
Smallpox in Yorubaland: The Role of Indigenous Vaccinators, 1925-1955

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ABSTRACT

Smallpox virus is the most lethal pathogen known to mankind. It has annihilated millions of lives for many centuries, thereby shaping kingdoms, culture, and economies. Fortunately, the WHO eliminated the scourge globally in 1980 via widespread vaccination efforts. However, there were many impediments to smallpox campaigns before its final eradication in many local populations. In this light, we examine the role of Indigenous vaccinators in Yorubaland between 1925 and 1955. By deploying relevant annual colonial medical records, we discovered that some Indigenous vaccinators in Yorubaland used an aggressive approach in their conduct. This, in turn, determined public response. Thus, we argue that the unprofessional conduct of some local vaccinators partly undermined the reliability of vaccination data, which shaped outcomes during the era. This historical article illustrates the connections between vaccinations and vaccinators in the context of epidemic disease management and prophylaxis. This work could be invaluable in evaluating post-modern vaccination procedures and processes to improve efficient and effective disease management and prevention.

1. Introduction

Smallpox is caused by the variola virus. It has 2 forms, namely variola major and minor, which belong to the genus orthomyxovirus (Babkin & Babkina, 2015). Variola major is highly virulent and contagious and has decimated human populations for many centuries (Moore et al.2003). It has spanned over 3000 years of human existence, annihilating between 300 and 500 million persons in the 20th century alone before its eventual eradication (Henderson, 2011). Smallpox killed about 30 percent of those afflicted and left roughly 65-80 percent and about 65-80 percent had deep pitting complications, which are more pronounced on the face (WHO Factsheets on Smallpox, 2007). This malady has disrupted trade and economies as well as shaped kingdoms, culture, and civilization since antiquity (Oglivie, 2025). Due to effective vaccinations, smallpox was eradicated in 1980 by the World Health Organization (Bray & Buller, 2006). However, there are many contemporary issues that would continue to bring smallpox into the front burners of history, culture, and medicine. It is the only human disease that has been eradicated. It shows that infectious diseases could have lifespans. More significantly, it could demonstrate the susceptibilities of infectious pathogens to adequate vaccination and subsequent eradication. Regarding bioterrorism, smallpox, among other high-risk pathogens, is a potential biological agent in modern warfare (Carus, 2015). Since 1984, variola virus has been kept

in US and Russian Laboratories (Muula, 2022). Thus, there is a plausibility of biological accidents or deliberate use of high-risk pathogens, including variola virus. In the postmodern world, the recurring hostilities in the Middle East and the lingering Russia-Ukraine war remind us of the possibility of the deployment of biological weapons.

Hence, studies regarding the control of smallpox in local populations remain expedient in a troubled world. From an epidemiological standpoint, the monkeypox virus is similar but less virulent than the variola virus. Smallpox vaccines are useful for monkeypox prophylaxis (Gostin, 2024; Liu et al., 2025). Moreover, the resurgence of monkeypox in sub-Saharan Africa is a threat to international health. DR Congo, Burundi, Rwanda, Nigeria, and Madagascar witnessed some epidemics in recent years. This portends a threat to international health. For instance, in 2022, the monkeypox epidemic in Nigeria spread to some countries in Europe and the United States via fluid international travel (Gostin, 2024). Thus, fluid transportation is one of the banes of Globalisation. Newer strains of monkeypox virus behave differently in different ecosystems. They could trigger an unexpected mutation. This could cause widespread epidemics and concomitant mortalities. Thus, lessons from smallpox control and its pitfalls could be expedient in tackling the menace of high-risk pathogens in the contemporary world.

The earliest report of smallpox control was credited to the Chinese physicians in the eleventh century – they discovered that inoculation of smallpox materials into healthy subjects conferred a measure of immunity. Dr. Edward Jenner invented cowpox vaccine, a safer option in 1798 (Henderson, 2011). This epic invention subsequently permeated most political spaces over the next century. Vaccination thereafter became a gold standard in the prophylaxis of smallpox.

