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Why handshakes persist: Understanding the influence of beliefs on the socializing decisions of young people during COVID-19 in Nigeria

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Abstract

Despite the global shift towards contactless greetings prompted by the COVID-19 pandemic, a substantial number of young people in Nigeria continue to engage in the practice of shaking hands. This study explored the underlying beliefs that inform these socializing choices, shedding light on the socio-cultural and psychological factors influencing the adherence to this age-old practice. Data were collected from twelve participants through in-depth interviews and analyzed thematically using a descriptive analytical approach. The findings indicate that participants often feel immune to COVID-19, attributing this immunity to self-administered hydroxychloroquine and asserting divine, geographic (hot temperature), and demographic (being young) protection. Many also perceive the virus as similar to malaria and therefore not considered severe. The implications of these findings for research and policy are discussed.

Keywords: Handshake, COVID-19, Beliefs, Hydroxychloroquine, Young persons, Malaria, NCDC, Nigeria

Introduction

On January 30, 2020, in response to the widespread and severe impact of COVID-19, the international community, led by the World Health Organization (WHO) and allied health organizations, declared a global public health emergency. Various public health and social interventions were advocated to mitigate the transmission of the virus. These interventions included movement restrictions, the partial or complete closure of educational institutions and businesses, localized quarantines, and limitations on international travel. Additionally, recommendations encompassed practices such as maintaining physical distance, adhering to proper hand hygiene as outlined by Nwobodo and Nche (2022), and following respiratory etiquette, among other measures outlined by WHO (2020a).

Among these measures, the study's focus is on the act of "shaking hands," which falls within the realm of physical distancing measures. Shaking hands is a cultural practice and a brief greeting or parting tradition where two individuals grasp each other's hands, often accompanied by a brief up-and-down motion. This gesture can signal friendship, conclude a business transaction, or express religious devotion (Strochlic 2020; Hughes 2020). Despite its ancient origin dating back approximately 3000 years, when it signified goodwill and trust among ancient peoples (Andrews 2020; Oxlund 2020), shaking hands has become a common practice across many communities globally, including Africa.

Studies have shown that a firm handshake can influence trust, mood, employment opportunities, cooperative deal-making, and first impressions in various contexts (Schroeder et al. 2018; Katsumi et al. 2017; Orefice et al. 2018). However, handshakes have also been identified as potent transmitters of infectious organisms directly between individuals (Mela and Whitworth 2014; WHO 2009). Consequently, during previous pandemics such as the swine flu outbreak in 2009 and the Ebola virus disease outbreak in 2013, physical contact including handshakes, cheek kisses, and hugs were temporarily discouraged to curb transmission (Strochlic 2020; Nwaoga, Nche, and Nnadi 2014).

In response to the COVID-19 pandemic, handshakes, along with other forms of physical contact, were discouraged (see WHO 2020a). Anthony Fauci, director of the American National Institute of Allergy and Infectious Diseases, was quoted by the Wall Street Journal as saying, “I don’t think we should ever shake hands ever again, to be honest with you” (Perper 2020; Lufkin 2020). Gregory Poland, an infectious disease expert at the Mayo Clinic, a prominent medical research institution in the US, echoed this sentiment, stating, “When you extend your hand, you’re extending a bioweapon” (Lufkin 2020). In response to the escalating cases of COVID-19 in Nigeria, the Nigeria Centre for Disease Control (NCDC) also advised against shaking hands as part of their social distancing guidelines (NCDC 2020b, 2020c). While handshakes are a customary form of greeting in Nigerian social settings, particularly among men, women often opt for hugs, even in mixed-gender environments. Nevertheless, health experts recommend alternative greetings such as elbow bumps, fist bumps, waves, thumbs up signs, bows, and footshakes as safer alternatives to reduce the spread of the virus within the country. Research, exemplified by Mela and Whitworth (2014), indicates that adopting alternative greetings like the fist bump and other dap greetings could significantly decrease the transmission of infectious diseases between individuals.

Despite these recommendations, many young people in Nigeria continue to shake hands. Studies have shown that individuals hold different beliefs or reasons for embracing or disregarding health-related behaviours, especially during pandemics (Glanz, Barbara, and Viswanath 2008; LaMorte 2019). These beliefs may be influenced by perceptions of susceptibility to the disease, the severity of the illness, perceived benefits of action, and barriers to performing the behaviour. The present study explores the underlying beliefs influencing young people's decision to engage in handshakes amidst the COVID-19 pandemic in Nigeria. While the global prevalence of COVID-19 has diminished primarily due to vaccine advancements, such investigations offer valuable insights for future pandemic preparedness.

