

ORIGINAL ARTICLE

History of Blackwater Fever in Northern Nigeria from 1900-1918

Abstract

This paper examines the history of blackwater fever in northern Nigeria from 1900 to 1918, a period that coincided with the establishment of modern health services. It will examine the epidemiology, diagnosis, treatment, and prevention of blackwater fever in northern Nigeria, as well as the social, economic, and political impacts of the disease on the colonial government. The paper will use both primary and secondary sources, such as archival records, medical reports, newspapers, journals, and books, to construct a comprehensive and critical narrative of the history of blackwater fever in northern Nigeria. It will also use a historical framework that considers the political economy of colonialism. The paper will argue that the history of blackwater fever in northern Nigeria reveals the double standard in British health policy in Africa. The paper will conclude by arguing that the history of blackwater fever in northern Nigeria provides a valuable case study of the double standard in British health policy in Africa. The British government was willing to invest in the health of its own citizens, but it was not willing to do the same for the Africans under its rule. This double standard had a profound impact on the health of the African population.

Key words: Blackwater Fever, Colonialism, Health, Northern Nigeria

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Introduction

Blackwater fever is a rare and dangerous complication of malaria caused by *Plasmodium falciparum* (Huggan, et al., 2018). It is a condition that occurs as a complication of malaria infection in which red blood cells break down, resulting in the release of hemoglobin into the bloodstream and urine (Katongole-Mbidde, Banura, and Kizito, 1988, p. 827). The syndrome is characterized by febrile intravascular hemolysis with severe anemia (Madhuri, et al., 2018, p. 187). Symptoms may include rapid pulse, high fever, chills, extreme prostration, dark urine, vomiting, jaundice, and kidney failure. The disease is most prevalent in Africa and Southeast Asia and affects non-immune immigrants or individuals chronically exposed to malaria. Treatment includes antimalarial drugs, whole-blood transfusions, and complete rest. Historically, the mortality rate was 25-30% but has since declined due to improved malaria treatment (Britannica, T. Editors of Encyclopaedia, 2022, p. 1).

The British experience of blackwater fever in India and Sierra Leone was a long and difficult one. The first recorded case of blackwater fever was in 1819, in West Africa. The disease was then known as “bilious remittent fever” or “black urine fever.” In 1884, the Sierra Leone Creole physician John Farrell Easmon coined the term “blackwater fever” and linked it to malaria. In Sierra it was even more deadly, with a fatality rate of up to 90% (George, 2009, pp. 120-128). Blackwater fever was a major problem for British troops and colonists in India and Africa in the 19th and early 20th centuries. The disease had a high mortality rate, and there was no effective treatment. In the early 1900s, British doctors discovered the treatment for blackwater fever. They also developed several preventive measures (Bruce-Chwatt, 1987, pp. 96-181).

In the early 20th century, blackwater fever was a major concern for British troops and colonists in India and Africa, with a high mortality rate. However, the influenza pandemic posed a more immediate and deadly threat (Bruce-Chwatt, 1987, pp. 96-181). While the blackwater fever epidemic declined, the influenza pandemic had a devastating impact on the global population (Centers for Disease Control and Prevention, 2018)

Both were significant public health problems between 1900-1918. As blackwater fever declined, the influenza pandemic emerged as a major public health issue. Although this work is not focused on the influenza pandemic, it is important to note that prior to its emergence, blackwater fever was the major public health concern among Europeans in Africa. The contrast between the decline of one disease and the emergence of another makes this topic relevant.

Blackwater fever, a fatal disease and significant public health issue, has not garnered as much attention in literature as other diseases such as malaria and yellow fever, particularly among scholars in northern Nigeria. This study aims to bridge this gap in knowledge and provide a more comprehensive understanding of blackwater fever. Thus, this study argue that the high incidence of Blackwater fever had a significant impact on the colonial project. Blackwater fever led to a loss of life, and it also made it difficult to attract and retain European personnel to work in Africa. As a result, the British government was forced to invest in public health measures, such as mosquito control and the provision of antimalarial drugs. The study is structured into three distinct sections. The first section delves into the history of northern Nigeria and its experience with colonialism. The second section examines the outbreak of blackwater fever in the region. The final section



analyzes the impact and effects of the disease on the government.

