

# International Journal of Humanity and Social Sciences

(IJHSS)  
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Subdivision in Cameroon



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## Health Seeking Behaviour and Treatment Options for Typhoid Fever Patients in Douala: The Case of Bonaberi in the Douala IV Subdivision in Cameroon

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*Accepted: 6<sup>th</sup> March, 2026, Received in Revised Form: 24<sup>th</sup> March, 2026, Published: 30<sup>th</sup> March, 2026*

### Abstract

**Purpose:** Typhoid fever is a bacterial infection caused by salmonella typhi through the consumption of unhygienic food substances and water. Typhoid fever affects many people in Cameroon. It has been observed from the health seeking behaviour of patients that most of them prefer traditional medical care than conventional medical care. This paper seeks to discuss this curious attitude in health seeking behaviour so as to understand why this rush for traditional medicine.

**Methodology:** Qualitative research methods have been used here including the use of some statistical data (quantitative). Hence, the qualitative research made use of observation, interviews with conventional health care personnel, traditional healers and patients as well as the review of some literature comprise the methods of data collection. This is culminated with a thematic analysis of the data.

**Findings:** Many people give priority to traditional medicine or herbal medicine for their treatment because they think that traditional medicine is effective, available and affordable. Many people still believe very strongly in traditional medicine saying that it is a heritage that should be kept for posterity.

**Unique Contribution to Theory, Policy and Practice:** Traditional medicine is an essential type of medicine that governments should work very hard to upgrade given its worth to its users and the health care system. Its valorization and official use is something that governments should never neglect because its benefits are enormous. The official enhancement of traditional medicine for the treatment of typhoid fever and the reinforcement of sensitization efforts on healthy living can greatly reduce the morbidity of typhoid fever amongst the populations.

**Keywords:** *Typhoid Fever, Traditional Medicine, Conventional Medicine, Health Seeking Behaviour, Health Care*



## 1. Introduction

Typhoid fever is a disease which has always affected several people worldwide including Cameroon. Typhoid fever is a life-threatening infection caused by the bacterium *Salmonella Typhi* which is usually spread through contaminated food or water, World Health Organisation [WHO], (1). Once *Salmonella Typhi* bacteria are ingested, they multiply and spread into the bloodstream, World Health Organisation [WHO], (1). The infection can affect the whole body and damage multiple organs. Symptoms include a high fever of up to 104°F, diarrhea, and vomiting, World Health Organisation [WHO], (1). It is extremely infectious since the bacterium is often carried in the blood, intestines, and feces of a human host, Mohamed et al (2). Njoya et al (3) say Enterica serotype *Typhi* is the etiological agent of typhoid fever. The pathogenesis of typhoid shows that its incubation period is between 7 and 14 days after which it begins with fever and general malaise. The illness begins with mounting fever, headache, vague, abdominal pain and constipation/diarrhea which may be followed by the appearance of rashes and a state of prolonged apathy, toxemia, delirium, disorientation, or coma, followed by diarrhea which if left untreated can lead to complications affecting various organs of the body. Humans are the only known reservoir and host for typhoid fever, which is spread via the faecal-oral route by contaminated water and food, especially by those who handle food, Mohamed et al (2). It can be passed from person to person or from the consumption of contaminated food and drink from affected people's faces, Mohamed et al (2). Unless treated, this infection can have life threatening consequences, <https://www.news-medical.net/condition/Typhoid-fever> (4).

Njoya et al (3), say that typhoid fever is a systemic infectious disease caused by the bacteria *Salmonella enterica* subspecies (*typhi*) and is the major cause of morbidity and mortality worldwide. According to medical news today (4), typhoid is more prevalent in places with less efficient sanitation and hygiene and caused by the bacterium *S. typhi* which is related to the bacteria that causes salmonella food poisoning. Njoya et al (3) report that the high prevalence was seen in areas with rapid population growth, increased urbanization, and limited safe water, infrastructure, and health systems like parts of India, South and Central America, and Africa. Globally, 11–20 million people per year contract typhoid. Njoya et al (3) record that in 2004 it was estimated that there were 21.6 million cases of enteric fever causing 200,000 deaths worldwide. Typhoid fever is still common in the developing world, where it affects about 21.5 million persons each year, <https://www.news-medical.net/condition/Typhoid-fever> (4). *Salmonella* infections cause about a million deaths a year worldwide, and there is an urgent need for better vaccines for both typhoid fever and non-typhoidal *Salmonella* disease, Henderson (5). John et al (6), say since 2008, the World Health Organization (WHO) has recommended typhoid vaccination, but uptake has been limited because the available vaccines could not be used in young children.

The bacterium *Salmonella enterica* serovar Typhi causes typhoid fever, an acute systemic infection, and *Salmonella enterica* serovars Paratyphi A, B, and C cause paratyphoid fever, a clinically similar condition, Mohamed et al (2). However, many people tend to ignore these various descriptions of the bacteria and rather concentrate on the disease commonly called *typhoid*. One major challenge in the treatment of this disease in Cameroon is the high costs of its drugs, Akwa and Nguimbous, (7). Control strategies to the disease are a possible way out to reduce the disease spread. However, absence of information associated to the risk factors of typhoid fever especially in children in Cameroon has made it not really possible to bring about effective control strategies to manage the disease, Akwa and Nguimbous, (7). According to Tufael and Sunny (8), prompt institution of appropriate antibiotics following early diagnosis is essential for effective management of typhoid fever. Unfortunately, immediately patients hear that it is typhoid after a medical diagnosis in hospitals and clinics, they go for traditional medical treatment.