Moreover, some institutions, including certain Catholic parishes in Nigeria, have refrained from reinstating the tradition of handshakes, even after the suspension due to COVID-19 was lifted by the Catholic Church (Okafor 2022). This underscores the significance of understanding beliefs surrounding handshakes amidst health emergencies. Previous empirical studies (e.g. Schulze et al. 2020; Mondada et al. 2020; Alsayali et al. 2020) on COVID-19 and handshakes have primarily focused on adherence rates in different countries, with limited attention to understanding the underlying beliefs influencing adherence or non-adherence to preventive measures. Understanding these beliefs can inform the development of more effective health policies and campaigns for COVID-19 and future health emergencies, adding valuable insights to the research on health beliefs and behaviours. It should be noted that the terms “reason” and “belief” are used interchangeably in this study depending on the context.

Theoretical Underpinning: The Health Belief Model

The study participants' attitudes toward handshaking amid the COVID-19 pandemic in Nigeria can be analyzed through the lens of the Health Belief Model (HBM). First established in the 1950s by Howard Leventhal, Godfrey M. Hochbaum, S. Stephen Kegeles, and Irwin M. Rosenstock, the Health Belief Model (HBM) aims to explain and predict health-related behaviours (Siddiqui et al. 2016; Janz and Marshall 1984; Rosenstock 1974). According to Kasl and Cobb (1996), Gochman (1997), Conner and Norman (2017), and others, health behaviours are overt patterns, activities, and habits carried out by everyone who considers themselves to be healthy with the intention of preventing disease or identifying it at an asymptomatic stage. Initially devised to comprehend why individuals failed to adopt disease prevention strategies or early disease detection tests, the model encompasses two intertwined cognitive health behavioural components: the desire to avoid illness or recover if already ill, and the belief in a specific health action's capacity to prevent or alleviate illness (LaMorte 2019).

The HBM comprises six core constructs: 1) Perceived susceptibility, reflecting an individual's assessment of their risk of developing or contracting an illness or disease; 2) Perceived severity, gauging personal perceptions of a health problem's severity and its potential ramifications; 3) Perceived benefits, assessing an individual's evaluation of the effectiveness of available actions to mitigate the threat of illness or disease; 4) Perceived barriers, encapsulating an individual's perceptions of obstacles hindering the adoption of recommended health actions; 5) Cue to action, representing the stimuli necessary to initiate the decision-making process towards accepting a recommended health action, which may be internal (e.g., symptoms) or external (e.g., media or healthcare provider information); and 6) Self-efficacy, denoting an individual's confidence in their ability to successfully execute a health-related behaviour. It's crucial to recognize that these factors' effects on health behaviours are subject to moderation by other variables, including demographic, structural, and psychosocial factors.

Overall, the HBM posits that an individual's belief in the personal threat of illness or disease, coupled with their belief in the efficacy of recommended health behaviours, predicts the likelihood of adopting preventive health-related behaviours (LaMorte 2019). Despite its limitations, the HBM remains one of the most widely used theories in health behaviour research (Carpenter 2010; Glanz and Bishop 2010), applied across various contexts. For instance, it has been used to understand women's decisions regarding the removal of their ovaries for cancer risk reduction (Herrmann, Hall, & Proietto 2018), to predict safe driving behaviours among taxi drivers in Bandar Abbas, Iran (Razmara et al. 2018), to assess preventive services among young adults (Luquis & Kensinger 2019), to identify communication strategies for preventing Chagas disease in Southern Ecuador (Patterson et al. 2018), to analyze females' intentions regarding breast cancer screening (Chin & Mansori 2019), and to identify factors influencing seafarers' safety behaviours and their relationships (Yuen et al. 2020). Additionally, the HBM has been utilized to develop and evaluate deep learning classifiers for COVID-19 social media content and public perceptions of physical distancing in Singapore and England (Raamkumar et al. 2020). Furthermore, it has been employed to predict the behaviours of urban poor residents toward COVID-19 (Adesina et al. 2021) and to explore women's perceptions and narratives regarding pre-eclampsia and eclampsia-related care-seeking in Nigeria (Sripad et al. 2019).

In the context of COVID-19, the Nigeria Centre for Disease Control (NCDC) issued guidelines to curb virus transmission, emphasizing the avoidance of physical contact, including handshakes, due to the virus's primarily physical mode of spread (WHO 2020b). Nevertheless, many young individuals persist in shaking hands despite the virus's lethal nature in the country. The motivations behind this behaviour vary among individuals. This study, focusing on health-related behaviour, will utilize the HBM to elucidate why participants continue to engage in handshakes amidst the COVID-19 pandemic in Nigeria.