Northern Nigeria and colonialism

The Colonial history of Northern Nigeria dates from the British pacification campaigns (Lokoja, 2022, pp. 1-2). In the beginning, the British involvement in Northern Nigeria was predominantly exchange-related and revolved around the expansion of the Royal Niger Company (RNC). The RNC internal territories spread north from where the Niger River and Benue River joined, at Mount Patti, Lokoja (Lokoja, 2022, pp. 1-2). The RNC did not represent an instantaneous risk to the Sokoto Caliphate, which was the dominant political institution within the vintage northern vicinity of the numerous states of Northern Nigeria. This changed when Frederick Lugard and Taubman Goldie laid down a bold plan to pacify the Nigerian interior and unite it with the relaxation of the British Empire (McKenna, 2020, pp. 1-3).

Before this era, Europeans built coastal buying and selling posts and forts to facilitate trade, leading to the development of proto-colonies. Over the years, some of those posts advanced into proto-colonies (Bolt, 2023, pp. 1-18). The partitioning of Africa had long-term effects, such as establishing a centralised bureaucratic system and controlling geographical boundaries. It also determined which societies were left undivided and those that had been demarcated and separated. (Bolt, 2023, pp. 1-18).

The partitioning allocated Nigeria was given to Britain. Frederick Lugard proclaimed the protectorate of Northern Nigeria at Ida on January 1, 1897. The premise of the colony was the 1885 Treaty of Berlin, which broadly granted Northern Nigeria to Britain on the idea of their protectorates in Southern Nigeria. 14 Consequently, the Niger committee was set up in July 1898 by the Marquess of Salisbury to inquire into the best administration that could be established. The Earl of Selbourne was appointed chairman. The other members were R. L. Antrobus, Sir Clement Hill, and Sir George Goldie. The Niger committee was to deliberate on a wide range of subjects, which included the future of the three colonial territories of Lagos, the Niger Coast protectorate, and the Niger territory. The committee was to consider whether or not these territories should be brought under one unified administration. Suggestions were invited for the location of the administrative headquarters and the geopolitical limits of the administrative divisions. In addition, the committee was to discuss the military and customs issues. The second section directed the committee to deliberate on the kind of colonial policy to be adopted in respect of Sokoto as well as the railway question (McKenna, 2020, pp. 1-3).

The committee recommended that the administration of the three territories be conducted through the medium of provincial governors “under the direct superintendence of the colonial office” (Apata, 2011, pp. 58-63). These should be divided into Soudan and Maritime Provinces. It was agreed that the river Niger should not be used as the dividing line between these provinces, and in order to facilitate the effective administration of the region, both sides of the river should be under one jurisdiction. The line at the 9th degree parallel was adopted as the southernmost limit of the Soudan province (Apata, 2011, pp. 58-63). The committee fixed January 1, 1899 as the date for the British government to take full control of the administration. (Upward, 1903, pp. 235–260). On January 1, 1900, Lord Lugard became the governor of northern Nigeria and, ruling from Lokoja, Lugard opted for a “resident administration in the provinces.” (Christianity and Islam



under Colonialism in Northern Nigeria, 1988, pp. 1-49).

The British Colonized Northern Nigeria between 1900 and 1914 (Turaki, 2010, pp. 1-3). Before the amalgamation in 1914 (Isiani, and Obi-Ani, 2019, pp. 1-14). Colonialism increased European interest in Nigeria, leading to an increase in businesses, mines, plantations, government, military, and education. Additionally, with colonialism came some sense of government and security, which led to an increase in the number of Europeans who came to Africa to do missionary work. All of these factors contributed to an increase in the rate and mortality of blackwater fever in Africa.

