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Religious and Cultural Considerations in Nigeria regarding the low vaccination rates for the Oral Polio Vaccine

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Allison L. Welz

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Abstract:

When the polio vaccine was developed in the 1950s, the healthcare field saw the eradication of polio happening by the turn of the 21st century. However, in 2022 there are still countries with endemic strains of polio, with Nigeria only recently being taken off of this list in 2020. This paper focuses on synthesizing research about the initial oral polio vaccine (OPV) efforts in 2002 Nigeria to improved efforts in the 2010s. Nigeria is widely known for boycotting the vaccine and implementing extensive educational programming attempts to remedy the situation. By looking at various cultural and religious factors that caused low OPV vaccination rates, we can examine aspects that must be considered when creating health care educational programs in communities that are hesitant or resistant to vaccines, like the northern states of Nigeria. This argument is explored through three distinct factors: the political-religious, religious-educational, and educational efforts in response to low vaccination rates.

Introduction:

It is easy to see connections between science and the healthcare field. Religious accommodations should be considered regarding medical treatments and their permissibility based on certain beliefs. The field of virology directly impacts public health with wide availability and distribution of vaccines, which must come with appropriate patient education. When it comes to global health and eradicating disease, the execution of medical initiatives has varying regional success. In 1980, smallpox was considered eradicated across the world because of the successful mobilization of the vaccine. The last naturally occurring case of smallpox occurred in Somalia in 1977 (History of Smallpox | Smallpox | CDC, 2021). However, other diseases still persist in various parts of the world due to failed vaccination attempts or other roadblocks. Roadblocks can include cultural background and spiritual beliefs because they shape people's views and understanding of healthcare in their region.

Background:

In recent years vaccines have grown in the discussion of global healthcare. Whether it be the flu shot, vaccines for children, or COVID-19, the efficacy and necessity of vaccines have been called into question. A recent Harvard study found a strong correlation between misinformation and mistrust of medical professionals in the United States (Stecula et al., 2020). This informs how people think about vaccines. For example, 19% of the 2,500 respondents in the survey hold the idea that "it is very or somewhat accurate that it is better to develop immunity by getting the disease than by vaccination" (Stecula et al., 2020). Serious diseases, like smallpox, have been prevented or even

eradicated due to vaccines. Despite countless peer-reviewed research and data, the acceptance and distribution of vaccines are not ubiquitous across countries. The approach to the distribution and administration of vaccines must be multifaceted. What is used to promote vaccination in one region will not necessarily be successful transregionally due to the different cultures and religious beliefs.

The polio vaccine was projected to eradicate poliomyelitis (polio), and all of its strains, by 2000 (Baicus, 2012). However, in 2011, there were still endemic strains persistent in four countries, one of which being Nigeria (Baicus, 2012). Poliomyelitis had an overwhelming decrease in incidence in the late 20th century; however, polio has not been completely eradicated. Poliomyelitis is a disease caused by infection with the poliovirus. Serious cases of this disease are associated with damage to the spinal cord and brain. Symptoms include meningitis, paresthesia, and paralysis appearing in more serious cases. According to the World Health Organization (WHO), polio is endemic in Pakistan and Afghanistan while Nigeria only recently had its last case in 2020 ("Polio is"). While COVID-19 is considered a pandemic because of its exponential case growth and wide spread presence in multiple countries, diseases are endemic when they are consistently present but confined to a specific region. In 2006, Nigeria reported 1,143 cases in Kano, a northern state (Larson, 2011). The high case rate was due to boycotting of the vaccine in Kano and other Nigerian states. One reason behind the boycott was due to local government officials circulating conspiracy theories about the vaccine (Jegede, 2007). With the US being the leader in developing strains of polio used for the OPV, the vaccine was rumored to be an American plot to infect Nigerians with HIV and sterilize their Muslim communities (Baicus, 2012, Larson, 2011). Due to global Muslim criticism by

spiritual leaders and Muslim-identifying government officials, tumultuous relationships between the local and federal governments, and a lack of trust from local communities, vaccine denial continued to persist (Larson, Ghinai, et al., 2013). Heidi Larson, faculty of Epidemiology and Population Health at London School of Hygiene, briefly explains how local perception and education on vaccine movements and other global health initiatives are considerations that should be a part of any future strategies (Larson, 2011). An ethnographic study of a specific town in Nigeria also found educational material to be an important piece in vaccine acceptance. Use of booklets is typically employed; however many rural people are illiterate, challenging these education efforts (Dugas, et al. 2009). By considering how religion and culture factor into decisions about health and vaccines in Nigeria, implementing education and eradicating disease can be more cooperative and nuanced than authoritative and impersonal. This argument is explored through three distinct factors: the political-religious, religious-educational, and educational efforts in response to low vaccination rates.