Methods

The study comprised in-depth interviews with twelve young individuals. The limited number of interviewees, restricted to twelve, was due to the study's recruitment method, which relied heavily on identifying individuals observed engaging in handshakes. Despite observing many individuals shaking hands, only twelve agreed to participate in the interviews. Some individuals declined to be interviewed, suspecting the researcher to be affiliated with the government's COVID-19 monitoring teams. Using accidental sampling techniques, the twelve participants were recruited from various locations in Nsukka, Enugu State, Nigeria.

Among the 17 local governments in Enugu State, Nsukka has one of the largest populations—roughly 309,633 as of the 2006 census. Nsukka, which occupies 1,810 km² and is located in the Udi Hills at an elevation of 1,300 feet (396 m), has a tropical savanna climate with distinct dry seasons and little rainfall (McKnight and Hess 2000). The University of Nigeria, the nation's first indigenous university established in 1960, is well-known for being located in Nsukka Town. Nigeria reported 49,068 confirmed COVID-19 cases as of August 17, 2020. Enugu accounted for 810 cases, including a sizable proportion from Nsukka (NCDC 2020d). But according to current data, Nigeria already has 267,173 confirmed cases (Worldometer 2024).

The researcher approached individuals for interview sessions based on their observation of handshakes in various settings: two participants were found at a wedding reception venue, four at the

University of Nigeria Senior Staff Club, two at a marketplace, and four at an office complex within the university. Additional criteria for participant recruitment included adulthood (18 years or older), willingness to participate, and the ability to articulate beliefs influencing one's preference for handshakes during the peak of the COVID-19 pandemic. Three participants were interviewed over the phone after their initial interactions at the designated places, and nine face-to-face interviews were done and audio-recorded on the university campus. With a mean age of 35.8, all twelve participants were male (see Table 1 for demographic information). Finding young women shaking hands was difficult because, according to studies, men are the ones that do handshakes more frequently (Bernieri and Petty 2011). For this reason, the study only included male participants. Furthermore, research shows that men are more likely than women to contract COVID-19 in Nigeria and around the world (Ugwu et al. 2020; Global Health 50/50 2020).

Table 1: Demographic Characteristics of Participants

S/N	Name	Sex	Age	Highest Education Qualification	Occupation	Religious Affiliation
1.	Timothy	Male	34	WASSCE	Trader	Catholic
2.	Eric	Male	37	PhD Theatre and Film Studies	Lecturer	Catholic
3.	Prince	Male	36	BSc. Electronic Engineering	Engineer	Catholic
4.	Fred	Male	34	MSc. Psychology	Lecturer	Catholic
5.	Chekube	Male	36	M.Sc. Political Science	Lecturer	Anglican
6.	Nathan	Male	29	MSc. Religious Studies	Lecturer	Pentecostal
7.	Tochi	Male	36	WASSCE	Trader	Catholic
8.	Ebube	Male	41	MSc. Geography	Lecturer	Catholic
9.	Anthony	Male	38	PhD Political Science	Lecturer	Catholic
10.	Emeka	Male	35	MSc. Public Administation	Lecturer	Pentecostal
11.	Ushie	Male	39	BSc. Computer Science	Tech. Officer	Anglican
12	Aka	Male	35	MSc. Agric Science	Tech. Officer	Anglican

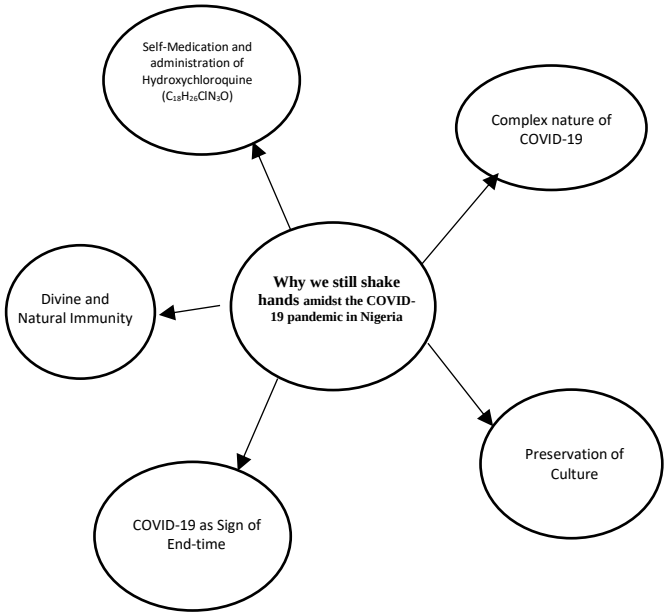
Note: The names in the table are pseudonyms

The interview questions, although not predetermined, centered around the study's main objective: understanding why individuals continued to shake hands during the COVID-19 pandemic. Conducted in English, each interview session lasted between 41 and 59 minutes. The interviews were thematically analyzed using an adapted version of Colaizzi's (1978) guide, following the steps outlined in Nche et al. (2019) and Nche (2020a; 2020b; 2020c). This involved careful transcription of each interview recording by the researcher, followed by verification to ensure accuracy. Each transcript was then analyzed to identify significant statements related to the study phenomenon. Formulated meanings were derived from these statements in line with the study objective, organized into categories and sub-themes, and integrated into a comprehensive description of the phenomenon under study.