The human factor regarding the implementation of this prophylaxis has often been relegated to the footnotes of impediments to smallpox vaccinations in indigenous populations. Some studies have highlighted key roles of the poor quality of vaccines, inadequate storage, and funding issues among local populations. However, this study differs by focusing on the impact of local vaccinators on smallpox vaccinations. In the colonial era, the role of local vaccinators that served as the intermediary between the colonizers and the local populations remains grossly under-researched. Thus, this article explores the role of indigenous vaccinators in shaping public response that determined the outcome of smallpox vaccination campaigns in the second quarter of the twentieth century in Yorubaland. This period laid the foundation for the eventual eradication of the scourge in 1980. Hence, the focus is on this era.

2. Literature Review

Generally, there is no paucity of research on the epidemiology of smallpox in colonial and non-colonial climes. Many researchers focus on the virulence and the high mortalities occasioned by the variola virus. In colonial India, Tandon (2014) and Sohail (2015) explore the transmission dynamics and mortalities due to smallpox in colonial India. Deploying colonial Punjab, Tandon (2014) discovered that between 1875 and 1919, the province witnessed nine major epidemics occurring in 27 districts, exterminating almost 2.5 lakh people. In early eighteenth-century Europe, Schneider and Davenport (2026) highlighted that social contexts determined the mortality rate of smallpox. They found out a higher case fatality rate of 43-55 percent in Iceland, where smallpox affected more children and adults, thus disrupting household care. Conversely, in Sweden, the smallpox case fatality ratio was 8-10 percent, considerably lower than the accepted average of 20-30 percent for smallpox (Grant, 2019; Penschow, 2022). They ascribed this phenomenon to the high endemicity of smallpox in Swedish children compared to their adult counterparts. This scenario left more adults to care for the young ones, thus reducing the overall mortality of smallpox.

In Native America, from the 15th to the 19th centuries, Paterson and Runge (2002) linked the overwhelmingly high mortality rate of smallpox to reduced populations. They had hitherto lacked immunity to smallpox before the introduction of the malady by the Western Europeans from the 15th century, making them more vulnerable to succumbing to smallpox. Similarly, in colonial Africa, where smallpox was both endemic and epidemic, there were high smallpox mortalities. For instance, between 1871 and 1905, Brown (2004) found that smallpox was the fourth most common cause of death with a mortality rate of 20.9 percent. Likewise, from 1927 to 1935, Schneider (2009) showed smallpox killed 35,000 people in Nigeria.

Newer scholarship on smallpox is focusing on how to counter accidental release or conscious deployment of variola as a bioweapon. In the US, Cohen (2024) demonstrates the need for improved vaccines against smallpox in case of accidental spillage or conscious deployment in hostilities. In the same vein, Breman (2021) rationalizes the need for newer and more effective vaccines against smallpox and other emerging poxviruses such as monkeypox.

Furthermore, other researchers note that the last known vaccination against the variola virus was over 40 years ago. For instance, in the Republic of Korea, Meyer et al. (2020) maintain that the world requires newer and more effective vaccines to combat variola in case of resurgence.

Regarding the theme of this study, problems militating against the implementation of smallpox campaigns have often been downplayed. Only a few researchers have ventured into this scholarship. For instance, in colonial India, Bhattacharya et al. (2005) demonstrated that the majority of issues that hampered smallpox vaccination campaigns were administrative. They included poor quality of vaccines, inadequate storage, and funding issues. More related to the geographical context of this study, some researchers emphasized cultural impediments to the success of vaccination. They highlight the significance of the Yoruba god concerning the conception and management of smallpox. For example, Oduntan (2015) and Oladiti et al. (2022) assert that the inextricable link of smallpox ideation and treatment to the *Sopona* deity in Yorubaland shaped local interpretations of smallpox vaccinations. More related to the theme of this study, in the early twentieth century, in Punjab, Ojo et al. (2025) argue that the unprofessional conduct of some local vaccinators contributed to adverse public response to smallpox campaigns.

In sub-Saharan Africa, there is a dearth of research delineating the role of indigenous vaccinators during smallpox campaigns in regional or local communities. According to Falola and Heaton (2006), to comprehend the idiosyncrasies of epidemic and endemic diseases, each disease should be studied within the specific social settings. Hence, the emphasis of this study is on the second quarter of the twentieth century in Yorubaland. In this era, in Yorubaland, vaccination campaigns were marked by local resistance due to fear of the *Sopona* deity and adverse local interpretation of smallpox vaccines before negotiation and final acceptance (Oladiti et al., 2022). Thus, this work focuses on how indigenous vaccinators impacted the public response, which shaped the outcome of campaigns between 1925 and 1955 in Yorubaland.