Despite the breadth of work done so far, much is not known about the biology of this human-adapted bacterial pathogen and the complexity of the disease in endemic areas, especially those in Africa, Wain et al, (9). Patients need to be diagnosed to conclude that they are suffering from typhoid fever. Most patients have always decided the form of treatment to take only after this diagnostic process. Because they have often believed that traditional medicine treats better than conventional medicine, they always abandon conventional medical drugs and head straight to those who can provide them with traditional medicine which is always the consumption of herbs. Concerning treatment and prevention, Akwa and Nguimbous (7) in a research carried out conclude that a significant difference was recorded among participants on use of treatment methods. Majority of the respondents did not use any treatment method on water before drinking. Others used either boiling or filtering of the water as their water treatment technique. This is done after the patients must have treated themselves. Yet, many people have often relied on traditional and herbal medicines to treat themselves. This paper therefore tries to explore the *raison d'être* for this option of health care. The justifications are available in the investigation that is carried out. More knowledge about typhoid is needed so as to be used for prevention. Wain et al (9) emphasis that knowledge of the burden of disease is crucial for several reasons - first, data for effects of the disease on human health and the local economy are essential to inform decision-makers in public health; second, information about local trends is necessary to allocate resources; and third, understanding of local and regional disease trends is needed to provide informed guidance to travellers.

### **1.1 The Geography and epidemiology of Douala IV**

This study was conducted in Douala IV, also known as Bonaberi. It is one of the six subdivisions of the Wouri Division in the Littoral Region of Cameroon. This subdivision was created in 1987 according to decree No 87-1366 of 24 September 1987 and modified by decree No 92-187 of 1<sup>st</sup>

September 1992. Its headquarter is Bonassama. Other localities in the subdivision include Bojongo, Bonamatoumbe, Bonamikano, Bonassama, Bonendale I, Bonendale II, Djebale I, Djebale II, Mambanda, Nkomba, Grand Hangar, Ngwelle, Sodiko Ville, Sodiko Village, Ndobu, Bonambappe, and more. This subdivision is bounded in the south and east by the River Wouri, in the north by the Mounjo Division and in the west by the Fako Division in the South West Region. It makes up part of the low-lying basin which runs from the foot of Mount Cameroon to the southern part of Kribi, Yahbune et al, (10). Approximately 75% of this municipality is two meters above the sea level. This Municipality covers a surface area of about 203.9 Km<sup>2</sup> of the total area of Douala city, Yahbune et al, (10).

The Douala IV subdivision is an urban town. However, much is still to be done to achieve the status of a quality town. This is because of its socio-economic, environmental and infrastructural conditions which still leave much to be desired. Consequently, these situations are affecting the hygienic conditions of many inhabitants whose poverty situation is already in a precarious state. There is pipe borne water in some places of the town though not in constant supply. Many areas in the town are still to have pipe borne water. The town has many swamps and most of these areas are a hub for mosquitoes. As a malaria endemic area, most inhabitants suffer from malaria attacks. That is why some people in such places tend to attribute typhoid attacks to malaria when they fall ill, given that they become drug resistant to malaria treatment. Only appropriate diagnosis can actually determine that it is typhoid fever. The hygienic conditions in some restaurants are not always appropriate for healthy eating such that salmonella typhi can easily navigate to attack people. The poverty levels in the population make it difficult for them to purchase mineral water for their daily consumption. This precarious situation may sometimes push them to consume water from wells that do not respect basic hygienic conditions. The lack of basic knowledge of hygiene and water purification conditions has left most inhabitants of the Douala IV subdivision vulnerable to many water borne diseases. It is said that most diseases caused by the lack of improved hygiene and sanitation arise because of these poor environmental conditions.

## 1.2 Definition of some Terms

*Traditional Medicine:* Traditional medicine is the medicine of a particular people or community that has been used by those people since their existence and handed down from generations to generations. This means that every community irrespective of its geographical position in the world has its own traditional medicine. According to Bodeker (11) the World Health Organisation (WHO) in 2002 defines traditional medicine as the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses. On his part, Lantum (12) says... *It is a blanket term covering all objects be they solid, liquid, (non)*

*concoction, material and physical or otherwise, which are products of nature capable of reforming human health or therapeutic utility within a given cultural context. It is culturally defined and therefore relative.* Many different authors have also used varied terms which all refer to traditional medicine.<sup>1</sup>

*Conventional Medicine:* Also referred to as biomedicine or western medicine, it is health care practices and treatments focusing on diagnoses and treatments of diseases using scientifically proven methods. It is found in hospitals and health centres which include the medications, practices and ideologies. Its practitioners are medical doctors, nurses, midwives, laboratory technicians who are all specialists in the various fields of biomedicine. It is medicine that comes from the West, so, it is foreign in Africa.

*Health Seeking Behaviour:* According to Pushpalata and Chandrika (13), Health-seeking behaviour is a “sequence of remedial action that individuals undertake to rectify perceived illhealth.” In particular health-seeking can be described with data collected from information such as the time difference between the onset of an illness and getting in contact with a healthcare professional, type of healthcare provider patients sought help from, how compliant patient is with the recommended treatment, reason for choice of healthcare professional and reasons for not seeking help from healthcare professionals. In the behaviours associated with establishing and maintaining a healthy physical and mental state, (Primary prevention) health seeking behaviour also include behaviours that deal with any digression from the healthy state, such as controlling (Secondary prevention) and reducing impact and progression of an illness (Tertiary prevention).

## **2. Methodology**

This research paper explores the health seeking behaviour and treatment options of patients who suffer or have suffered from typhoid fever. It is both qualitative and quantitative. Underlying the qualitative method, the researchers relied mainly on observation, interviews and photography. We paid numerous visits to some herbal homes and the residents of a few typhoid fever patients. This was to find out the herbs and other natural elements used to manage the disease, how these herbs are prepared and consumed. We went with some traditional healers to their herbal gardens and the bush to witness the different herbs, fruits and items needed to treat typhoid fever. The researchers equally observed how these herbs and/or leaves, barks, roots and fruits of trees were prepared before handing to patients.

In-depth interviews were conducted with four categories of informants; patients, elderly persons, traditional healers and medical doctors. These participants were selected using the snow ball sampling technique. Snowball sampling is a non-probability sampling technique where new

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<sup>1</sup> The term indigenous medicine which also refers to traditional medicine has also been used in this article.

participants are recruited by other participants to take part in a research study. It begins with one or two study participants and then continues on the basis of references from these participants. The process continues until the researcher reaches the desired sample of a saturation point. Ten (10) patients between the ages 35 to 70 years were interviewed to understand where they go to for treatment of typhoid fever, the treatment they receive and the length of time they take to treat the disease. In-depth interviews were conducted with two (02) elderly men and two (02) elderly women to comprehend their life experiences and the management of typhoid fever. From them, the researchers were able to understand the treatment they gave their children for those with children and how the treatment was prepared. Seven (07) traditional healers were interviewed in order to find out the type of medicine they administer to typhoid fever patients. They were equally interviewed to discover the manner in which the medicines were processed and stored. Interviews were carried out with five (05) medical doctors to ascertain the procedure they take to determine that a patient is suffering from typhoid fever, types of drugs prescribed, and to ascertain the reasons for the varying treatment options.

