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Minawao: a place providing care and cuilding health resilience for nigerian refugees in Mayo-Tsanaga (Far North, Cameroon)

Daniel Valérie BASKA TOUSSIA (Ph.D.)
Lecturer-Researcher, Geographer
Department of Geography, École Normale Supérieure de Maroua
Université de Maroua, Cameroon

Université de Maroua
École Normale Supérieure de Maroua
Département de géographie

Les Papiers de la Fondation No. 55

June 2023

This research was carried out as part of the call for postdoctoral fellowships launched by the French Red Cross Foundation and with the financial support of its partner, AXA Research Fund.

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With the support of

AXA Research Fund

To cite this article:

BASKA TOUSSIA Daniel Valérie, 'Minawao: a place providing care and building health resilience for Nigerian refugees in Mayo-Tsanaga (Far North, Cameroon)', French Red Cross Foundation, *Les Papiers de la Fondation*, No. 55, June 2023, 26 p.

Abstract

The Minawao camp was established by the government of Cameroon and the United Nations as a sanctuary for Nigerians fleeing the atrocities of Boko Haram. On June 30, 2020, the camp hosted 51,622 refugees. The refugees' living conditions, access to adequate health care, and integration into the camp have all been difficult. This study examines the health problems of the refugees and their capacity to address them. In light of the continuous influx of refugees, the Minawao camp has been beset by significant problems of food insecurity coupled with a high rate of malnutrition, exposure to health hazards, and inadequate access to water, hygiene, and sanitation. The repercussions have been enormous, as noted by an average of 182.5 deaths occurring annually, according to the IMC (2015). Based on interviews and an analysis of the registers of the International Medical Corps (IMC), Médecins Sans Frontières (MSF), and the Mokolo District Hospital, the refugees have managed to find shelter in the camp despite its precarious living conditions that have nevertheless been alleviated by the resources provided by humanitarian organisations. In addition, the camp must contend with certain recurring diseases, such as malaria (26.10%), respiratory infections (12.12%), typhoid fever (13.74%), diarrhoea (6.81%), dermatoses (2.26%), amoebic dysentery (22.75%), rheumatism (2.42%), measles (2.19%), stomach ailments (3.46%), tuberculosis (2.57%), ovarian cysts (0.46%), as well as malnutrition (5.08%). Subsequently, strategies must be implemented to improve the health resilience of refugees and secure additional funding that can ensure the supply of medicines and medical supplies. Given the increasing number of refugees and the heightened demand for water, hygiene, and sanitation, additional measures are required to overcome these challenges. It is imperative that the refugees gain greater self-sufficiency in procuring the resources required for their subsistence.

Keywords: Minawao, Cameroon, Nigerian refugees, shelter, vulnerabilities, health resilience.

Résumé

Le Camp de Minawao a été mis en place par le gouvernement du Cameroun et les Nations Unies pour accueillir les réfugiés nigérians ayant fuis les exactions de Boko Haram. Minawao est devenu un espace d'accueil de 51622 réfugiés vivant dans ce camp en 2020 confronté à des difficultés liées à l'accueil, la précarité des conditions de vie et un accès difficile aux soins sanitaires adéquats. Il est donc question dans ce travail d'évaluer les problèmes de santé des réfugiés vivant dans le camp de Minawao et leur capacité à y faire face. Étant confronté aujourd'hui au flux sans cesse croissant de réfugiés, ce camp de Minawao fait face à d'importants problèmes d'insécurité alimentaire avec un taux élevé de malnutrition, de risques sanitaires, d'eau, d'hygiène et d'assainissement dont les conséquences sont impressionnantes : (soit 182,5 décès en moyenne par an selon (IMC, 2015). Ainsi, les entrevues, le dépouillement des registres de l'international Medical Corps (IMC), de Médecins Sans Frontières (MSF) et de l'hôpital de District de Mokolo (HDM) montrent que les réfugiés sont accueillis malgré la précarité des conditions de vie, des ressources mobilisées par les humanitaires et la récurrence de certaines maladies (paludisme (26,10%), infections respiratoires (12,12%), fièvre typhoïde (13,74%), diarrhées (6,81%), dermatoses (2,26%), malnutrition (5,08%), dysenterie amibienne (22,75%), rhumatisme (2,42%), rougeole (2,19%), maux de ventre (3,46%), Tuberculose (2,57%), Kystes ovariens (0,46%). À cet effet, des stratégies de résilience sanitaire des réfugiés doivent être envisagées pour pallier aux insuffisances de financements afin de garantir l'approvisionnement en médicaments et consommables médicaux. Des efforts s'imposent pour résoudre l'insuffisance d'ouvrages d'eau, d'hygiène, d'assainissement étant donné la forte demande et une croissance continue des réfugiés. Des renforts en ressources d'autonomisation des réfugiés en couverture optimale des besoins de subsistance sont impératifs.

