring that all health protocols were observed in all schools as schools were regarded as super-spreaders, just like social gatherings like churches, parties, entertainment shows and recreation activities.⁵¹ The government of Zimbabwe plausibly continued to encourage communities to mask up in public transport or public places, practice social distancing, the washing of hands and practising good hygiene to avoid infection in spite of (erroneous) beliefs elsewhere that the virus would simply go away.

Overall, the health communication tools used were effective. Mostly, integrated health communication tools were embraced during the COVID-19 pandemic. Integrated health communication tools used in healthcare, as contrasted with and different from nonintegrated or poorly integrated ones, were unified and nondiscriminatory tools. They included appointment reminders, blogs, emails, patient portals, telehealth visits, and two-way texting. These were among the most effective patient communication tools because they improved treatment adherence and empowered patients while also helping to optimise health operations. Integrated tools for community resource persons and health workers also comprised flip charts, booklets, cue cards or mobile apps that could be used when talking with audience members, and through these tools the effectiveness of communication was improved. Hence, the overview and evaluation of the

efficacy of pandemic communication in southern Africa was informed by the few regional cases or the particular country examples of Botswana, South Africa and Zimbabwe.

Empirical findings of the study

The study, based on the three country cases, established the importance of developing community relevant health information. In the study, Figure 1 illustrates how important segments of health communication were interrelated during the pandemic.

The authors designed Figure 1 to show the interconnectedness of essential segments of health communication strategies during the pandemic. These are content, conversations and communication or media platforms in communities.

The justification for interrogating health communication in the COVID-19 era is that it enhances information flow and readiness or preparedness using easy-to-get or cheap education and awareness resources available within affected and infected communities that were not economically or culturally homogeneous.⁵² Clearly, health behaviour does not have the same predictors and communication packages in the three different countries from Botswana to Zimbabwe or beyond. However, in these southern African countries' small and large villages (communities) and in both the small and big towns, social networks and to an extent social media platforms such as WhatsApp, Facebook, Twitter (renamed or rebranded to X), Google Meet and other virtual platforms played a role in communicating health information. The effectiveness of communication using these modes, however, varied from country to country. In Botswana, South Africa and Zimbabwe and other southern African nations,

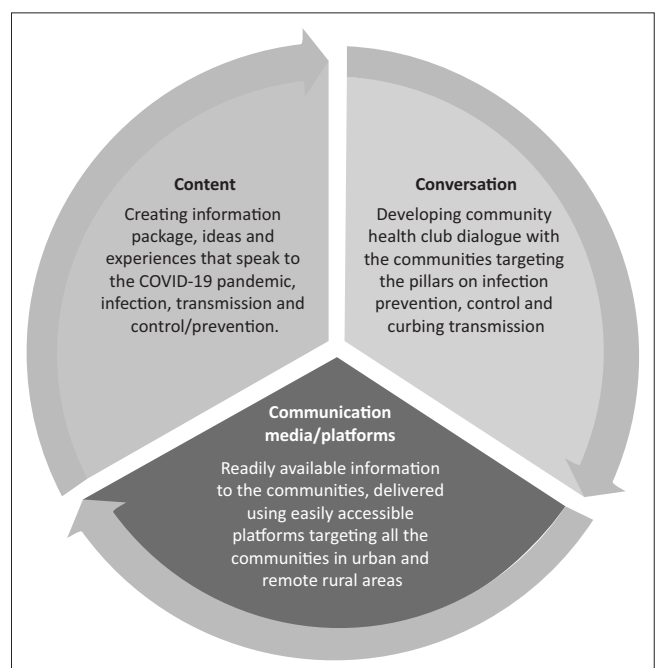


FIGURE 1: Developing community health information strategy on the content, the conversation pillars within the communities and the communication media or platform to reach the target groups.

health information appeared inadequate to help and instruct people who speak different vernacular languages, for example, Shona, Ndebele, Zulu, Xhosa, Sotho, Kalanga or Tswana, as their first language.²⁴ In all the three countries, the mass media did not affect diverse audiences the same way as mass media did in Western society with a different cultural and heritage background.²⁴ Therefore, context was important.