Methods:

Considering this is a literature review-based inquiry, the types of studies and sources of literature are important when seeking out well-rounded answers to this question. Through looking at media articles as well as scholarly literature on cultural and religious impacts, the layered understanding of perception can be better understood by global healthcare organizations working to develop effective education initiatives. Not only are scholars talking about how to distribute vaccines, but vaccines are being debated in news headlines and other media posts. Regarding religious beliefs and tensions, most

articles I found focus on regional politics and vaccine accessibility. In their discussions, they briefly touch on the importance of education. Further research was done to find any ties between lack of education and any religious causes behind it. There is also a question of what the people of Nigeria respond to positively in a healthcare initiative. Does it matter who is doing the advocating and how does the delivery method affect the success of the movement? With the religious and political split between northern and southern Nigerian states, that discourse must also play a factor in resistance. The movement to eradicate polio has persisted for many decades, with new variants continuing to emerge. There is an obvious need for analyzing the developments and changes made to vaccine initiatives over time, in places like Nigeria, to adapt and effectively protect the health of people on a global level.

By looking at these different sources and from different perspectives an overall picture was formulated of what has failed in the past and how to engage social factors, like religion and culture, moving forward. Other factors that are subsets of the two main categories of religion and culture include education, local politics, and community relations. Through analyzing how all these factors inform and impact each other, we can work toward utilizing them in a way that vaccines are not seen as a threat to the community as well as creating an open environment for further health education.

The Political-Religious Split:

In the early 2000s, Nigeria faced internal dissonance because the Muslim majority north and the Christian majority south had disputes with one another. Religious beliefs often inform people's political beliefs and agendas. As noted in Nigeria, they are hard to

separate and thus cause issues when the federal government tries to implement various programming. Oftentimes, religious motivations are assumed by local government leaders and then used as the reason to resist certain governmental requirements (Ghinai, et al., 2013, Kaufmann & Feldbaum, 2009 Obadare). In 2002, Sharia Law was deemed unconstitutional in a court case with the Nigerian government which started the tension between the northern and southern states (Ghinai, et al., 2013, Kaufmann & Feldbaum 2009). Many Muslims, in Muslim dominant regions, understand Sharia Law as "inspired by the Quran and the highest legal authority", thus the decision was interpreted as an attack on Muslim communities (Karseboom, 2012). In 2003, the political tension between Muslim northern Nigeria and Christian southern states continued to add to the pushback concerning vaccination (Owoaje et al., 2020). General Olusegun Obasanjo, a born-again Baptist (South) won the presidential election over General Muhammadu Buhari, Muslim (North) (Kaufmann & Feldbaum, 2009). This loss for the North only exacerbated tensions because it seemed as if this was another part of their lives stacked against them. The northern states of Nigeria typically had poorer health outcomes, so when the federal government pushed for vaccinations, the north resisted in contempt. With rumors already taking hold in the north, the added political barrier only exacerbated the issue. Not only was this a North and South political standoff, but in a greater global context, it was the US and Muslims' conflict.

Because of the United States' actions in Afghanistan, Muslims across the globe felt like they were under attack. After the events of September 11, 2001, the US government declared a war on terror (Obadare, 2005). Many Muslim government leaders made false claims about the OPV in order to dissuade Nigerians from trusting global

health organizations (Obadare, 2005). These claims were made to form a distrust for global organizations but also for the Nigerian federal government. In March of 2003, the US invaded Afghanistan as a part of their war on terror and this only added to the notion that there was a rising Western "crusade" against Muslims (Ghinai, et al., 2013, Olufowote, 2011). Muslim Leaders claimed that the OPV caused acquired immunodeficiency syndrome (AIDS) and contained cancer-causing agents (Cultural Perspectives on Vaccination | History of Vaccines, n.d., Ghinai et al., 2013). The religious-political agenda was targeted by Muslim leaders resisting the vaccine because it was rumored to be a means to sterilize Muslim girls, despite the many scientific studies that discredited that argument. The North sees being Muslim as a religious identity and also as an ethnic identity (Ghinai, et al. 2013). Religion is something that not only guides political agendas, but also guides people's lives and decisions.