Findings and Discussion

The interviewed young individuals shared diverse beliefs influencing their decision to continue engaging in handshakes despite the risk of contracting COVID-19 and the prevailing guidelines against social/physical contact. These beliefs are examined through the following themes: Self-Medication and Hydroxychloroquine Administration, Divine and Natural Immunity, COVID-19 as a Sign of End Times, Preservation of Culture, and the Complex Nature of COVID-19 (refer to Figure 1).

Figure 1: Showing the summative presentation of the reasons why young people still shake hands amidst the COVID-19 pandemic in Nigeria



Source: The researcher, 2020

Self-Medication and Administration of Hydroxychloroquine ($C_{18}H_{26}ClN_3O$)

Ebube, when questioned about his persistence in handshaking during the COVID-19 pandemic, explained that he harbors no fear of contracting the virus due to his regular intake of hydroxychloroquine on a weekly basis. Additionally, he mentioned supplementing his medication regimen with Zinc and Zithromax. In his own words:

> I am not afraid of the virus. I take Hydroxychloroquine, Zinc and Zithromax often to keep safe. These are also malaria medications because the virus presents the same symptoms as malaria. We treated malaria with chloroquine, which is the best malaria medication, but because of some side effects such as blindness and itching, hydroxychloroquine is more regularly used. I take chloroquine at least once per month, but hydroxychloroquine, which is a milder form of chloroquine, is often taken on a weekly basis, similar to Sunday-Sunday medicine.

When questioned about whether he follows a physician's prescription or relies on information obtained online or through social media for his medication intake, Ebube responded that his self-administration of medications stems entirely from his past employment experience at a pharmaceutical company. Drawing from these experiences, he asserted that since every viral infection presents symptoms akin to malaria, the medications hydroxychloroquine, zinc, and Zithromax are appropriate and capable of treating COVID-19. In his view:

> You should understand that viral infections are as result of fever, and when you measure the fever, it is just a relationship between malaria and fever… These infections present symptoms such as fever, headache, nauseating…Now, you see, viral infections even when you

> check measles, it comes with fever... So when you check most viral infections you will find out that they present themselves like malaria and malaria has been with us… I sold medications, that's how I got to know all these things I am telling you now.

This finding aligns with the findings of Sadio et al. (2020), who documented the prevalence of self-medication practices against COVID-19 within a Togolese sample. However, it is crucial to acknowledge that beyond COVID-19, self-medication is a widespread practice among young individuals in Nigeria, with anti-malaria medications being among the most commonly used (Esan et al., 2018; Osemene and Lamikanra, 2012). This prevalence is attributed to various factors such as limited access to quality healthcare, negative encounters with healthcare professionals, time constraints preventing hospital visits, financial limitations, and more (Omolase et al., 2007; Esan et al., 2018). While self-medication offers certain advantages, Ruiz (2010) and Bennadi (2013) caution that it carries inherent risks, including incorrect self-diagnosis, delays in seeking appropriate medical attention, rare but severe adverse reactions, hazardous interactions between medications, improper administration methods, incorrect dosages, inappropriate therapy selection, masking of serious illnesses, and the potential for dependence and abuse. Specifically addressing self-medication against COVID-19, Molento (2020) strongly discourages this practice, particularly regarding the misuse of ivermectin and other drugs. This caution extends to Ebube's self-administration of hydroxychloroquine and other medications, especially considering the ongoing uncertainty regarding their effectiveness against COVID-19 (Boulware et al., 2020; Cavalcanti et al., 2020; Choudhary et al., 2020). Nevertheless, some preliminary trials show promise, particularly within Nigeria (Folorunsho-Francis, 2020).

Divine and Natural Immunity

Ebube also maintains the conviction that although he uses medications as a precautionary step against COVID-19, his primary reliance is on God's protection to shield him from the virus. He stresses that divine intervention, rather than solely depending on medications, is what brings about healing. Therefore, he ensures to pray before taking any medication. In his own words:

> God is protecting us. He has immuned [*sic*] me against corona virus. There is a saying that goes this way 'what will be, will be, why pray'. Now, if what will be will be, that is, if God has already immuned [*sic*] me and everything, then nothing will happen. Since, what will be, will be, why should I be afraid of corona virus and taking precautions?... God is the ultimate healer! In fact, when I was selling medications, I was usually afraid whether the medication will work but I will pray over it and say to the person that 'God has healed you' and the person will say 'Amen' and I believe that. When the person comes tomorrow and tells me that the medication I gave him/her actually worked, I remember God. So I usually pray before I take every medication.