Mots-clés : Minawao, Cameroun, réfugiés nigérians, espace d'accueil, vulnérabilités, résiliences sanitaires.

Minawao: a place providing care and building health resiliency for Nigerian refugees in Mayo-Tsanaga (Far North, Cameroon)

Introduction

Since March 2013, Cameroon has been confronted with a massive influx of refugees, which has been caused both by the political crisis in the Central African Republic and the brutal attacks of members of the Boko Haram sect in the north-east of Nigeria. The most severely impacted areas in Cameroon have been the East, Adamawa, North, and Far North regions. At the end of 2018, Cameroon took in a total of 380,330 refugees. There were nearly 223,200 Central African refugees and 100,000 Nigerian refugees (UNHCR, 2018, p. 5), who had all fled, abandoning their homes, farms, businesses. They found themselves destitute of shelter, subsistence, and cultivable land, overnight.

Moreover, the situation in the Far North region of Cameroon has caused great concern as a result of the arrival of refugees fleeing from the Borno, Yobe, and Adamawa States in north-eastern Nigeria, the bastion of the Boko Haram, where the sect has perpetrated atrocities. Furthermore, the departments of Mayo-Sava and Mayo-Tsanaga, which has hosted the largest number of refugees, encountered problems pertaining to their reception and care. In order to facilitate the distribution of humanitarian aid to refugees fleeing from neighbouring Nigeria, a camp was opened in July 2013 in Minawao in the Mokolo District of the Mayo-Tsanaga department. The Minawao camp has continued to receive a considerable influx of people every day. Between January 1 and June 30, 2019, the camp registered over 2,942 new arrivals. As of June 30, 2019, the total camp population stood at 58,561 Nigerian refugees (UNHCR, 2019, p. 1).

Given the complexity of this situation, it is essential that initiatives be implemented to preserve the dignity of refugee populations and to safeguard children from exploitation and violence, particularly gender-based violence. In addition, refugees must not be subject to mistreatment, families must not be separated, and communities should be able to develop resilience through the provision of the minimal conditions for socio-economic advancement in their new environment. The Cameroonian government and humanitarian organisations have been mobilised to adequately address the severe humanitarian crises confronting Cameroon (UN-WOMEN, 2017, p. 11). Thus, efforts have been accomplished to provide healthcare plus socioeconomic and psychological support to this vulnerable social group. Despite this, has health protection been optimal given the multiple constraints that the refugees must face? Have the refugees been guaranteed access to high-quality medical care? The objectives set out by the camp's management bodies have not yet been fully accomplished. Faced with this

reality, questions have been raised in an effort to gain a more comprehensive understanding of the problem. What are the characteristics of the reception area for Nigerian refugees? Who exactly are these refugees? What are the means that have been implemented to provide healthcare? What have been the recurring illnesses diagnosed at the camp? Who are the humanitarian actors responsible for coordinating this assistance? What are the constraints associated with the provision of healthcare services? In the face of health emergencies, what means have the refugees and health personnel put in place to foster resilience? This investigation seeks to effectively help both healthcare personnel and Minawao refugee camp community benefit from improved access to health services, and develop the resources needed to develop resilience and the capacity to effectively respond to health emergencies.