Blackwater Fever in Northern Nigeria

South of the Sahara Desert in Africa’s semi-arid Sahel region is northern Nigeria. In this hot and arid region, temperatures typically range from 25 to 40 degrees Celsius. The wet season lasts from June to September, and the dry season lasts from October to May (Falola, et al., 2023, p. 1). A variety of plateaus and hills define the topography of northern Nigeria. Mount Karisimbi, which is situated in Nigeria’s far north, is the highest point in the region. Northern Nigeria is crossed by the Niger River, a significant supply of water for irrigation and transportation. Northern Nigeria serves as a breeding place for mosquitoes, the malaria vector, due to its climate and geography (Archibald, 1956, pp. 695-709).

Blackwater fever is a severe complication of malaria infection. It was classically seen in European expatriates who were chronically exposed to Plasmodium falciparum and irregularly taking quinine (Bruneel, et al., 2001, pp. 1133–1140), and Europeans who were new to malaria-endemic regions were less likely to have developed immunity to malaria, making them more susceptible to the disease and its complications, including blackwater fever (De Jong, et al., 2021, pp. 654–665). Blackwater fever was a major problem for British administrators in Northern Nigeria from the beginning of the colonial period, 1900. Table 1 shows the hospital return of Europeans in Lokoja in 1900 and the rate increased between 1900 to 1902.

Table 1: Comparison of Blackwater cases since the commencement of the protectorate (National Archive Kaduna (NAK), 1908)

Blackwater fever	1900	1901	1902
Number of cases	12	12	20
Number of deaths	3	1	5

Table 2 shows the number of cases and deaths from blackwater fever in Northern Nigeria since the establishment of the protectorate in 1900. According to Table 1, there were 12 cases of blackwater fever in both 1900 and 1901, with 3 and 1 deaths respectively. In 1902, the number of cases increased to 20, with 5 deaths. This suggests that the blackwater fever epidemic was getting worse in Northern Nigeria during this period.

Table 2 shows the average European population in Northern Nigeria, the number of deaths from, and the number of people who were invalided (declared unfit for duty). Table 2 shows that the average European population in Northern Nigeria increased from 165 in 1900 to 290 in 1902. The number of deaths also increased, from 13 in 1900 to 9 in



1901 and 9 in 1902. The number of people who were invalided also increased, from 21 in 1900 to 30 in 1901 and 20 in 1902.

Table 2: Comparison of Blackwater cases since the commencement of the protectorate (Fagan, 1908)

European	1900	1901	1902	1903	1904	1905	1906	1907
Average European Population	165	165	290	309	322	342	347	424
Number Of Deaths	13	9	9	18	13	10	17	7
Number Of Invalids	21	30	20	43	67	49	55	50

Summarily, tables 1 and 2 show that the rate of blackwater fever increased from 1900 to 1902. In 1900, there were 12 cases of blackwater fever per 165 Europeans, in 1901 there were 12 cases per 165 Europeans, and in 1902 there were 20 cases per 290 Europeans. The number of deaths from blackwater fever also increased, from 3 in 1900 to 5 in 1902. The increase in the rate of blackwater fever can be attributed to a number of factors, including:

- The increasing population of Europeans in Northern Nigeria, which made it more likely that people would come into contact with the mosquito that carries the parasite that causes blackwater fever.
- The poor sanitation in Northern Nigeria, which made it easier for mosquitoes to breed.
- The lack of knowledge about blackwater fever and how to prevent it.

The European hospital return of northern Nigeria also show that, aside from Malaria, Blackwater fever had the highest case and second to none in the number of deaths. Table 3 shows the hospital return of Europeans in Lokoja, the capital of northern Nigeria in 1900.

Based on the data provided in Table 1, it appears that a total of 114 European patients were admitted for treatment in Lokoja in 1902, with 2 deaths and 103 cases treated. The most common disease treated was Malaria fever, with 73 admissions. Blackwater fever had the second highest number of admissions, with 8 cases and 2 deaths. Other diseases treated included Dysentery, Septicemia, Rheumatism, Gout, Disease of the nerves, Respiratory disease, Lymphatic, Connective tissue and Injuries. Deaths recorded came through blackwater fever. This depicts the fatal dangerous nature of blackwater fever at that point in time.