3. Methodology

This study utilized Yorubaland in the second quarter of the twentieth century as our socio-cultural and geographical context. The Yoruba as a concept depicts the language, culture and a unique group of people. They predominantly occupy present-day south-western Nigeria and some parts of Benin Republic. However, due to the dynamics of slave trade, they represent dominant cultural groups in Cuba, Brazil and other parts of the West Indies in the contemporary era. This historical research deployed annual colonial reports and archival materials from the Ibadan Archives. We also deployed appropriate secondary sources. We cross-referenced and correlated archival sources with reputable primary sources and secondary data. This guarantees dependability and diminishes bias in data analysis and conclusions in this study.

4. Findings and Discussion

4.1 History of Smallpox in Africa

Smallpox has probably afflicted mankind since the beginning of the agricultural era, as far back as 10,000 BCE (Hopkins, 1983). The earliest evidence of smallpox-like skin lesions was found on the faces of mummies between the 18th and 20th Egyptian Dynasties (1570-1085BC). For example, a maculopapular lesion typical of smallpox infections was found on the Egyptian pharaoh Ramses V, who died in 1156BC (Lyons, 1987).

In sub-Saharan Africa, the history of smallpox before the nineteenth century was scanty. Some writers speculated smallpox came into Africa through trade links with Muslim merchants from the Ottoman Empire as far back as the eleventh century. Subsequently, it spread to sub-Saharan Africa through the Saharan trade route (Feierman & Janzen, 1992). These close trade contacts and social intercourse must have facilitated cross-infection with Africans. Thereafter, the disease assumed endemic status with occasional flares in different parts of sub-Saharan Africa. Another plausible explanation is that smallpox remained in sub-Saharan Africa since the prehistoric era. The north-eastern African merchants might have transmitted the disease to their sub-Saharan counterparts via trade links and migration. From the sixteenth century, there were records of slaves afflicted with smallpox at African ports and

on the sea. The European merchants usually threw such infected slaves overboard to prevent cross-infection with healthy slaves.

Some slaves transported to the Americas and West Indies had detailed knowledge of smallpox and its management. Eugenia Herbert's early eighteenth-century account of slavery describes how newly arrived slaves in Boston, USA, demonstrated this knowledge. For example, when a slave was questioned about whether he had smallpox, he responded as follows

. . . both, Yes, and No; and then told me, that he had undergone an Operation, which had given him something of the Small-Pox & would forever preserve him from it; adding that it was often used among the Guramantese, (Akan, Ghana) & whoever had the courage to use it, was forever free from the fear of Contagion (Herbert , 1975).

More accounts of smallpox became available in Africa in the nineteenth century. Probably, because of the advent of print technology, which recorded such events. Also, it might be due to the increasing scourge of smallpox occasioned by a large influx of smallpox-afflicted slaves that returned from the New World. Another reason is that it is highly possible that returning slaves came back with a highly resistant strain. The natives might have lacked the prerequisite immunity to them. The Europeans reported pockets of outbreaks in freed slaves' settlements in Sierra Leone, Gambia, and Liberia (Oduntan, 2017). Some European explorers narrated the grim consequences of smallpox in nineteenth-century Africa. In the 1860s, Richard Burton, who visited *Abeokuta* in South West Nigeria, reported the gory sights of "pitted faces" and blindness caused by repeated outbreaks of smallpox (Burton, 1863). In this century, the disease became one of the major causes of mortality in African history. The smallpox epidemic killed 25,000 people in Cape Town, Gold Coast, in 1840, while in 1864, another outbreak broke out in Angola, which claimed 25,000 souls (Fenner et al., 1988). As stated before, this phenomenon might have resulted from huge human reservoirs of smallpox that returned from slavery in America and the West Indies. As a result, Africa suffered devastating mortalities from smallpox.