This research was also quantitative, as some statistical data was obtained for a better discernment of the situation in the Douala IV subdivision. Two main hospitals in the Douala IV subdivision were visited to obtain statistical data, one being a government hospital and the other a private, Catholic hospital. There is a significant use of literature review which has buttressed the understanding of the phenomenon including its epidemiological situation and pathogenesis from other places.

The data for this research was analysed soon after field work. Information recorded during observation and interview sessions were transcribed verbatim and arranged according to the different themes (perception, factors which determined choice of treatment, treatment of typhoid fever) and categories of people interviewed. The iconographic data collected during observation and interviews were interpreted to give more credibility to the observable and oral data.

### **3. Presentation of Findings**

In Cameroon including Douala IV, typhoid fever is a life threatening disease caused by the consumption of unhealthy food and beverages, and especially water. There are many reasons that account for the burden of the disease. Poverty as discussed earlier is largely a dominant cause. The socio-cultural, environmental, infrastructural and economic situation of the population is a concern for the understanding of the incidence of typhoid. Many people suffer from it without knowing. Its prevalence in the Douala IV subdivision as a whole is not very much established. But from observation, many people are suffering from it. Once symptoms manifest, patients either go to the hospital or use indigenous methods for treatment. The article employs two theories (medical pluralism of Leslie (14) and cultural ecology of Steward (15) to analyse and interpret the data. This portion of the paper focuses on health-seeking behaviour for the treatment of typhoid, an assessment of typhoid situation in Douala IV subdivision and recommendations.

### **3.1 Health-seeking behaviour for typhoid treatment**

In Cameroon in general and Douala IV in particular, patients who suffer from typhoid fever like many other diseases, seek treatment in different places and this is largely determined by their perceptions about each disease. The data in this section is analysed and interpreted using the medical pluralism theory of Charles Leslie (14). This theory was originally applied to the situation of medical revivalism observed in South Asian societies. It was later extended to other societies. Medical pluralism discusses the availability of varied medical approaches, treatments, and institutions that people use while pursuing health. As a concept, medical pluralism lies at the heart of the discipline of medical anthropology, which owes its birth to the study of non-Western medical traditions and their encounters with biomedicine, Khalikova, (16). In the early 1970s, Leslie, in his study of Asian healthcare systems, introduced the concept of pluralism or medical pluralism, which refers to a pattern of co-existence and competition among multiple healthcare systems in a specific region, Yu, (17). Patients suffering from typhoid fever disease navigate between home remedies, evidence-based medicines, religious healing, and other alternatives. Most of them choose either conventional (biomedicine) or traditional medicine.

#### **3.1.1 Conventional Medicine and Typhoid Fever**

The hospitals and health centres are common places where typhoid fever is always diagnosed. Although health facilities are the last resort where patients suffering from typhoid fever consult, it remains one of the main places for the control of typhoid fever. That is the control of the disease relies on clinical information, diagnosis, and an understanding of the epidemiology of the disease, Wain et al, (9). Typhoid fever presents clinically across a spectrum of severity with a range of symptoms and signs including fever, abdominal pain, nausea, and vomiting, that make differentiating it from other febrile and gastrointestinal illnesses challenging, Marchello, (18). Many patients have revealed that typhoid fever is often confused for malaria because of the symptoms that it manifests. Hence, for typhoid fever to be diagnosed perfectly, the patient has to undergo laboratory examinations. It is for this reason that patients who suspect malaria always go in for auto medication. Then if the symptoms persist after consuming malaria medication, they go in for a typhoid fever test. The role of conventional medicine in this condition is to determine the exact cause of the suspected symptoms. Tufael and Sunny (8) have indicated that an understanding of the antibiotic susceptibility of *Salmonella typhi* is crucial in selecting the most effective treatment. They continue that over 90% of patients with uncomplicated typhoid fever can be managed with oral antibiotics and regular follow-up. However, in Cameroon, immediately patients are diagnosed, most of them begin with conventional health medications and progress to traditional medicine of herbs which they believe to be the most effective treatment.

Douala IV has a number of hospitals and health centres that patients visit mostly for a proper diagnosis. Some of these health facilities include those owned and managed by the government, confessional organizations and private individuals as indicated in table 1.

**Table 1: List of health facilities (hospitals, health centres and clinics) in the Douala IV subdivision<sup>2</sup>**

| Name  | Category                     | Ownership   |
|---|------------------------------|---|
| Bonassama District Hospital                 | Hospital                     | The Cameroon Ministry of Public Health (MINSANTE)     |
| Hospital Ad Lucem Bonaberi                  | //                           | Private medical foundation                            |
| Bonaberi Baptist Hospital<br>Douala (BBHD)  | //                           | Cameroon Baptist Convention (CBC)<br>Health Services  |
| Hôpital Catholique Saint Albert<br>Le Grand | Hospital                     | Roman Catholic Church                                 |
| Unique Hospital Bonaberi                    | //                           | Private hospital                                      |
| Polyclinique Merveilles des<br>Conquetes    | //                           | Private polyclinic                                    |
| Centre de Santé Intégré de<br>Douala IV     | Integrated health<br>centres | The Cameroon Ministry of Public<br>Health (MINSANTE)  |
| Bonaberi Baptist Health Centre              | //                           | Cameroon Baptist Convention (CBC)<br>Health Services. |
| Clinique Kerthan                            | Clinic                       | Private Clinic  |
| Jordan Medical Center                       | //                           | Private Clinic  |
| Incorehcc Clinic                            | //                           | Private Clinic  |
| Saint Sylvester Medical<br>Foundation       | //                           | Private Clinic  |
| Mezam Polyclinique M.P.C<br>Annexe Douala   | Polyclinique                 | Private Polyclinique                                  |

**Source: Bonassama District Hospital (17-10-2025)**

Table 1 above shows the different health care facilities that exist in the Douala IV municipality. The District Hospital at Bonassama is the main hospital and it is owned by the government. It covers the whole health area of Douala IV. All the other health structures in the table report their health care activities to the district hospital. We sampled this district hospital and the Saint Albert Le Grand Catholic Hospital for this research as it is seen in table 2 and table 3 below.