Ebube expressed confidence in his divine protection against COVID-19, along with the use of medications like Hydroxychloroquine, Zinc, and Zithromax. He even stated that he would not hesitate to hug a COVID-19 patient, feeling secure from infection. Similarly, Eric continues to shake hands, attributing his belief to the notion that Africans are inherently immune to COVID-19 due to the hot weather and high temperatures prevalent in the region. This belief is based on scientific evidence suggesting that COVID-19 is less viable in hot climates (Chan et al., 2011; Chen et al., 2020). According to Eric:

> A virus that cannot stay alive for more than five or six minutes, now why should I be afraid of it? What am I saying? The temperature! If the temperature of my environment is not conducive for the virus, then why am I afraid? Because the exposure the virus will get will kill it almost immediately it is exposed.

However, numerous experts have issued warnings against overly relying on the notion of the virus dissipating in hot temperatures (Cohen, 2020), particularly given that the virus responsible for COVID-19 – officially named SARS-CoV-2 – is too recent to have conclusive data on how cases might fluctuate with changing seasons (Gray, 2020). The belief in Africans' general immunity to COVID-19 was also voiced by Prince, although he does not necessarily attribute it to divine intervention. Instead, he posits that Africans, particularly Nigerians, possess immunity due to their exposure to diseases or ailments akin to those commonly associated with COVID-19. This stands in contrast to Western nations, whose populations seldom encounter such illnesses. Prince identifies malaria, typhoid, among others, as examples of these illnesses, remarking, "these illnesses are common, and we have been dealing with and surviving them on a regular basis. What makes COVID-19 different? In fact, you might have even contracted the virus and treated it as malaria without knowing." This viewpoint was also echoed by Timothy and Tochi, whose shops/stores are adjacent at the market in Nsukka. Intriguingly, this perspective, referred to as "trained immunity," has been discussed in the field of immunology and has been utilized to elucidate global disparities in COVID-19 cases and fatalities (O'Neill and Netea, 2020; Abu Hammad et al., 2020). According to research, continuous exposure to pathogens such as viruses bolsters the immune system, enabling it to combat novel pathogens effectively. Consequently, the low incidence of COVID-19 in Nigeria and Africa could be attributed to ongoing exposure and the high prevalence of various infectious diseases, although this remains a topic of debate (Ugwu et al., 2020).

Similarly, Chekube contends that COVID-19 is excessively politicized and sensationalized, primarily to facilitate corruption – a perspective aligned with Fasan's (2020) assertion that COVID-19 serves as fertile ground for heightened corruption in Nigeria. According to Chekube:

> I am not of the opinion that "coro" does not exit, of course, it does. However, the way it is being presented is not actually the way it is. Do you know how many persons who have contracted and cured the virus in Nsukka? Almost 90% have contracted the virus in Nsukka and treated it with malaria medications, nothing else, even without knowing they had treated "coro" …

When questioned about whether his belief regarding COVID-19 explains his lack of fear in contracting the virus through handshakes, Chekube responded emphatically, stating, "I will even hug you, I will hug you!... My brother, coronavirus is just like intensified malaria. Many individuals have contracted it and were treated using malaria medications, nothing more, nothing less" (Cohen, 2020). Fred, on the other hand, holds the belief that as a young individual, he possesses a robust immunity capable of either preventing him from contracting the virus or combating it effectively if he does become infected. He contrasts this with aging adults whose immune systems are compromised by age-related illnesses. Therefore, when asked why he continues to shake hands amid the COVID-19 pandemic, he asserted, "I am too young to die... We don't have underlying illnesses that put us at risk as young people, unlike older adults" (Gray, 2020; Dickinson, 2020). Eric shares a similar perspective regarding the

strength of young people's immune systems compared to older adults, a viewpoint supported by research (Shahid et al., 2020; Wu and McGoogan, 2020).

However, it is important to note that while younger adults are less prone to severe infections than older adults, some may still develop serious and life-threatening complications. They are not immune to COVID-19 and currently contribute significantly to new cases of the virus (Grey, 2020; Dickinson, 2020). For example, contrary to the global trend, more young individuals are being affected by COVID-19 compared to older individuals in certain African countries such as Nigeria, Ghana, and South Africa. While this may partly be due to the younger population demographic in these regions compared to the US and European countries (Ugwu et al., 2020), it underscores that young people are not entirely exempt from the impact of the virus.