4.2 History of Smallpox in Yorubaland

In the Yoruba race of South Western Nigeria, the origin of smallpox is shrouded in mystery. This is not surprising. History is handed down from one generation to another through tales and stories without adequate documentation. In addition, the apparent notoriety of the disease and its intimate connections with a fiery deity, *Sopona*. This often makes it hard to obtain viable information about its origin. However, there is circumstantial evidence of smallpox (*Sopona*) in ideological discourses that often invoke a curse on other people. For instance, *Sopona a pa o* (*Sopona will kill you*) was a common retort to invoke curses in intense arguments in Yoruba land (Peel, 2000). There were accounts of smallpox being deployed as a biological weapon to poison enemies in *Yoruba* historical records. An *Ibadan* High Chief and Generalissimo, *Bashorun Ogunmola*, was ostensibly assassinated through an infected piece of cloth in the mid-nineteenth century. Reverend Samuel Johnson narrated this incident as follows:

It was noticed that from the moment he unfolded the cloth and wrapped it around his body, he began to feel some inconvenience, this grew into a feverish heat which baffled every effort to cool down, when they resorted to pouring buckets of cold water upon him; it went on increasing in intensity, and in the agony of heat he writhed until he passed away. This gave colour to the bulletin issued that His Highness died of the fever of smallpox (Johnson, 1921)

Early colonial reports on health matters in Lagos reflected the disturbing consequences of smallpox. While some natives died due to this disease. Many survived but were often disfigured in various ways. Furthermore, the exploits of Dr. *Odunbaku Sapara* in curbing smallpox epidemics in *Epe*, Lagos, in the late 1890s were a testament to the smallpox scourge in South West Nigeria (Adeloye, 2019). There were also some records of complications of smallpox in South West Nigeria in the late nineteenth century. In 1893, Governor Carter of Lagos narrated the devastation encountered by the people of *Abeokuta* occasioned by smallpox in his report:

Almost every child one sees either had, or has had, smallpox. Mothers are seen carrying infants in all stages of the complaint, and mature children drag themselves about in spite of their suffering so long as they are able to do so. Of course, numbers succumb, but many survive, often disfigured in various ways, but blindness, perhaps, is the commonest sequel to this distressing malady(Carter, 1893).

In Yorubaland, early records of smallpox mortality are limited. The smallpox history in Africa is often overlooked. Many writers focus on the eradication efforts from the 1960s. Thereby, they neglect earlier periods. These epochs were fundamental to the control of smallpox. In Lagos, earlier data showed smallpox caused 20.9 percent of total deaths. Moreover, it ranked fourth as a cause of death between 1871 and 1905 (Brown, 2004). Other initial local data from Yorubaland are sparse and unreliable for thorough analysis. However, systemic data became available later in the second quarter of the twentieth century in Yorubaland. Table 1 shows smallpox cases and mortality values in the Western region of Nigeria between 1947 and 1951.

Table 1: Cases and Death Rates of Smallpox in the Western Region of Nigeria, 1947-1951

Year	Cases	Deaths	Case Fatality Rate (%)
1947	492	71	14.4
1948	357	27	7.6
1949	3070	494	16.1
1950	3650	493	13.5
1951	1280	212	16.5
Total	8849	1297	14.7

Adapted and modified from: Nigeria, *Annual report on the medical services for the year 1951*, Lagos, Government Press, 1951, p. 16–18.

N.B – The Western Region is largely made up of Yorubaland and incorporates smaller areas such as Bini, Agbor and Asaba.

Table 1 shows that smallpox continued to ravage the Yorubaland in the second quarter of the twentieth century. Between 1947 and 1951, a total number of 1297 people died out of 8849 cases of smallpox with an average case fatality rate of 15 percent. There were notable epidemics with marked mortalities in 1949 and 1950 (Annual Medical Report for Nigeria, 1951).

Across sub-Saharan Africa, epidemic record-keeping began late. This delay may be linked to most African countries coming under colonial rule in the early twentieth century. By the 1920s, most African countries began documenting smallpox cases more systematically. In Nigeria, smallpox accounted for 53,000 deaths between 1927 and 1935 (Schneider, 2009). Colonial-era smallpox records before this period were very weak. Socially, this may be connected to its association with the feared masculine deity *Sopona* in Yorubaland. Among the Yoruba, mentioning smallpox (*Sopono*) in the local language can cause fear and panic, even today.