<sup>2</sup> It should be noted that this list may not be exhaustive given that other health facilities may have been created after this publication

The researchers collected weekly and monthly statistics from two hospitals (Saint Albert Le Grand Catholic Hospital and Bonassama District Hospital) to uncover the prevalence of the disease. Table 2 is a weekly statistics of consultations of patients for typhoid fever from June 30<sup>th</sup> to October 12<sup>th</sup>, which is a period of fifteen (15) weeks.

**Table 2: Weekly Statistics of Consultations and Confirmed cases for Typhoid from the Saint Albert Le Grand Catholic Hospital, Bonaberi, Douala**

| Weeks   | Number of consultations | Number of Confirmed cases from laboratory Diagnosis |
|---|-------------------------|---|
| 30 <sup>th</sup> June – 06 <sup>th</sup> July 2025      | 49                      | 07  |
| 07 <sup>th</sup> July to 13 <sup>th</sup> July 2025     | 50                      | 05  |
| 14 <sup>th</sup> July to 20 <sup>th</sup> July 2025     | 50                      | 07  |
| 21 <sup>st</sup> July to 27 <sup>th</sup> July 2025     | 49                      | No statistics                                       |
| 28 <sup>th</sup> July to 03 <sup>rd</sup> August 2025   | 50                      | 06  |
| 01 <sup>th</sup> August to 10 <sup>th</sup> August 2025 | 85                      | 12  |
| 11 <sup>th</sup> August to 17 <sup>th</sup> August 2025 | 50                      | 06  |
| 18 <sup>th</sup> August to 24 <sup>th</sup> August 2025 | 50                      | 07  |
| 25 <sup>th</sup> August to 31 <sup>st</sup> August 2025 | 50                      | 06  |
| 01 <sup>st</sup> Sept to 07 <sup>th</sup> Sept 2025     | 46                      | 08  |
| 08 <sup>th</sup> Sept to 14 <sup>th</sup> Sept 2025     | 50                      | 06  |
| 15 <sup>th</sup> Sept to 21 <sup>st</sup> Sept 2025     | 40                      | 02  |
| 22 <sup>nd</sup> Sept to 28 <sup>th</sup> Sept 2025     | 40                      | 03  |
| 29 <sup>th</sup> Sept to 05 <sup>th</sup> Oct 2025      | 46                      | 00  |
| 06 <sup>th</sup> Oct to 12 Oct 2025                     | 70                      | 09  |
| <b>Total</b>  | <b>774</b>              | <b>84</b>   |

*Source: Saint Albert Le Grand Catholic Hospital, Bonaberi, Douala (16-10-2025)*

Table 2 above contains statistics for typhoid fever consultations and confirmed cases between June and October 2025. According to the statistics, 775 patients were suspected of having typhoid fever and sent to the laboratory for confirmation. Out of this number, 84 cases were confirmed for suffering from typhoid fever. This figure represents about 11 per cent of the total number of consulted persons. The exact number of treated persons is unknown given that a majority of these patients go in for traditional treatment. While some patients follow the treatment prescribed in the hospital, others begin with it and later abandon in favour of traditional medicine.

Another statistic which spanned for five months from June to October 2025 was collected from the Bonassama District Hospital (table 3). According to this statistics, 134 suspected cases of typhoid were sent to the laboratory for medical tests to find out if they had salmonella/shigella. Out of this number, 07 cases were confirmed positive for salmonella/shigella.

**Table 3: Monthly Consultations and Confirmed Cases for Typhoid Fever from the Bonassama District Hospital, Douala**

| Months         | Number of Consultations | Number of Confirmed Cases |
|----------------|-------------------------|---------------------------|
| June 2025      | 19                      | 03                        |
| July 2025      | 30                      | 04                        |
| August 2025    | 23                      | 00                        |
| September 2025 | 35                      | 00                        |
| October 2025   | 27                      | 00                        |
| <b>Total</b>   | <b>134</b>              | <b>07</b>                 |

*Source: The District Hospital, Bonassama, Douala.(18-10-2024)*

The statistics in the tables above indicate that typhoid fever is a health problem in this subdivision like in the rest of Cameroon. It presents clinically across a spectrum of severity with a range of symptoms and signs including fever, abdominal pain, nausea, and vomiting, that make differentiating it from other febrile and gastrointestinal illnesses challenging, Marchello, (18). Many patients have revealed that typhoid is often confused for malaria because of the symptoms that it manifests. Hence, for typhoid to be diagnosed perfectly, the patient has to undergo laboratory examinations. It is for this reason that patients who suspect malaria always go in for auto medication. Then if the symptoms persist after consuming malaria medication, they go in for a typhoid test. The role of conventional medicine in this condition is to determine the exact cause of the suspected symptoms. Tufael and Sunny (8) indicate that understanding the antibiotic susceptibility of *Salmonella typhi* is crucial in selecting the most effective treatment. They continue that over 90% of patients with uncomplicated typhoid can be managed with oral antibiotics and regular follow-up. However, in Cameroon, immediately patients are diagnosed, most of them begin with conventional health medications and progress to traditional medicine of herbs which they believe to be the most effective treatment.