Understandably, when a believer's spiritual leader is advising them against doing something, many will listen. Studies have focused on how to integrate leadership into healthcare education movements as they have seen successes in the past in other countries (Owoaje et al., 2020, Obadare, 2005, Ghinai et al., 2013). A study done by Obadare discussed the significance of finding key political and spiritual leaders to lead northern communities to trust the implementation of the OPV (Obadare, 2005). In 2006, northern states still had up to 30% of their children without a single dose of OPV (Olufowote, 2011). Ghinai, et al. found that after leaders like the Sultan of Sokoto and Governor Shekarau, were on board, there were distinct increases in the number of people getting vaccinated and a decrease in the mistrust of government-endorsed programs (Ghinai, et al., 2013). The Sultan of Sokoto served as the highest-ranking spiritual leader

for Muslims in the northern states, so when he finally deemed OPV safe for the people, there was a significant increase in vaccine trust and administration (Ghinai, et al., 2013). As mentioned before, the Kano state had the biggest resistance but global health organizations took the effort to create a pediatric committee to help with education and lessen stigma. Through that programing, Governor Shekarau (Kano state) eventually agreed and even vaccinated his daughter on live television (Ghinai, et al. 2013). Getting the approval and networking of key individuals can make all of the difference in healthcare initiatives.

The Religious-Education Split

Religion is not only a contributing factor to politics, but it is a factor that has affected OPV vaccination rates all by itself. Medicine is viewed very differently in some parts of Nigeria compared to the global West. Spirituality and health are fairly separate in Western notions of medicine while in many other cultures the line is more blurred. As a scholar of communications at University of Oklahoma, Olufowote analyzed news headlines and commentary articles and found that local culture and beliefs about medical procedures played a significant role in the response to WHO and the polio vaccine (Olufowote, 2011). For example, spiritual beliefs come into play when understanding the origin of a disease (Ghinai, et al., 2013, Obadare). How people treat a disease is dependent on the origin. In Kano, there was a large belief that polio was caused by a strong spirit and that only a traditional healer could fight it (Ghinai, et al., 2013). With this belief, it makes sense that something of the material remedy could not solve a more spiritual issue. This notion, steeped in the community, complicated efforts to administer

the OPV because they believed a "simple drop of OPV could not replace powerful rituals" (Ghinai, et al., 2013). On a different religious note, many hold the "perception that health and illness are given from Allah" and argue "how does immunizing a child help if health is preordained?" (Ghinai, et al., 2013). This sentiment derives from Muslim faith and their understanding of where disease originates.

Modern ideas of thinking typically focus on evidence and method; however, in these cases, their ideas and understandings of disease outweigh the evidence of needing the OPV. These beliefs should not be bulldozed by global health agendas, but overall public health cannot be ignored. Nigerian officials saw this issue and wanted to address it. From the religious front, in order to show that vaccines were not targeted to attack Muslims, vaccines were flown in from Indonesia, a Muslim-dominant country (Kaufmann & Feldbaum, 2009). Other efforts included Muslim leadership issuing *fatwas*, legal rulings on a point of Islamic law, to encourage polio vaccination and acceptance (Kaufmann & Feldbaum 2009). This is an example of taking into account "local morality" (Ghinai, et al. 2013). When integrating a new program into a community, there is a moral lens that shapes the perception of this "thing" and thus a local context of morality must be considered. Each location in Nigeria has a local morality that is influenced by its politics, social climate, and religious belief. In practice, these aspects cannot be separated from one another and must be used in tandem to address issues of healthcare. In discussing education efforts in Nigeria, the most successful educational programs focused on local morality.