4.3 Control of Smallpox in Yorubaland

The earlier attempts at controlling the menace of smallpox dated back to the eleventh century. The Chinese found out that inoculation of smallpox pustules into the mucous membrane of healthy subjects sometimes conferred a level of immunity (Gross & Sepkowitz, 1998). These procedures became popular in Africa and other parts of the world between the seventeenth and the nineteenth centuries. However, the safety of this process remained a huge concern as an appreciable number of inoculated people subsequently developed full-blown infections.

Dr Edward Jenner discovered a safer method in 1798 (Radetsky, 1999). He noticed that milkmaids exposed to cowpox seemingly had immunity against smallpox. He, therefore, inoculated a boy with cowpox pus to initiate infection and then challenged him with smallpox. Interestingly, the boy did not develop the smallpox infection, making the experiment a success. He experimented with thirteen other individuals who had either cowpox or horse pox, and none developed smallpox. Even though the Royal Society rejected his papers and advised him to stop further cowpox vaccine experiments on ethical grounds. He cleverly named it vaccine virus, thus giving rise to the concept of vaccination (Preston, 2002). Early smallpox vaccination involved the use of pustular materials from one vaccinated individual to another person. Early vaccinators implemented this by scratching the materials under the skin of the recipient. An early twentieth-century textbook aptly described the process as follows:

A spot, usually on the upper arm, is scraped by a lancet so that the outer layers of the epidermis are removed; the spot is then rubbed with an ivory point, quill or tube, carrying the virus. A slight and usually unimportant illness or indisposition follows, and the arm is sore for a time, a characteristic scar remaining. (Hough and Sedgwick, 1906).

As highlighted above, this process was still cumbersome and inconvenient for the subjects. After vaccination, the lymph from the sore arm is collected to vaccinate other persons. Later improvements included inoculation of cow flanks to obtain larger amounts of lymph and preservation of the vaccine with glycerol solutions (Henderson, 1976).

Concerted smallpox control efforts commenced comparatively early in colonial Lagos. As elsewhere, initial efforts were geared toward the protection of colonial institutions. Initial smallpox campaigns suffered due to certain reasons. The enclavist tendencies of colonial administration, as well as the deep-seated socio-cultural prejudice against vaccination in Yorubaland. The *Sopona* deity held sway among the Yoruba race, and most locals could not dare to anger his venomous anger. People believed accepting smallpox vaccination would bring more calamities by angering the god of smallpox.

In Lagos and perhaps the whole of Yorubaland, Dr Sapara stood out for his audacious efforts in encouraging local populations to accept smallpox vaccination. Dr Oguntola Odunbaku Sapara was one of the leading pioneers of modern medicine in Nigeria. Having bagged his Fellowship of the Royal Institute of Health in Scotland in 1895, he returned to Lagos to assume the post of Assistant Colonial Surgeon in 1896 (Adeloye, 1974). At that period, a district in Lagos, *Epe*, was notorious for outbreaks of smallpox because of the pervasive cult of smallpox worshippers who were allegedly spreading the infection. In his desperation, Sapara devised an unorthodox approach to curtail this plague by joining the cult! He subsequently discovered their mode of operation. This formed the basis of his account in 1909. His reports:

In 1897 when I took charge of Epe district, the town of Epe was known as the hotbed of the small-pox epidemic. Finding that vaccination and other precautions seemed to fail, I joined the cult and having got into the mysteries I summoned the small-pox priests together and threatened them with prosecution for disseminating the disease and used perchloride of mercury solutions. They left the town through disgust and since then, up till the time I left Epe, vaccination had scope for doing good work and then the town enjoyed immunity from small-pox, hitherto unknown (Sapara, 1909)

Following the apparent demystification of smallpox worshippers in *Epe*, Governor McCallum wasted no time in proscribing other cults and worshippers relating to the deity of smallpox in Lagos. Subsequently, the Witchcraft and Juju Ordinance became law. It prohibited any act of worshipping smallpox; the offense became punishable by imprisonment. (Deniga, 1919). Consequently, it led to an appreciable drop in epidemics of smallpox. For instance, in 1904, the number of cases of smallpox dropped at the Contagious Disease Hospital due to the diffusion of vaccination in Lagos districts, as well as the prejudice that was slowly dying down.