The findings from the individual countries in the study, and based on the three main objectives as outlined, reveal that Botswana, South Africa and Zimbabwe's communication strategy relied on diverse sources of information in culturally different environments. What that meant across the three southern African countries was that application and uptake of health communication information was not a homogeneous affair. Essentially, pandemic consultation was more absent in Botswana, South Africa and Zimbabwe situated in southern Africa than in Europe and the United States despite signs of a resurgence of pandemics being anticipated especially after the influenza and cholera outbreaks of the past.⁵³ While digital technology and the daily situational reports (COVID-19 updates) were utilised in all the three SADC countries, in one or two of the countries, people did not trust government information and communication strategies, hence other regional media especially from South Africa, including of course the global BBC and CNN, had a substantial audience. In southern Africa, the governments of Botswana, South Africa and Zimbabwe had to follow not several but different health communication strategies based on differences in their health sector's resourcing, financing, human capital and other factors. The causes of the variations were complicated, but the effectiveness of the communication responses was somewhat influenced by the governments' announcements of the pace and scope of their interventions as well as how the local populations interpreted and utilised the public health officials' information. The information-delivery-exploration method, and its transdisciplinary nature, utilised during the COVID-19 pandemic taught us how to consider the survival techniques that helped many African nations from which Botswana, South Africa and Zimbabwe can learn how to be ready for any future catastrophe.

In demonstrating the health communication strategy used during the COVID-19 pandemic and the implications on infection transmission and prevention or control of the disease in southern Africa, this overview used the prevailing situation and the state of future (or potentially post-pandemic) health communication in Botswana, South Africa and Zimbabwe to show how disruption to life was minimised in different countries on the basis of the transdisciplinary strategies covered here. This health communication overview of some southern African countries also shows that some communication gaps were filled but others were not. What did COVID-19 teach people in Botswana, South Africa and Zimbabwe? There were clear impacts and transboundary implications seen through disruptions to economic, social life, health,

education (social sectors), families, communities and countries. The pandemic and post-pandemic scenarios revealed some fissures in health policies. There was a lack of health communication, education, advocacy and pandemic awareness. The lack of health communication, education and awareness campaigns prior, during and after were exacerbated by the absence of vaccines, vaccination education and awareness and no significant behaviour change at the beginning, until it was realised by governments that people were dying. The policy makers and health personnel lacked the necessary communication that embraced the health situation. There was a void within the health and social aspects of countries in southern Africa, and this void continued to spread into the post-pandemic era.

Thus, after the recent COVID-19 pandemic, it became clear that it was important to first understand the needs and viewpoints of the local community to collaborate with local influencers, and incorporate culturally appropriate recommendations about risk management in homes and at funerals. When creating a public health communication strategy, such societal variables must be taken into consideration. This strategy must be sensitive to the concerns and values of a varied range of people and the implementers must work with various information sharing platforms in order to be effective in gaining the support and participation of the greatest number of people in a community.

There is currently an increased complexity because of the abundance of information available online. Television and print news sources, which in the past were crucial for disseminating information on public health, now faced competition from a variety of other freely accessible social media and online resources. In the main, Botswana, South Africa and Zimbabwe used social media as part of their communication campaigns.

Public health crisis management was widely acknowledged to be based on public trust and a history of public interest. For effective pandemic communication, transparency and community involvement were required. These were fundamental components of communication plans.

Furthermore, the variety of communities that make up modern southern African societies indicates a dedication to community involvement and showed care for the affected community. Relating the fundamentals of a health crisis because of the COVID-19 pandemic and demonstrating how the pandemic afflicted African communities, to a large measure, disrupted national initiatives that span the social, economic and health spheres. The use of digital technology and the daily situational reports (COVID-19 updates) that came with it, which included the feared statistics of the infected, hospitalised, recovering and dead, kept the public informed, allowed it to judge the scope of the pandemic on its own and provided information about the public health responses. Successful crisis communication in a pandemic age therefore depended on high levels of trust contingent

on shared values between actors and includes confidence that future developments will take place as expected, according to some experts. This trust was necessary for mobilising public support and maintaining the behaviours needed for pandemic management and mitigation. To empower people to take action and state that failures in openness eroded community confidence, a transparent information strategy was required. When leaders looked unwilling to adhere to the laws and regulations that the general population was expected to obey, public trust was lost and tended to stay low. When acting quickly and without extensive consultation was necessary for the public welfare, like during the COVID-19 health emergency, transparency in both the information provided and the decision-making process thus fostered trust. Importantly, there was trust between diverse cultural communities or societies and governments to minimise contractions and ensure that the two communication strategies complemented each other.

In order to effectively communicate during a public health emergency, it was important to make clear who was contacted, what scenarios were taken into account and what data were utilised to influence those suggestions. Engagement of the community was essential to identifying common values and enabling communities and social networks to participate in decisions that had an impact on them. Meaningful stakeholder involvement increased the effectiveness of containment measures, provided greater ownership of decisions and increased the likelihood of public collaboration.