Medical personnel interviewed say that the disease is called typhoid fever, though people commonly call it typhoid. When some patients notice the symptoms of typhoid fever, they begin treatment without conducting any laboratory test to ascertain the disease. After taking treatment two or three times unsuccessfully, they consult a medical doctor and request that a laboratory test be carried out to determine the illness they are suffering from. Before recommending a laboratory test for a typhoid fever suspected patient, a medical doctor has to be sure of at least three symptoms including cephalées, insomnia, dizziness, epistaxis, temperature. Apart from

these symptoms, the medical personnel can still add constipation, vomiting, and diarrhea (if the stool is yellowish). That is, patients are sent to the laboratory depending on the symptoms that they manifest. Patients who show symptoms like cephalic (headache), insomnia, dizziness, epistaxis (nosebleed) and high temperatures may be suspected to have been infected by salmonella which causes typhoid fever, and so are sent to the laboratory for medical examination. A medical doctor noted that:

*In many places in Cameroon, when a person has symptoms such as headache, dizziness, joint pains, fever, abdominal pains, constipation, s/he immediately understands that it is malaria and then commences its treatment. If the treatment does not work, the patient comes for consultation. During this consultation, I ask him/her a number of questions and if the symptoms s/he presents are those of typhoid fever, I recommend a test to confirm it. After the test, if the patient is diagnosed positive for the disease, I prescribe medications. Many people do not believe that typhoid fever is treated in the hospital (Douala IV, 18/10/2025).*

From the analysis above, we notice that many patients go to consult with pre-conceived notion or simply imagine that they are suffering from typhoid fever. At the hospital, they immediately ask for a typhoid fever test and insist to be sent to the laboratory for this medical test because they do not have a problem affording for the payment. Such patients after suspecting that they have typhoid fever, they go to the hospital and request for a medical examination to confirm their suspected condition. The test for typhoid fever in the hospital and clinics ranges between 10,000FCFA (US\$17.84) to 15,000 FCFA, (US\$26.77) an amount that many families may not be able to afford in Cameroon. This same amount can be spent on treatment.

### **3.1.2 The treatment of typhoid fever in biomedical settings**

Generally, when patients suspect that they have typhoid fever, they go to the hospital for consultation and diagnosis. During this time, just a few remain faithful to the process. They go through a laboratory test after which they are put on medication if they are confirmed positive. This article has not concentrated much on this section since the process is well established scientifically in the domain of conventional medicine throughout the world. This article puts more interest in looking at why patients prefer traditional medicine to conventional medicine.

### **3.2 Indigenous Medicine and Typhoid Fever**

There are about thirteen (13) hospitals, health centres and clinics in the Douala IV subdivision (table 1) that could take care of the treatment of typhoid fever but most patients often turn to traditional medicine; herbs, leaves and other elements collected from the local environment, a healing system rooted from the culture of the people to treat this disease. This is because it is believed that the disease could be treated better indigenously than with the use of conventional medicine. As already discussed earlier, there are symptoms that when they manifest, many

people will point to typhoid but laboratory test is the surest means through which patients know that they are suffering from the disease. Many traditional healers depend on symptoms and laboratory test to be able to prepare a treatment for typhoid fever.

Some patients also go in for traditional medicine because of the influence of other people because of their experience with the disease or because of what they have heard others say. Actually, many people know several herbs, leaves, barks, roots and fruits of trees used to treat typhoid fever because they are traditional healers. They know them because they have used them once or twice to handle the disease. Most of those who treat typhoid fever traditionally and who are not traditional doctors are elderly men and women. These men and women have not had formal lessons in the treatment of typhoid fever as it is done in the biomedical setting. They have acquired it from observation as well as participated in the preparation of the treatment. Some of them simply copy from their parents who used to do the treatment.

In some cases, if a patient consults a ‘native’ doctor (traditional healer) and s/he is prepared the treatment and then it heals him or her, s/he might ‘take the medicine’. To *take the medicine* means that the treated patient will request that the native doctor hands or transfers the knowledge to him/her. That is, the patient requests that the healer shows him/her the herbs, leaves, barks, roots and fruits of trees and any other items s/he used. By doing this, the traditional doctor equally explains the procedures and techniques involved in the preparation. An elderly man recorded that:

*I know a good number of herbs, leaves, fruits which I can combine to treat typhoid fever. I am not a native doctor but I took this indigenous knowledge of the treatment of the disease from an elderly mother who treated me and I got healed. She showed me all I needed for the treatment and requested for a small bundle of salt and a litre of palm oil. The salt and palm oil she received from me are the same items I have to collect from any patient who comes to me for treatment. I respect this condition to the latter because if I do not, when I administer treatment to a patient, it will not work (Douala, 12/11/2025).*

There are many different items (herbs, leaves, barks, roots, fruits of trees) put together to obtain indigenous treatment of typhoid fever. The knowledge of this concoction and formulae may be acquired through experience or it is simply handed down. Treating typhoid fever indigenously requires several items and procedures as described below.

### **3.2.2 Indigenous treatment of typhoid fever**

There is a wide variety of indigenous treatment of typhoid fever but this article describes only two of them. The treatment constitutes concoctions of herbs, barks, roots and fruits of trees. In fact, this treatment is rooted in the people’s culture and it is transmitted through generations. The herbs, barks, roots and fruits of trees are elements of nature which are used to produce culture, the treatment of typhoid fever. This use of nature to make culture is in line with Steward’s

cultural ecology theory. The theory looks at cultural features in relation to specific environmental circumstances, with unique behavioral patterns that are related to cultural adjustments to distinctive environmental concerns. To produce traditional treatment for typhoid fever therefore, the most preferred and effective ingredients used are fresh leaves, roots and fruits. An interlocutor said that:

*I treat patients with typhoid fever with leaves, root and barks of trees. In this natural treatment, I harvest plants needed very early in the morning before 6 am. These items maintain their medicinal properties when harvested at this period of the day. I prefer them fresh because they will be easy to handle and the medicinal properties will still be intact.*

The first treatment is made up of the leaves of okongobong or *telfairia occidentalis* (fig. 1) and lime fruits. To prepare this treatment therefore, one, two or three bundles of okongobong leaves are required. This vegetable is usually tied in bundles and sold in the local markets. A bundle (fig. 2) costs 200FCFA (US\$0.36). This is the cost of a bundle in the rainy season. A bundle costs 3000FCFA (US\$5.35) in the dry season when there is not rainfall. Those who have these plants in their farms or compounds simply harvest them and a handful is the equivalent of a bundle.