The exploits of Dr. Odunbaku Sapara in promoting vaccination against smallpox in Yoruba land remained indelible in the annals of medical history in Nigeria. However, the social-cultural implications and imperatives of his actions need to be re-examined. Perhaps from the turn of the nineteenth century, the Yorubas had already identified the seasonal variation of smallpox and were taking appropriate preventive measures to curb its menace. They correctly observed that smallpox was more prevalent during the dry season, basically from September to February. Therefore, they limited and sometimes prohibited social gatherings that could enhance its spread (Ajose, 1957). This adept epidemiological knowledge might have culminated in a reduction in the frequency of smallpox. At best, it engendered the trust of the natives in socio-cultural prevention of the menace, even before the feats of Dr. Sapara.

4.4 Indigenous Vaccinators and Smallpox Campaigns in Yorubaland, 1925-1955

In Yorubaland and elsewhere, indigenous vaccinators were at the lower rung of the vaccination organogram. The colonial medical administrators engaged a superintendent general who supervised the works of sanitary commissioners. For each circle of vaccination, each circle has a deputy sanitary commissioner saddled with overseeing sanitary, vaccine operations, and the duties of District Medical Officers (DMO). The DMOs implement

various vaccination policies at the district levels – they partake in vaccination campaigns at local levels and usually supervise Yoruba vaccinators.

As early as 1902 in southern Nigeria, which incorporated Yorubaland and other southeastern regions, the significance of local vaccinators to smallpox vaccination had been highlighted. In his annual report for southern Nigeria, Acting High Commissioner Probyn asserted:

The number of successful vaccinations performed at the various stations amounted to 6,258, although there was no epidemic in any district. Experiments have been made with a view to ascertaining whether a supply of lymph can be manufactured locally, and an interesting and hopeful report, on this subject has been made by Dr. G. P. Darker. Should the experiments in this direction prove successful, the great practical difficulty in the way of providing the means for carrying out a system of universal vaccination will be removed, as the wide-spread ravages of specific diseases amongst the natives render arm to arm vaccination inadvisable, unless performed by an expert (Probyn, 1902)

In subsequent years, however, the act of lymph to arm became perfected and enhanced in Yorubaland, leading to an improved number of smallpox vaccinations. Nevertheless, in the earlier part of the twentieth century, smallpox epidemics continued to ravage Yorubaland, including wider Nigeria. But the promulgation of compulsory vaccinations, especially among infants, encouraged more local vaccinations and increased the workload of local vaccinators. According to the Annual Colonial Report for Nigeria in 1925:

Smallpox frequently occurs in small outbreaks in all parts of Nigeria, but the extent of such outbreaks is becoming noticeably less year by year. Vaccination continues to be actively pushed, and in two instances native administrations have adopted compulsory vaccination of infants. Owing to improved methods of transport, the proportion of successful vaccinations has shown a striking improvement (Annual Colonial Report for Nigeria, 1925).

Local vaccinators plausibly capitalized on these increased workloads and social relevance as the chief implementers of vaccinations to define their own identity in Yorubaland. They seemingly construed this position as a position of utmost authority to control and dominate their fellow citizens. Some colonial data alluded to the unprofessional conduct of some indigenous vaccinators. This, in turn, led to a lack of trust in some of the local vaccination data. In essence, their actions partly undermined the reliability of smallpox data churned out by vaccination departments in Nigeria over the years. There were increasing vaccination statistics in *Ibadan*, *Lagos*, *Abeokuta*, and other major cities in Yorubaland. Nevertheless, smallpox epidemics continued to occur sporadically from the 1920s to the 1950s. As highlighted in the 1951 Annual Report for Nigeria, “ As has been stated in many previous reports this disease is still prevalent throughout much of the country and takes an unnecessarily heavy toll of life, recoveries often leaving the unfortunate victim blind” (Annual Colonial Report for Nigeria, 1951)

It, therefore, called for a reliability assessment for the vaccination department between the eras, specifically in the Western region incorporating Yorubaland. In this light, in 1951, in Lagos, the Commissioner illustrated his doubt about the performance of the native vaccination department and its data, as shown below:

“Real control lies in increasing the reliability and output of provincial and district staff, mostly Native Administration employees, who alone are in a position to vaccinate with sufficient frequency and regularity the population in their care”(Annual Colonial Medical Report for Nigeria, 1951).