A one-way communication method, absolutely lacking in transdisciplinary and interdisciplinary character or orientation, that passed for informing an 'illiterate or uneducated' populace must be avoided, as it ignored the crucial role that local knowledge, values, experience and alternative methods or perspectives played in guiding and promoting workable policy actions and collaborative communication responses across the region. Thus, the contribution of this transdisciplinary exploration of health communication in parts of southern Africa that have been studied was immense.

Recommendations

The COVID-19 pandemic created havoc among communities in Botswana, South Africa and Zimbabwe where some of the recommendations of the WHO and medical experts were thrown out of the window. The answers to the COVID-19 pandemic situation lie in the approaches proffered not necessarily by health experts, but by individuals who prioritised other transdisciplinary exploratory angles such as indigenous knowledge systems experts or specialists as opposed to modern medical information practitioners or practice. Looking into the future, the article therefore suggests that there is need to enhance and strengthen health communication in Botswana, South Africa and Zimbabwe in order to drive quick and timely responses to outbreaks and also to promote disease control and prevention. The article contributes immensely to the improvement of public health

using effective transdisciplinary health communication exploration and methods in times of pandemics. These include campaigns and advocacy against infection transmission and the promotion of preventive methods. This is illustrated via communication packages that were developed by a team. It comprised programme managers, combined with cascading disease information and response based on utilising not-so-frequently used community leaders, community health workers, family structures, headmen and chiefs.⁵⁴ This entailed developing community health club dialogues, communication media platforms and delivering or disseminating of readily available information to the communities using easily accessible platforms to the communities even in remote areas (Figure 1). The pandemic era health communication in Botswana, South Africa and Zimbabwe also required a software strategy that did not demand huge capital resources when applied targeting behaviour change, health education and awareness. In this context, effective health communication not only in a COVID-19 but also in a post-COVID-19 pandemic environment was crucial in reflecting on disease communication and the implications for the public in the region and beyond.²⁴ Hence, campaigns to continually educate the population about the pandemic and planned response must therefore be ongoing processes. As the nature of the next pandemic virus can be predicted, the recommended solutions to lack of health communication and scientific and humanities models of health communication can be embraced as they showed the efficacy of alternative health communication packages. Effective communication empowers people. It can be used to appraise all stakeholders from multidisciplinary about the importance of health communication. For example, Botswana, South Africa and Zimbabwe that have been discussed in this article can escalate health communication to promote overall health and well-being at the individual, family, community and national levels not only during pandemic times but also in the post-pandemic era.

Community engagement was a vital health communication weapon. However, when swift decisions that can save lives through the imposition of harsh measures were necessary during times of crisis, community involvement may be problematic because of delays, leaving little to no opportunity for community input. These actions had a profound social influence, drastically altering social norms. Even after limits had been loosened, the societal and economic costs of the COVID-19 pandemic response remained. But in order to guarantee that concerns and ambitions were acknowledged and taken into account, recovery would be promoted by active and ongoing public participation and interaction with communities, industries, organisations and other stakeholders. A crucial window of opportunity to build deliberative procedures was created by African circumstances that reduced the rate of transmission and promoted social cohesion through messaging. Governments, communities, business and academics already had a vast amount of knowledge and experience. These resources needed to be mobilised during times of crisis (and even before crises occurred).

When some limits are relaxed but not others, it is crucial to give clear directions. As a result of the fast-evolving nature of a pandemic, some inconsistent messages will be unavoidable. In addition, different regions may choose different approaches, and localised outbreaks may result in localised limitations. Communicators should strive for consistent messaging and terminology at all times. To implement a standardised public health alert system, policymakers and communications staff were urged to confer with subject matter experts from various jurisdictions. People can see and plan, for instance, by communicating using a consistent colour-coded warning system or a numeric system for restriction phases. Advice can also be geotargeted based on danger levels. Using reputable, authoritative intermediaries to convey important messages during a pandemic, response by medical and public health specialists, was one way to achieve the highest level of credibility.

Despite the public's lack of faith in governments, trust in healthcare professionals, scientists and expert medical organisations had largely remained high. Beyond messaging's immediate effectiveness, increasing credibility can persuade consumers to seek advice and information from reliable sources, such as government health websites. If someone can grasp the reasoning behind the advice, they are more inclined to heed it. Therefore, it was crucial to clarify why specific acts were necessary, beneficial or problematic. Risks should not be overstated or minimised because risk perception can predict preventive behaviours. Leaders should communicate early when change is imminent, even if the knowledge is insufficient. Withholding information can encourage others to seek it elsewhere, which can encourage the spread of rumours, false information and conspiracy theories. Particular attention should therefore be given to avoiding creating the impression of inconsistency when communicating changes in approach when new discoveries and evidence about a pandemic such as COVID-19 became available. A shift in course should not be ignored. Instead, identifying the uncertainties and highlighting the discrepancy between the old and new information might help knowledge to be revised as new evidence becomes available. It may be vital to remind hopeful recipients that uncertainty means that results could be worse than predicted, making it all the more important to take action to prevent undesirable outcomes. When dealing with hopeful recipients, it could be vital to emphasise that uncertainty meant that results could be worse than anticipated, which meant ambiguity was all the more a cause to act to avoid negative repercussions instead of being complacent and hoping for the best. For behaviour change and action to be facilitated, health communication must be supported by 'proper' actions.