**Figs. 1 and 2: *Okongobong* plant and leaves tied in a bundle**



**Source: Tikere's archives (10/11/2025)**

The harvested leaves of okongobong or *telfairia occidentalis* are dipped in water several times to remove any dirt or insects on it. The leaves are crushed properly with the hands in one or two

litres of water (fig. 3). Some people pound them in the round and standing mortar with a pestle to obtain a quick result.

**Fig. 3: The leaves of okongobong crushed in water to obtain juice**



**Source: Tikere's archives (10/11/2025)**

The chaffs (crushed leaves) are removed and prepared as soup and eaten with plantain, cocoyam or yam. The juice (fig. 4) is used to treat typhoid fever. For those who possess a means of preservation, put some of the juice in plastic bottles of one to one and a half litres. This treatment has to last for two weeks by so doing patients need about four bottles of one litre for a complete treatment.

**Fig. 4: Juice of okongobong for the treatment of typhoid fever**



**Source: Tikere's archives (10/11/2025)**

This juice is consumed with lime fruit. The patient consumes a glass of it every morning and evening. Before consumption, a lime fruit is cut into two halves (fig. 5), and one part squeezed in the juice before drinking. The treatment last for fourteen days or two weeks, time enough to eradicate the salmonella typhi in the patient.

**Fig. 5: Limes used in the treatment of typhoid fever**



Source: Tikere's archives (13/01/2026)

The second treatment of typhoid fever is as follow. Other people would treat typhoid fever with a combination of leaves (figs. 6, 7 and 8); paw paw (*carica papaya*), guava (*psidium guajava*), lemongrass (*cymbopogon citratus*). Some garlic (*allium sativum*) and ginger (*zingiber officinale*) are equally combined with these leaves.

**Fig. 6. Leaves of paw paw**



**Fig. 7: Guava leaves**



**Fig. 8: Lemongrass**



Source: Tikere's archives (02/11/2025)

Some people will add the leaves of pear (*pyrus communis*) and mango (*mangifera indica*) to the leaves mentioned above. These leaves are added because many people believe that symptoms of typhoid fever are similar to those of malaria fever. Due to such a belief, when someone has typhoid fever, s/he prepares or requests the treatment of both with the intention that in the course of treating one, the other will be treated.

**Fig. 9: Leaves of pear**



**Fig. 10: Mango leaves**



**Source: Tikere's archives (22/11/2025)**

When the leaves of these plants are harvested, they are properly washed and rinsed in clean water and then put in a pot. Water depending on the quantity of medicine is poured in the pot. All the leaves used are harvested from the environment. Some of them like the lemongrass are planted in many compounds because many persons consume it regularly. Those who do not possess the lemongrass in their compounds buy from the market. It is tied in small bundles (fig. 11) and the prices range from 100FCFA (US\$0.18) to 150FCFA (US\$0.27) depending on the season. The pot is placed on fire and allowed to boil for several hours for the medicinal properties to be extracted.

**Fig. 11: Lemongrass tied in a bundle**



**Source: Tikere's archives (02/11/2025)**

When the medicine is ready, some of the juice is removed and stored in a container or containers to be consumed in the morning and evening. The pot containing the leaves is put on the fire again and allowed to boil for about five minutes. The pot is removed and placed on the floor. The patient sits close to it and a blanket or any thick clothe is used to cover both the patient and the pot. When this is done, the pot is uncovered. The heat from the pot will cause the patient to sweat profoundly. The sweat is interpreted as the disease which is coming out of the patient.

The boiled concoction which is persevered in bottles or any other container is stored in the refrigerator (for those who possess it). Those who do not have the refrigerator may conserve it in a pot which may be hit whenever it has to be consumed. This juice is drunk twice every day for about a week. A glass in the morning and another in the evening.

Other people will include garlic and ginger in the boiled concoction. A hand full of cloves of garlic (fig. 12) and ginger (fig.13) are cleaned. The two are chopped in small pieces and steeped in water for about twelve (12) hours. Afterwards, the juice is extracted and mixed with the boiled concoction and taken morning and evening. Some people will grind the garlic and ginger, add a little water to it. The juice is separated from the chaffs. This juice is added to the boiled medicine before drinking. These substances are consumed because it is believed that they have antibacterial properties making it useful to treat typhoid fever.

**Figs. 12 and 13: Garlic and Ginger respectively used to produce medications for Typhoid Fever**



**Source: Tikere's archives (08/12/2025)**

The production of indigenous typhoid fever medicine by the local people demonstrate their capacity to transform nature (herbs, leaves, roots, bark of trees and fruits) to culture (concoction). Affirming one of the characteristics of culture which notes that culture imposes itself on nature. This equally demonstrates the theory of Steward's cultural ecology as discussed above.

We have mentioned earlier that in Cameroon and in Douala IV in particular, patients who suffer from typhoid fever seek treatment in different places and this is largely determined by their

perceptions about each disease. From observations and the discussions, we had with informants, patients suffering from typhoid fever disease navigate between home remedies, evidence-based medicines, religious healing, and other alternatives. But we found out that majority of patients with typhoid fever seek indigenous treatment. The question therefore is, why do many patients suffering from typhoid fever choose indigenous treatment?

### **3.3 Reasons why many people prefer indigenous treatment to biomedicine**

There are thirteen (13) hospitals, health centres and clinics in Douala IV subdivision which can help eradicate the typhoid fever disease in the area. Majority of patients do not seek conventional treatment, but pursue traditional medicine to cure the disease. These are some reasons why most patients prefer indigenous treatment to biomedicine.