Based on the data provided in Table 4, it appears that the number of Blackwater fever cases among Europeans in Lokoja varied from year to year between 1903 and 1912, with a high of 35 cases in 1904 and a low of 9 cases in 1910. The decennial average was 16.9 cases per year. The rate per 1,000 Europeans also varied, with a high of 108.69 per 1,000 in 1904 and a low of 14.18 per 1,000 in 1910. The decennial average rate was 41.44 per 1,000.

The number of deaths due to Blackwater fever also varied from year to year, with a high of 8 deaths in 1903 and no deaths in 1907. The decennial average was 4 deaths per year. The case mortality percentage ranged from a high of 50% in 1911 to a low of no deaths in 1907. The decennial average case mortality percentage was 25.88%.



Table 3: Comparison of Blackwater cases since the commencement of the protectorate (National Archive Kaduna (NAK), 1904)

Disease	Remained End of 1902	Yearly Admission	Death	Cases Treated	Remained End of 1903
Dysentery		7		7	
Malaria fever		73			
Blackwater fever	1	8	2	9	
Septicemia		1		1	
Rheumatism		1		1	
Gout		1		1	
Disease of the nerves		1		1	
Respiratory disease		1		1	
Lymphatic		3		3	
Connective tissue		1		1	
Injuries		5		5	
Total	1	114	2	103	

Table 4: Comparison of Blackwater cases from 1903 to 1912 (London School of Hygiene and Tropical Medicine (LSHTM), 1912, p. 7)

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	Decennial average
Number Of cases	17	35	18	25	12	14	13	9	12	14	16-90
Rate Per 1,000 European	54-00	108-69	52-63	72-04	28-32	22-05	23-89	14-18	18-72	19-90	41-44
Numbers Of Death	8	6	4	5	0	4	3	2	6	4	4
Case Mortality Percent	47-05	17-14	22-20	20-00	-	28-57	23-07	22-20	50-00	28-57	25-88

Overall, the data shows that there were fluctuations in the number of Blackwater fever cases, the rate per 1,000 Europeans, and the number of deaths due to Blackwater fever between 1903 and 1912. Black water fever unfortunately was more prevalent among Europeans in the subsequent years.

Based on the data provided in the Table 5, it appears that between 1913 and 1918, the average European population in northern Nigeria varied from year to year, with a high of 989 in 1918 and a low of 762 in 1916. The number of Blackwater fever cases also varied, with a high of 27 cases in 1918 and a low of 17 cases in 1913. The incidence per 1,000 among the average European population ranged from a high of 28.87 per 1,000 in 1916 to a low of 21.14 per 1,000 in 1913.

The number of deaths due to Blackwater fever varied from year to year, with a high of 8 deaths in 1916 and a low of 4 deaths in both 1915 and 1917. The death rate per 1,000 of the average European population ranged from a high of 10.4 per 1,000 in 1916 to a low of 4.4 per 1,000 in 1915. The case mortality percentage also varied, with a high of 36.36% in 1916 and a low of 18.18% in 1915.

Overall, the data shows that there were fluctuations in the average European population, the number of Blackwater fever cases, the incidence per 1,000 among the average European population, the number of deaths due to Blackwater fever, the death rate per



1,000 of the average European population, and the case mortality percentage between 1913 and 1918.

Table 5: Comparison of Blackwater cases from 1913 to 1918 (Seamens Hospital Society, 1923, p. 8)

Population , Cases And Deaths	1913	1914	1915	1916	1917	1918
Average European Population	8041	969	897	762	779	989
Number Of Cases	17	22	22	22	19	27
Incidence Per 1,000 Among Average European Population	21'14	22'70	24'52	28'87	24'39	27'3
Number Of Deaths	6	6	4	8	4	7
Death Rates Per 1,000 Of Average European Population	7'4	6'1	4'4	10'4	5'1	7'07
Case Mortality	35-29	27-27	18'18	36'36	21'05	25'92

In 1902, the average population was 290, with 9 deaths, resulting in a death rate of 31.03 per thousand. Blackwater fever accounted for 5 of these deaths, representing 55.5% of the death rate and 17.24 per thousand. Compared to the previous year, there was an increase of 19 in population and an increase of 28.87 per thousand in the total death rate in 1916. Thus, it is important to note that comparisons of mortality statistics based on a relatively small population, such as that of Europeans in Northern Nigeria, show a high death rate.