COVID-19 as a Sign of End-time

Nathan, on the other hand, holds the belief that the COVID-19 pandemic signifies the impending end of the world. Furthermore, he perceives the proposed coronavirus vaccination initiative as a covert scheme designed to administer "the mark of the beast (666)" to individuals. In his own words:

> The world is coming to an end. Can't you see what is happening? Can't you see everything around? This corona virus shows that the world is coming to an end. Therefore, 666 is coming up, and 666 is coming up.

When questioned about whether this belief implies that he disregards COVID-19 preventive measures, particularly avoiding handshakes, Nathan responded:

> Yes, I don't observe them. Although I believe the virus exits, I am trying to say that corona virus is just an indication of the end time. We are coming to a period where by anybody cannot move about except you have the vaccine just the same way that in some institutions you can't enter without having a face mask. This is the trial period. They are testing how the times will be, the Iluminati people.

Nathan was further asked if he felt he did not need to observe the preventive measures. He replied thus:

> Yes, I don't really see any need to adhere to those measures because I strongly feel that these things cannot affect me, that's one thing I feel. This is because there is another hand that protects me. That hand is the hand of God; the hand of God is protecting me. So, I can shake hands with people anyhow and nothing will happen to me. I believe this strongly.

This belief has been shown to be common among conservative Christian groups, especially Pentecostals (see Nche and Agbo 2022; Nche 2022). For example, Rev. Tony Spell, a pastor at Life Tabernacle Church in Baton Rouge, Louisiana, is said to have believed that COVID-19 was the work of the antichrists and preached that Christians were facing a severe test of faith. He distributed anointed handkerchiefs to shield members from the virus and staged large church gatherings twice in contravention of the Louisiana governor's decree prohibiting assemblies of more than fifty individuals (Wildman et al. 2020). In Zimbabwe, Prophet Emmanuel Makandiwa reportedly reassured his congregation of their immunity to the virus. Additionally, he linked the COVID-19 vaccine campaigns to the concept of the "mark of the beast" and cautioned followers about potential "microchip" implants (Moyet, 2020). Similar sentiments were echoed by Christian leaders in Nigeria, including Bishop David Oyedepo of Living Faith Church, Bishop Enoch Adeboye of the Redeemed Christian Church of God, and Prophet T.B. Joshua of Emmanuel Church. These leaders shared comparable beliefs regarding the implications of COVID-19 vaccination campaigns (Moyet, 2020). On a different note, Tanzanian President John Pombe Magufuli characterized COVID-19 as a demonic entity, allegedly crafted by Satan to "destroy" Tanzanian citizens. President Magufuli organized three days of national prayer in response to this perceived threat (Kirby et al., 2020). These instances collectively indicate the substantial influence of religious beliefs and values on individuals' perceptions and attitudes towards diseases and pandemics, particularly evident in the context of COVID-19.

Preservation of Culture

In addition to the notion of Africans' purported geographical advantage over the West concerning COVID-19, Eric asserts that another reason for his insistence on shaking hands with friends and colleagues is to maintain and honor the tradition of handshaking. This sentiment echoes concerns expressed by certain motorcyclists during the Ebola virus disease outbreak in Nigeria (Salami et al., 2019). While the origins of handshaking are often attributed to Western culture, Eric contends that it has become deeply ingrained in Nigerian culture. He argues that this cultural practice is worth preserving despite the significant threat and impact of COVID-19. When asked why he cannot relinquish handshaking, he states:

> Let me bring it down to cultural basis. The virus is anti-human and anti-socialization. It prevents humans from touching themselves and discourages body contacts, and it is against our cultural values. If I take it to that level, then how am I upholding my culture and what am I teaching the younger ones when I am not doing such thing (i.e. engaging in act of handshake).

Eric's advocacy for the preservation of culture aligns with the viewpoints of UNESCO (2020) and Banks (2020). However, while UNESCO and Banks express concerns about the impact of COVID-19 on cultural heritage, such as cultural sites, arts, tourism, and ancient monuments, they do not address cultural practices that could contribute to the spread of the virus. This contrasts with Eric's insistence on maintaining the tradition of handshaking despite the severe nature of COVID-19. Similarly, Jaja et al. (2020) highlight how the persistence of certain cultural practices, like burial ceremonies, religious gatherings, and traditional male circumcision, has undermined efforts to mitigate the spread of COVID-19 in South Africa.