#### **3.3.1 Indigenous treatment is preferred to biomedicine in the treatment of typhoid fever because of cultural influence**

Many patients pursue indigenous treatment for typhoid fever because of cultural influence. Cultural influence is the knowledge, beliefs, laws, morals and habits acquired by individuals as members of a society, which shape their behaviour and consumption patterns. Many informants; patients, individuals with knowledge in the treatment of typhoid fever and traditional healers note that they grew up seeing it, they are practicing it, and this knowledge is gradually being handed down to the younger generation. This indigenous healing system is thus a cultural heritage which must be perpetuated so that it does not disappear. The herbs, leaves and other items used to produce concoctions and the formulae people share is from their personal experiences of how it has worked on them. Consequently, many patients quickly abandon conventional health care medications and focus on traditional medicines for their treatment. An interlocutor said that:

*Typhoid fever is a disease which has been with us for centuries. We use local ingredients and herbs for their cure. These herbs and the knowledge are copied from the older people. Most at times we learn them unknowingly. I know some leaves and stems of trees which I use to treatment typhoid fever. My mother used to cook them and give us to drink each time we manifested typhoid fever symptoms. I was actually the one which she would send and I ended up mastering the treatment (Douala, 2025).*

The indigenous cure for typhoid fever has existed long before the introduction of biomedicine. The people live it and practice it on a daily basis. Indigenous cure is therefore their cultural identity, a common heritage which goes beyond the life span of individuals. A traditional doctor said that:

*Traditional medicine has existed even before the arrival of conventional medicine. This medicine which is made up of natural substances ranging from herbs to fruits is handed down through generations. Even if we visit the hospitals from time to time, we are so attached to traditional medicine, we cannot be separated from it (Douala, 15/10/2025).*

Cultural influence has made most people not to seek treatment in the hospital because psychologically, they believe that conventional medicine is only helpful in calming down the disease. Hence, the hospitals and health centres provide only short term treatment. With this notion, patients give priority to traditional medicine when they have been diagnosed and are ascertained that it is typhoid fever. Patients believe that long term treatment can only be found in traditional medicine through the consumption of herbs. Traditional medicine which is of nature is linked to the spiritual world making it ancestral.

### **3.3.2 Traditional treatment of typhoid fever is preferred because it is less expensive**

When many patients suffering from typhoid fever are certain that, that is the disease they have, they go to the hospital to conduct a test to confirm their suspicions. At the hospital an individual is expected to pay fee for consultation which may range from a thousand francs and more depending on the institution. Afterwards, s/he has to carry out a laboratory test. The costs of this test also vary depending on the hospital or clinic. In some institutions, it costs 6.500FCFA (US\$11.60) meanwhile in others, it may cost 7.000FCFA (US\$12.49).

To treat the same disease using the indigenous medical system, someone who has the knowledge and the skills will simply harvest or collect the elements s/he will need to prepare the concoction from the local environment which may not cost any finances. If the patient has to buy these items (bundles of okongobong leaves and lime fruits) from the local market, s/he may spend 600 FCFA (US\$1.07) or 900FCFA (US\$1.61) in the rainy or dry season respectively. A bundle of these leaves costs two hundred francs in the rainy season and three hundred francs in the dry season. Three bundles of okongobong leaves will prepare medicine for a complete treatment of typhoid fever. In the local market, a packet of lime fruits which contain six fruits sells for a hundred francs. And a single packet is enough for a complete treatment of the disease.

Individuals who cannot conduct the treatment alone, need the services of a traditional healer. Some healer may request for a local chicken, some salt and palm oil. A chicken may cost about 3000FCFA (US\$5.35), a bundle of salt for 100FCFA and a litre of palm oil for 100FCFA (US\$0.18). All these put together will cost 3000FCFA (US\$5.35). Many patients who suffer

from typhoid fever usually compare the cost of treatment in the biomedical and the traditional system. And they will opt for the indigenous treatment since it is less expensive.

Once the symptoms manifest, patients, most times resort to traditional medicine for their treatment options. Some of the patients who were interviewed indicate that they lack access to conventional medication because of limited financial resources. A lady said that:

*Typhoid fever is an illness which is very common in our society. Its treatment in the hospital is very expensive. I was ill and I consulted a doctor in one of the hospitals in the subdivision. I was tested positive for typhoid fever and was prescribed some drugs among which were antibiotics. These drugs were really expensive that I could not afford. Most people in my situation usually go in for traditional treatment which is less expensive.*

Many other patients struggle to acquire the treatment of typhoid fever from the hospital and if they cannot afford finances to continue and complete the treatment, they simply switch to traditional medicine which is less expensive.

### **3.3.3 Most people seek indigenous healing because it is accessible and available**

The herbs, leaves, barks, roots, fruits of trees and many other items used in indigenous treatment of typhoid fever are available in the environment where the people live. Many of the people through experience know many plants which help in the management of this disease. Obtaining them only requires an individual to know when to harvest them and the procedures and techniques needed to prepare a concoction.

Traditional medical healers and herbalists are also available and also affordable. These practitioners contribute to treatment of patients. Many herbalists have herbal gardens in which they have planted some of these plants. The practices involved in the curing of typhoid fever are passed down by traditional health practitioners to their own children or relatives verbally and practically. These practitioners explain the process to their children while the children sit and watch them carry out treatment on a patient. The knowledge they have acquired is transmitted through generations and ensures continuity.

### **3.3.4 Traditional treatment is preferred because it is natural**

Traditional medicine for the treatment of typhoid fever is very natural since it is done with the use of natural herbs mixed to produce concoctions. These herbs with other items like barks and roots of trees are natural since they are collected from their immediate environment. These leaves, barks and roots which may be eaten fresh, dry or through herbal mixtures are natural and 'safe' as the people understand their source. Apart from knowing the source of these drugs, they (drugs) are produced by traditional doctors and herbalists using indigenous knowledge. These items (barks and roots of trees) are crushed with the hands or pounded in the mortar with pestle or they are boiled. This is more accepted by patients though it has been criticized by

conventional health care practitioners because this form of treatment despises dosage and the chemical composition of the concoctions.

Some patients think that drugs given in the hospital may be toxic since they are processed in various machines. Many of them have side effects which the traditional concoctions may not have. Being afraid of what conventional medicine may cause, most patients boycott it.

Many other patients lack trust in conventional medication and rush for traditional medicine citing reasons like effective cure and once and for all treatment. This epidemiological situation makes it difficult for real action to take place. The burden of the disease is high, though not yet reaching epidemiological proportions. This can be verified in table 2 and table 3 above. When most patients suspect that they have typhoid fever, they go for auto medication or consult traditional healers who prepare them herbal treatment. This makes it a little challenging to have a dependable approximate statistics of the epidemiological situation.