Effects of Blackwater Fever on the Northern Nigeria Colonial Government

The direct impact of Blackwater fever on the Northern Nigeria colonial government was tremendous. During the colonial period, the British restructured and incorporated the indigenous economy of Northern Nigeria into a capitalist-oriented system through the introduction and expansion of cash and exportable crop cultivation, the use of a single currency, and the imposition of a new system of taxation, among other things. (Yohanna, 2022, pp. 45–61). Europeans in Africa during the colonial era were agents of colonialism in a number of ways. They were the ones who initiated and carried out the conquest and colonization of Africa (Collins, and Burns, 2013, pp. 295–307).

The imperial state sent European staff to northern Nigeria to help secure and protect its interests, but their arrival was met with stiff resistance. This resistance was not necessarily from the people of northern Nigeria, but from epidemic diseases that made life in the tropics of northern Nigeria difficult. The most dreaded disease was blackwater fever, caused by malaria. Blackwater fever and malaria were not just problems in northern Nigeria, but were also problems for Europeans on a continental scale. According to the BBC:

One of the main obstacles to European penetration of large parts of Africa was malaria. Africans had lived with mosquitoes spreading Malaria for generations, many had some sort of resistance or capacity to fight a malaria attack. This was not the case with Europeans who died in great numbers. The coast of Sierra Leone was known as the White Man's Grave because of this (Africa and Europe (1800-1914), n.d., p. 1).



Africa is known as the “heartland” of malaria. In fact, malaria has played a significant role in shaping human evolution in Africa and continues to be a major public health challenge (Snow, et al., 2012, pp. 169-262). This disease had a negative impact on European staff who were the political capital (Apata, 2011, p. 71). Blackwater fever had a significant impact on the mortality rate among European officials in Northern Nigeria, leading to increased mortality (See tables 1-5). This resulted in a shortage of qualified personnel in the colonial government and made it difficult to carry out their mandate in the region. The high mortality rate from blackwater fever also damaged the prestige of the colonial government, as it appeared that the government was unable to protect its own employees from disease. This undermined the confidence of the local population in the government’s ability to govern (Bruneel, et al., 2001, pp. 1133-1140; George, 2009, pp. 120-128; Sunseri, 2016, pp. 293-321; Table 6)

Table 6: Appendix of Annual Blackwater Fever Cases and Deaths in Northern Nigeria from 1900 to 1918 (Seamens Hospital Society, 1923, p. 8)

Year	Number Of Cases Of Blackwater Fever	Number Of Deaths	Case Mortality Rate
1900	12	3	25.00%
1901	12	1	8.30%
1902	20	5	25.00%
1903	17	8	47.10%
1904	35	6	17.10%
1905	18	4	22.20%
1906	25	5	20.00%
1907	12	0	0.00%
1908	14	4	28.60%
1909	13	3	23.10%
1910	9	2	22.20%
1911	12	6	50.00%
1912	14	4	28.60%
1913	17	6	35.30%
1914	22	6	27.30%
1915	22	4	18.20%
1916	22	8	36.40%
1917	19	4	21.10%
1918	27	7	25.90%

Blackwater fever also disrupted economic activity in Northern Nigeria. Many businesses were forced to close when their European employees fell ill, and there was a decrease in trade and commerce. This had a negative impact on the local economy, and it made it difficult for the colonial government to collect taxes (Mason, 1974, pp. 567-586; Rockel, 2004, pp. 223-246; Kruse, 2005, pp. 447-472). They argue that the disease disrupted economic activity by forcing businesses to close and by reducing trade and commerce. They also argue that the disease made it difficult for the colonial government to collect taxes. And with the above, the colonial government had to spend a significant amount of money to treat and care for European officials who were sick with blackwater fever.