The report above elicits doubt regarding the increasing vaccination success recorded between 1925 and the early 1950s. As noted above, increasing vaccination statistics do not correlate with local smallpox realities. This informed

the Health Department to conduct a thorough evaluation of smallpox vaccination data vis-à-vis the number of smallpox-afflicted populations specifically in the Western region, including wider Nigeria over the years. In subsequent reports, he confirmed the main issues raised in the previous years.

It is regrettable to have to record that this work is often not undertaken by all members of the health staff with the sense of duty and conscientiousness it deserves. This included fabricating excuses that played to European prejudices. When an enquiry is made as to why more vaccinations have not been carried out in the area, it is sometimes advanced as a reason by the vaccinator that the people are ‘antagonistic’ to the measure. The real reason is more likely to be his own inertia; and where antagonism does actually exist, it is often engendered by his own venality or tactless and aggressive approach(Annual Colonial Medical Report for Nigeria, 1953-54).

From these reports, some acts of aggression and intimidation by indigenous vaccinators were recorded over the period. It partly affected the reliability of smallpox vaccination data over the years. In this light, it could be deduced that intimidation and coercion of natives triggered apathy toward vaccination campaigns. This, in turn, partly undermined the collective goals of the colonialists in combating smallpox from 1925 to 1955 in Nigeria, including Yorubaland. Nevertheless, we do not discountenance the barriers of the pervasive indigenous fear of the local fiery god, *Sopona*, to smallpox vaccinations. Moreover, the opposition of indigenous medical practitioners to vaccinations had a remarkably negative impact on the progress of vaccinations among the Yorubas (Oripelaye et al., 2016). However, the unprofessional and aggressive approach of some local vaccinators played a significant role in shaping indigenous response to vaccination in the latter part of the first half of the twentieth century in Yorubaland and other parts of Nigeria.

This aggressive approach of vaccinators remained one of the fundamental impediments of smallpox campaigns from the onset of organized and recorded smallpox vaccinations in Nigeria since 1925. It partly underscores one of the major reasons for resistance and apathy to vaccination by local populations of Yorubaland and elsewhere in Nigeria in the second quarter of the twentieth century. This phenomenon aligns with similar colonial contexts of colonial India, where executive action vested in low-paid subordinates aggravated resistance to smallpox campaigns (Bhattacharya et al., 2005; Ojo et al., 2025). They often misconstrue native vaccinator status as a position of authority to define their identity within their social space by imitating their colonial employers. This occurred sometimes through the devolution of excessive force and underhanded tactics in the discharge of their responsibilities.

5. Conclusion

This historical research has highlighted the role of some Indigenous vaccinators in Yorubaland based on annual colonial medical records in Yorubaland from 1925 to 1955. The significance of this era cannot be overemphasized, most notably, in the context of global smallpox eradication in 1980. This work found that some Indigenous vaccinators deployed an aggressive and tactless approach in the discharge of their responsibilities. This partly affected public response and outcomes of vaccination efforts during the period in Yorubaland.

Nevertheless, this piece is not meant to demean the institutions of Indigenous vaccinators. They were the main implementers of smallpox vaccinations. They were instrumental in the control of epidemic diseases in most colonized societies. However, our work served to illustrate that human factors contributed to the initial bottlenecks of smallpox vaccinations in colonized societies, including Yorubaland. Going forward, the importance of training and retraining of vaccinators cannot be overstated. It is imperative that they have updated professional competence as well as emotional intelligence to deal with a variety of patients. Their theoretical and on-field competence should be periodically assessed. The evaluation of each vaccinator should be done in the field during vaccination campaigns. In the foreseeable future, artificial intelligence and machines will be deployed to monitor and evaluate the efficacy of vaccination campaigns. Drones, robots, and other tools of postmodernism could find their application in epidemic disease prophylaxis and management in diverse capacities.

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