Therefore, in order to influence desired behaviour, communicators and policymakers must take into account both psychological and practical impediments. Additionally, people must have the capacity, opportunity and motivation to carry out suggested behaviours to prevent a pandemic. People frequently have their capacity to act – job, home life,

care obligations – are at the forefront of their minds and want to know what will work in their particular circumstances. During the COVID-19 pandemic, there was also an increase in false information and conspiracy theories, which gained widespread acceptance in Botswana, South Africa and Zimbabwe and other regional countries. Transparently disseminating accurate information kept people from falling for new false information and hoaxes in the future. Building trust in government and health authorities would be a protective element, as mistrust was one of the factors that contributed to conspiracy theories.

The establishment of permanent interdepartmental and multidisciplinary committees in charge of health issues, whose specific mandate would be to disseminate health concerns not only regarding COVID-19 but also any other health threats, was necessary. Education awareness campaigns should be an ongoing process targeting all the populations including urban, peri urban, rural communities and the vulnerable. Governments and all stakeholders must be active in ensuring that all languages in any given country were used for purposes of communicating, written, verbal and nonverbal health communication to cater for all. The use of community gatherings, radios to disseminate information was important. Now is the time to consider engaging the communities before an outbreak of any disease because during outbreaks it becomes difficult to do so as the main objective would be preventing transmission or spread. Communities should therefore be taught what to do in case of outbreaks, and communities should be encouraged to practise good hygiene always and not during pandemics only. Synergies between communities and governments should be a key pillar in effective health communication whether in delivering apt health messages or clean water supply. With or without a pandemic, governments should ensure that clean running water is readily available at all times. Always, educational institutions, governments and important community players can be used for health information dissemination if the impact of pandemics was to be mitigated now or in future.

Suggestions for future research

Future pandemics should consider inclusivity of people living in informal settlements (squatter camps). Academics were expected to play the role of sensitising communities with health information but as researchers they should be equipped with that information. Researchers should in future be regarded as frontline workers as well. Coronavirus disease 2019 communicated the inability of science to communicate an emergency. This should be avoided whenever there was another health pandemic.

Conclusion

This study has analysed and assessed the impact of the health communication strategies used in Botswana, South Africa and Zimbabwe during the COVID-19 pandemic. The study

was carried out to ascertain country-specific approaches and highlighted the underlying communication opportunities and concerns (challenges) regarding their implementation. It was clear that health communication strategies were critical and central in managing public health information and its dissemination in the three SADC countries. In addition, the implications of the strategies on infection transmission and prevention in these countries were assessed and were found to be wide-ranging. The study has in fact focused and addressed the relation between the countries' populations and very different resourcing, and this shaped what they achieved, or not, in terms of controlling the COVID-19 outbreak.

Overall, the study research questions were answered and it was found that the implications of this new knowledge for the public health field, among others, were to harness some of the pertinent approaches suggested to share and impart the lesson emerging from the three countries at three key levels: the country, individual and community levels. At all these levels, the transboundary similarities and differences that have been explored using the cases of Botswana, South Africa and Zimbabwe's COVID-19 responses should strengthen health communication strategies and implementation in the event of another pandemic outbreak of a similar or worse magnitude. From the foregoing, it can be seen that distinct social and cultural communities had different norms and communication styles from those informing government measures as illustrated by the cases of Botswana, South Africa and Zimbabwe. Failure to plug this loophole therefore perpetuates the contradictions that existed in enforcing effective health and risk communication between different sectoral and societal groups in southern Africa and other transcontinental contexts. A key outcome of this transdisciplinary exploration of health communication and its implications for the COVID-19 pandemic in the three countries was therefore in the important lessons shared in effective but integrated communication tools that benefited people during COVID-19 and that can also benefit people in the event of future pandemics.

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Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

M.N., T.M., and L.N. discussed the results and contributed to the final manuscript.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

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Data availability

The data that support the findings of this study are available on request from the corresponding author, M.N.

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