For instance, the taking of quinine combined with the carrying out of other anti-malaria measures such as the use of mosquito nets and mosquito boots combined with care by the individual in looking after the general health, was essential for keeping free from attacks of malaria which led to Blackwater fever. The necessity of taking quinine daily, and to the greatest advantages in solution, was ingrained into all young European officials who were coming out to serve in Nigeria (Seamens Hospital Society, 1923, p. 19). Although, official document and reports are scarce on the actual amount expended on the provision of quinine, reports on the quantities supplied and consumed depicts that a huge amount of money was expended. Table 7 shows quantities used from 1910 to 1915:

Table 7: The quantities used for the purpose between 1910 to 1915 (Seamens Hospital Society, 1923, p. 8)

	1910	1911	1912	1913	1914	1915
	Grains	Grains	Grains	Grains	Grains	Grains
Western province	1,206,000	1,530,100	1,344,000	915,001	395,423	770,333
Central provinces	140,532	299,963	355,448	407,484	579,574	53,281
Eastern provinces	400,671	586,384	301,286	625,845	990,733	651,749
Total	1,747,203	2,416,447	2,000,734	1,948,330	2,165,732	1,475,363

Table 7 shows the quantities of quinine used as a prophylactic in the Western, Central, and Eastern provinces of Northern Nigeria between 1910 and 1915.

- The Western province used the most quinine, with a total of 1,206,000 grains in 1910 and 770,333 grains in 1915.
- The Central province used the second most quinine, with a total of 140,532 grains in 1910 and 53,281 grains in 1915.
- The Eastern province used the least quinine, with a total of 400,671 grains in 1910 and 651,749 grains in 1915.
- The total amount of quinine used in all three provinces increased from 1,747,203 grains in 1910 to 2,165,732 grains in 1915.
- The average amount of quinine used per year increased from 582,401 grains in 1910 to 722,619 grains in 1915.

Table 7 also shows that the use of quinine as a prophylactic was not consistent throughout the five-year period. For example, the use of quinine in the Western province decreased significantly in 1914. This may be due to several factors, such as a shortage of quinine or a change in the government’s policy on quinine prophylaxis. Overall, table 7 shows that the use of quinine as a prophylactic increased in Northern Nigeria between 1910 and 1915, except for 1914. The significant decrease in 1915 was due to the economic measures that were necessary to implement because of the increased cost and difficulty in obtaining the drug (National Archive Kaduna (NAK), 1915, p. 46). The government did everything it could to supply quinine. This was due to the pivotal role quinine played in the European colonization of Africa. It had been said that the availability of quinine for medical purposes was the main factor in Africa losing its reputation as the “white man’s grave” (Goss, 2014, pp. 8-18).

All the means available were employed to avoid the establishment of breeding grounds



for mosquito; and to disestablish or to render innocuous existing ones by filling in, draining, oiling etc. in addition all Europeans were advised to take a daily ration of quinine; and supplies of ration quinine were issued freely to all official Europeans, who apply, therefore. Practically, all the servants of Europeans, and most non-Europeans living in townships, receive free and thorough treatment (Seamens Hospital Society, 1923, p. 19). This put a strain on the government's finances, and it made it difficult to fund other essential services. Blackwater fever was a major problem for British administrators in Northern Nigeria from 1900 to 1918.

Conclusion

In colonial northern Nigeria, blackwater fever had a significant impact on the government. The disease was widespread, and it caused high mortality rates among both the indigenous population and the colonial administrators. This led to a number of problems for the government, including a shortage of manpower, a loss of confidence, and increased costs. These problems made it difficult for the government to function effectively. In addition to the problems mentioned above, blackwater fever also had a number of other negative effects on the government of colonial Northern Nigeria. For example, the disease led to a decline in trade and commerce, as people were afraid to travel or do business for fear of contracting the disease. Blackwater fever also had a negative impact on the government's ability to collect taxes, as people were often too sick to work or travel to pay their taxes. Overall, blackwater fever was a major problem for the government of colonial Northern Nigeria. The disease caused a number of problems, which made it difficult for the government to function effectively. The government was eventually able to control the spread of blackwater fever, but the disease had a lasting impact on the region.

Conflict of Interest

None.

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