In contrast, Prince reports that he does not typically insist on handshakes, unlike Eric and Chekube, who preferred handshakes over fist bumps with the researcher. For Prince, the decision to engage in a handshake depends on the other person's gesture. He explains, "If someone extends their hand for a handshake, I reciprocate because refusing may be awkward in that moment." Interestingly, studies have acknowledged this social dynamic and proposed solutions. Schroeder et al. (2018) observe that declining a handshake may lead to social stigma, potentially phasing out the practice over time—an "uncomfortable phase-out period." To mitigate potential embarrassment, Maclellan (2020) and Lee (2020) suggest politely explaining the avoidance of handshakes to avoid causing offense.

Complex nature of COVID-19

Another reason some of the participants were abandoning the advice to refrain from shaking hands in an effort to stop the spread of COVID-19, particularly in Nigeria, was the virus's complexity. For example, Fred stated that he does not mind shaking hands with friends and coworkers because handshakes account for only 10% of the

various ways that a person might get infected with the virus. As per his statement:

> There are other more risky ways of contracting the virus; we touch a lot of things especially when we go out: door handles, tables, after which we touch our cloths and while we are undressing, these cloths could touch our mouth, nose, eyes, we really touch a lot of things. So I don't see why I should be personally concerned about handshakes…Besides I have hand sanitizer.

Fred also believes that there is a general lack of clarity in the scientific data regarding a number of issues related to the COVID-19 pandemic. Therefore, we do not even need to worry too much or even know anything about the virus.

Implications and conclusion

This study has demonstrated how, in the face of the rapid and catastrophic spread of COVID-19 worldwide, and in Nigeria specifically, young people's choice of handshake as a socializing tool is influenced by varying beliefs. Five main themes surfaced as justifications for the study participants' disregard for the regulations prohibiting handshakes, regardless of the risk involved. These themes are self-medication and administration of hydroxychloroquine ($C_{18}H_{26}ClN_3O$), divine and natural immunity, COVID-19 as a sign of end-time, preservation of culture, and complex nature of COVID-19.

These findings are consistent with some of the HBM's constructs. According to the first construct of the HBM, "perceived susceptibility," which refers to an individual's assessment of their risk of contracting an illness or disease, some participants believe that they are immune to COVID-19 because they self-administer hydroxychloroquine and because they have divine (given by God), geographic (hot temperature), and demographic (young) immunity. Furthermore, there is a belief among some of the participants that COVID-19 lacks severity, stemming from the perception that it resembles other more familiar and treatable diseases like malaria and typhoid in Nigeria. It's argued that Africans, particularly Nigerians, should have developed a resilience to COVID-19 due to their constant exposure to such diseases. This viewpoint aligns with the concept of "perceived severity" in the Health Belief Model (HBM), wherein individuals assess the severity of a health issue and its potential consequences based on personal feelings. Similarly, in accordance with another aspect of the HBM, namely "perceived benefit," some participants question the effectiveness of health-related behaviours such as avoiding handshakes. They argue that since handshake-related transmission accounts for only a fraction of potential virus exposure, and because scientific understanding of COVID-19 remains uncertain, the benefits of such precautions are unclear. Moreover, participants cite social pressures and cultural norms as barriers to adopting preventive measures, such as avoiding handshakes. Despite the risks posed by the pandemic, the persistence of handshake customs in social settings creates a perceived barrier to changing behaviour. Taken together, these factors contribute to why these participants continue to engage in handshakes amidst the COVID-19 pandemic in Nigeria.

This is unlike the situations in Germany and Switzerland where Schulze et al.'s (2020) and Mondada et al.'s (2020) studies reported that majority (90%) of their respondents avoided handshakes because of the devastating nature of the Corona pandemic. A similar situation was found among Saudi-Arabians (see Alsayali et al. 2020). Nevertheless, these variations between the present study's participants and those from Germany, Switzerland and Saudi-Arabia with respect to the level of adherence to the physical distancing measures, especially the avoidance of handshake show how beliefs could, in the same circumstance, inform peoples' behaviours differently. These findings underscore the importance of understanding how beliefs influence behaviour during health crises. They also emphasize the need for tailored public health interventions that address specific cultural and contextual factors influencing behaviour.

Overall, these findings have implications for research and policy. Firstly, it is a fallacy that can lead to potentially fatal health consequences that COVID-19 is the same as ordinary malaria. This is due to the fact that, as was the case with study participant Ebube, this misunderstanding not only causes individuals to treat COVID-19 cases as cases of malaria but also encourages self-diagnosis and prescription. For instance, people who were self-medicating with chloroquine and other pharmaceuticals have been reported to have poisoned and died in the USA and Nigeria (see Cherian 2020; Busari and Adebayo 2020; Sadio et al. 2020). Furthermore, this misperception may make it more difficult for people to notify the appropriate authorities of COVID-19 instances in a timely manner, which could encourage the virus's spread. Despite possible similarities in symptoms, COVID-19 and malaria are distinct illnesses with distinct treatment regimens and mechanisms of transmission. It is therefore necessary to demonstrate or determine the distinctions between these illnesses. It might be necessary for the government and research to focus on identifying and proving these distinctions. Additionally, initiatives to educate communities about the distinctions between these illnesses ought to be undertaken.