The indigenous treatment of typhoid fever has raised doubts in biomedicine because it involves a poor knowledge of the biological composition of the herbs and the dosage for consumption.

#### **4. An Assessment of the Situation**

In Douala like the rest of Cameroon, the prevalence of typhoid is still very high and difficult to treat or cure because of its resistant nature. As was earlier indicated in this paper, there are a number of reasons that account for the prevalence of the disease among the populations. The reasons include poverty, poor treatment techniques, poor access to hygienic consumables like food and water. According to Akwa and Nguimbous (7), water sanitation in Douala is poor which greatly contributes to water borne diseases such as typhoid and cholera.

In another study carried out, Nodem et al (19) concluded that the other sociodemographic parameter affecting the prevalence rate of typhoid fever is the level of education which is still low and prevalence was highest in primary educational level than any other levels. In addition, the lower occurrence was recorded among patients who attended secondary and higher education, performed civil servants and merchants, and of 30–50 years old. This could be due to the fact that these groups have sufficient money and knowledge about the typhoid fever, have protection from infection, and have visited antenatal clinics more than people with little or no education. In contrast, the number of people with the level of education among illiterates, primary and secondary education groups particularly in rural areas is still low. Most of them still believe that Africans are resistant to infectious diseases and therefore consume food or water available to them irrespective of hygienic standards. They say that their fore parents and ancestors have lived through the same means and nothing happened to them. Hence, it will not happen to them now.

Malaria and typhoid fever are two leading infections of poverty with serious health and socioeconomic impacts, and due to their geographical overlap, coinfections are very common.

This is the reason that some patients start treating malaria when they feel feverish because they conclude that mosquitoes are around and must be the cause. It is when they get auto medication and the suspected malaria is not subsiding that they suspect typhoid fever and then go to the hospital for a medical diagnosis. Some of these patients for lack of financial resources get malaria auto medication and herbal treatment for typhoid fever simultaneously.

Typhoid seems to be one of the most neglected diseases in Cameroon. This may be because most patients do not really care about follow-up in treatment in the various hospitals and health centres. Typhoid is hardly seen as a fatal disease in Cameroon because there are a variety of treatment options. Most patients who persist with conventional medicine end up seeking health care in traditional medicine because psychologically, they believe that they can have satisfaction there. Medical pluralism is an essential theory to the understanding of this phenomenon.

Patients most of the time try to contain the disease because they neglect the consequences to their bodily systems and also because of the lack of financial resources. As a consequence, some may blame the lack of time to visit hospitals and health centres for a complete follow-up of treatment.

Traditional medicine has been proven to be effective in the treatment of typhoid given that the number of people who seek health care there do so because of trust. It is proof that traditional medicine is worthy in the treatment of typhoid fever. It calls for a better harnessing of this form of treatment so that patients can get this treatment without any prejudice on its medical composition and application.

Traditional medicine is an effective medication to tackle typhoid fever. The question is about why official policy has not increased its interest in this sector of traditional medicine and healthcare. The government voted a bill on traditional medicine in 2024, yet it has not been applied because they are still to sign a text of application.

Some patients think that you live with typhoid fever all your life because they believe that it is untreatable. Medically, it is not true because patients go into a relapse because they are re-contaminated after treatment given that they go back and continue living and consuming the same things in the same environment.

## **5. Recommendations**

For typhoid to be tackled completely there must be a level of collaboration between the different health care stakeholders in the sector. They include the government, conventional health care practitioners and traditional medicine practitioners. Importance should be given to traditional healers who have understood the dynamics of the disease and also practiced in the health care provision. Collaboration has to dictate the order of proceedings for typhoid to be reduced and even eradicated. Following the passing of a bill in Cameroon's Parliament to recognize traditional medicine in Cameroon, it is necessary that the rules in this bill be put into practice for

traditional medicine to be uplifted in the treatment of diseases of various kinds including typhoid fever.

In a large town like the Douala IV subdivision, many socio-economic conditions have to be improved upon especially the constant provision of pipe borne water at affordable prices so that every inhabitant can benefit. There should be the enhancement of traditional medical health care provision has to be so that traditional healers may play their roles effectively.

Medical sensitizations should also be improved upon and also done on proximity basis. This means that the populations should be sensitized as often as possible especially patient who have been treated to avoid a relapse. Patients have to be informed about the conditions that favour contamination so that they also work hard to improve their environmental living conditions. Constant hand-washing, cleaning of consumables and surrounding environments should be encouraged. By doing this, the populations will avoid contaminations and relapse.

The making of vaccines for typhoid fever available, accessible and affordable through sensitization efforts should be promoted. The ignorance of various preventive options available in hospitals can be discarded if health promotion against the disease is enhanced in public spaces.

The incidence of typhoid fever can be reduced drastically amongst the population if most of the recommendations above are put into practice. Since it is a disease connected to environmental hygiene, the population and health care personnel including conventional health care personnel and traditional healers can continue to work together to eradicate this health care challenge.

## **6. Conclusion and Perspectives for Future Research**

Typhoid fever remains a public health issue in Cameroon in general and in Douala IV subdivision in particular. It is necessary that increased efforts be put in by all stakeholders for its reduction and eradication. Health seeking behaviours vary significantly, thus reinforcing the theory of medical pluralism that is practiced in many communities. This paper has assessed and highlighted the health seeking behaviours of typhoid fever patients and their various treatment options. The searchers found a higher rate of traditional medical treatment for typhoid fever more than the rate of treatment from conventional medical sources. Many patients advanced many reasons why they go in for traditional medical treatment. This opens the door for more research on how typhoid fever can be eradicated or reduced to its most basic levels. It also gives room for more research on traditional medicine on how it can be improved upon, authorized by MINSANTE as one of the officially recognized forms of treatment available for typhoid fever.

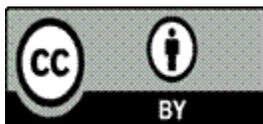
## **Conflict of Interest Statement**

The researchers declare that there are no conflicts of interest associated with this study. This research was conducted without any commercial and financial relationship that could be constructed as a potential conflict of interest.

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