Education Efforts:

Not only is Nigeria widely known for its low OPV vaccination rates and hesitancy, but they are also known for similar reactions to other modern medical movements (Jegede, 2007). With other immunization efforts, there were also rumors of them being used as sterilization tactics or public monitoring, highlighting the common distrust of the federal government in the North (Jegede, 2007). In response to these issues, the next 10 years would be spent addressing and educating vaccine-hesitant groups.

With identifiable components, such as community and religion, we can better understand how to successfully work with local communities when issues arise in the future, which is highlighted in Dugas et al., 2009. After meeting with various community groups, they found that concern for childhood disease and vaccines causing more health issues were some of the top contributors to low vaccination rates. This approach supports how News Security Beat highlights that an "effective strategy to boost vaccine uptake is to ensure that health workers have comprehensive information" so that they can properly counsel women on the vaccine ("Understanding"). Mothers play significant roles in the vaccination of children because they are seen as the leaders in regard to childcare. With education being a key piece, low literacy rates make education through text material difficult (Ghinai, et al., 2013).

The Global Polio Eradication Initiative (GPEI) in 2010 renewed efforts to get Nigerians vaccinated through targeted educational approaches (Aylward). In 2011, endemic strains of polio were found in four countries, one of which was Nigeria (Baicus, 2012). Researchers like Eme Owoaje and her partners have looked into current factors sustaining distrust of ongoing health movements within high-poverty communities. In

northern Nigeria, civil unrest and insurgence endanger health care workers and their ability to go from community to community (Owoaje et al., 2020). When health care workers are not able to educate communities, it is difficult to shut down rumors and preconceived notions about vaccinations. For example, there was a misunderstanding about how the "polio vaccine protects against everything, but it does not, which caused decreased trust" within communities (Ghinai, et al., 2013). Communication could have easily solved this miseducation, but other factors stood in the way. Factors included lack of safe access to communities, lack of community attendance, and competion with other health-related education. During this time there were other health care initiatives in the works, and they also had key educational aspects to them (Owoaje et al., 2020). This not only made it unclear regarding the immediacy of getting the OPV but also caused vaccination education fatigue and burnout amongst workers (Owoaje et al., 2020). The response efforts to low vaccination rates are just as multilayered as the reasons for low rates.

Educational efforts were not a complete loss. As mentioned previously, the education of key government and spiritual leaders changed the tides. Through reaching out to the Organization of the Islamic Conference, there were healthcare and religious group collaborations to help educate and alleviate hesitancy (Kaufman, & Feldbaum 2009). In the 2010s there were more opportunities for healthcare workers to safely enter northern communities. They found generational education to be another key factor (Kaufmann & Feldbaum, 2009). At this point, vaccines had been around long enough for rumors and prejudice to be passed down in families. A news article in November of 2019, by BBC highlights a Nigerian father's reasoning for not vaccinating his 10 children

("Polio in"). Much of the father's story and reasoning highlight the generational nature of vaccine hesitancy.

A Multilayered Approach

In the midst of trying to reassess in the 2010s, global health organizations asked questions about how to modify their approaches to educating vaccine-hesitant communities. One particularly interesting change addressed whether or not the goal was to eradicate polio or control it (Olufowote, 2011). Nigeria had been working within itself and with other global health organizations to mobilize the OPV and educate those resistant to vaccinations. However, there were and continue to be cultural, political, and religious factors that create a multilayered issue. The cultural and religious background helps explain the deeper reasoning for why polio persisted in this country when considering the boycott of the polio vaccine in Nigeria. By analyzing religion and culture's role in impacting various aspects of the polio vaccine movement in Nigeria, the key components that affect perception were identified. The global discourse between Muslims and the West both politically and religiously created an environment that was hesitant toward any Western-backed healthcare movement while lack of community access prevented the opportunity to educate citizens. Community engagement by healthcare workers and educators has since increased trust amongst previously vaccine-wary individuals. With this community engagement comes a focus on local morality and tying in location to how health care workers approach education and vaccination. Even with education, there will always be questions of public health and personal preference (Cultural Perspectives on Vaccination | History of Vaccines, n.d.). In places like Nigeria,

where vaccination resistance persists, education must be met with attention to religious and political factors to better target hesitant communities.

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