Secondly, people's thoughts and attitudes towards pandemics can be significantly influenced by their religious beliefs, as evidenced by the assumption that COVID-19 is a sign of the end times. The idea that God protects people from getting the virus, even if they do not follow preventive health-related behaviours, is likewise applicable. Naturally, this is not surprising given the numerous studies that demonstrate the impact of religious beliefs and values on people's attitudes toward the environment (see Nche 2020a, 2020b, 2020d; Omelicheva and Ahmed 2018) and other events in their lives as well as their compliance with safety and health behaviours (Wang et al. 2015; Huang et al. 2020; Nche et al. 2023).The government must communicate with religious leaders in order to guarantee that followers are instilled with the proper attitudes at this difficult period, as they are the guardians of their organizations' beliefs and ideals. Future research should focus on how religious leaders in Nigeria and throughout Africa view the pandemic and what part they play in combating it.

Cultural implications also flow from the findings. The COVID-19 epidemic is endangering the handshake, which is a custom common to many civilizations worldwide. The fact that some young individuals have been observed to continue shaking hands despite the pandemic, however, demonstrates how enduring this cultural custom is. Specifically, it indicates that despite the risk of COVID-19 and social stigma, the behaviour of shaking hands may not entirely vanish, as proposed by Anthony Fauci and Schroeder et al. (2018).

Lastly, the continued practice of handshaking among young individuals during the COVID-19 pandemic in Nigeria indicates a lack of full recognition of the severity and lethality of the virus within the population. Moreover, it underscores a notable disparity between the expectations set by the government and other stakeholders regarding COVID-19 precautions and the perceptions and actions of citizens. Nigerians generally hold the view that the federal, state, and local governments, as well as the organizations within them (like the NCDC), are politicizing and embezzling money that has been donated

to the nation by private businesses and the international community in an attempt to contain the pandemic (Fasan 2020; Akoni 2020; Agbo and Nche 2023). It goes without saying that one of the study participants made this statement. Because of this, people often doubt official COVID-19 case numbers (see Agbo and Nche 2023) and occasionally disregard government safety guidelines due to the climate of mistrust and suspicion. Adepoju (2020) and Ojikutu (2020) have documemted how some people even doubt the virus's existence in Nigeria. This may help to explain why some people have negative opinions about handshakes in particular and government-sponsored safety guidelines in general. However, another factor that may contribute to the reason why the study's participants and other young people continue to shake hands despite the possibility of contracting the virus and contributing to its spread is the issue of false and misleading information regarding COVID-19 that is available online and in some other platforms in the country.

All of these necessitate a more proactive and resolute effort to curb the spread of the COVID-19 virus across the nation. While Nigeria may currently bear a lesser burden of the virus compared to other countries such as the US and Italy, it is crucial to acknowledge that, as noted by Ugwu et al. (2020) and Oyesola et al. (2020), Nigeria is still in the early stages of the pandemic. These scholars emphasize that the effectiveness of the government's measures to contain the spread of the disease within the country will significantly influence the trajectory of the pandemic in the coming months. Hence, it is imperative for the government to ensure transparency in managing the pandemic by disclosing all significant expenditures associated with the country's efforts against it. Furthermore, fairness and impartiality must be maintained in the allocation of COVID-19-related funds, as there are concerns regarding potential discrimination against certain regions, particularly in the distribution of relief aid. Most importantly, the government must expand and intensify awareness campaigns about COVID-19, emphasizing the importance of physical distancing, to rural and semi-urban communities, including Nsukka. Doing all these will significantly contribute to fostering the appropriate attitudes that people should adopt regarding the virus, as well as any potential future health crises in the country.

This study has some shortcomings that warrant acknowledgment. Firstly, while the Health Belief Model (HBM) served as the theoretical framework, certain key constructs such as Cue to action and Self-efficacy were not specifically explored. The investigation focused solely on understanding why participants continue to engage in handshakes during the pandemic, without delving into factors like media campaigns, incentives, or participants' self-assessment of their ability to adhere to handshake guidelines. Future research in this area could benefit from incorporating these elements into their inquiries. Secondly, the sample size is small and predominantly gathered through convenience sampling methods. Therefore, caution should be exercised when attempting to generalize the findings beyond the study's specific context.

Conflict interest

The author(s) declares that he/she has no personal, professional or financial interest that may have inappropriately influenced the outcome of this research.

Ethical considerations

The author(s) declares that this article was conducted in accordance with ethical standards and principles for research.

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