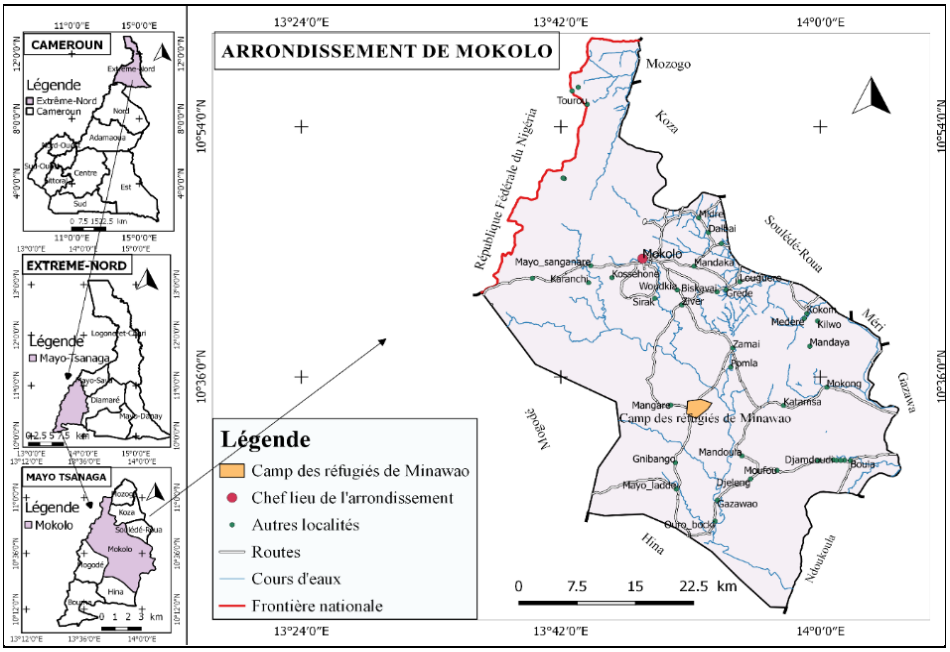
Methodology

1. Tools and method

1.1. Presentation of the study area

The Minawao camp is situated between 10° 35′ 0″ North latitude and 13° 53′ 0″ East longitude in the Mayo-Tsanaga department of the Far North region of Cameroon, approximately 120 kilometres east of the Cameroonian border with Nigeria (Samantha and Bolivard, 2017, p. 12). The refugee camp was set up by the government of Cameroon and the United Nations to accommodate Nigerian refugees fleeing the violence committed by Boko Haram (Figure 1).

Figure 1. Site map of the Minawao refugee camp



Source: Administrative map of Cameroon and Google Earth GPS surveys, 2020.

1.2. Data collection and processing techniques

The methodological approach used in this study is based on the collection of primary and secondary data.

1.2.1. Secondary data

A review of the activity reports of the United Nations High Commissioner for Refugees (UNHCR), the International Medical Corps (IMC), Public Concern, the Cameroon Red Cross, and Plan International provided an account of the socio-demographic characteristics and the healthcare situation of Minawao camp refugees. Healthcare data obtained from the reports of the camp's health centres offered comprehensive information on the recurring illnesses of the refugees. Secondary data was acquired using refugee profiles compiled by the United Nations High Commissioner for Refugees (UNHCR) and briefs on health conditions in the Minawao refugee camp. In addition, we incorporated administrative data, notably those derived from the reports of the Minawao Health Centres 1 and 2 and the Mokolo District Hospital detailing their healthcare strategies and activity programmes. Information on the attributes of the refugee reception area was obtained from the Minawao Refugee Camp Environmental Impact Report. These particulars were supplemented by primary data gathered in the field, which served to offer insight both into the capabilities of healthcare services and the resilience of Nigerian refugees.

1.2.2. Primary data

Nigerian refugees were surveyed in the Minawao camp via a household questionnaire. This questionnaire, which was administered between January 15 and January 20, 2020, aimed to identify the socio-demographic profiles of the refugees, the spatial attributes of the camp's reception area, as well as the year of arrival of the refugees, their living conditions, sources of economic and health subsistence, recurring illnesses, and strategies for building resilience. Furthermore, in accordance with an interview guide issued between December 16 and December 23, 2019, we conducted semi-structured interviews (Ghiglione and Matalon, 2004, p. 75) in conjunction with the Head of the Mokolo health district, the Chief Medical Officer of the Mokolo District Hospital, the chief physicians of the Minawao Health Centres 1 and 2, the heads of the International Medical Corps (IMC), Public Concern, the Cameroon Red Cross, Plan International, the heads of the operating rooms in the Minawao camp, and the Health Officer of the United Nations High Commissioner for Refugees (UNHCR) in Maroua, all of whom were questioned on the healthcare and health resilience of Nigerian refugees. The purpose of this exercise was to analyse and identify the constraints that the refugees must endure to economically survive and maintain their health in the Minawao camp.

1.2.3. Sampling

For our survey, we used random sampling to select a total of 866 participants (458 men and 408 women). In addition to this main target population of our study, we also conducted semi-structured interviews with designated respondents who would be in a position to

provide us with a more comprehensive understanding of the problems refugees face in terms of healthcare and health resilience.

1.2.4. Data collection tools

Data collection tools consisted of the questionnaire, semi-structured interview guides, and household focus groups. We interviewed the heads of the healthcare services of the Minawao Health Centres 1 and 2 and the Mokolo District Hospital, as well as the heads of psychosocial care services (camp administrator from the Ministry of Territorial Administration – MINAT), IMC, the central committee for refugees of the Mokolo Health District Hospital, coordinating bodies (UNHCR, MINAT, Ministry of Public Health-MINSANTE, IMC, Public Concern), in addition to humanitarian and associative service organisations (UNHCR, Public Concern, IMC, the Red Cross, Plan International).

1.2.5. Data processing and analysis

A descriptive analysis of the data collected from the questionnaire administered to Nigerian refugees was conducted using SPSS Statistics 20. This analysis generated a socio-demographic profile of the refugees, which included their ethnic group affiliation, place of origin, and recurring medical conditions. In addition, their use of healthcare services and the constraints associated with their economic livelihood were identified and characterised. Also examined were the age brackets of the refugees, their marital status, family size, year of arrival into the camp, motivation for visiting the health centres, as well as their survival strategies in Minawao. The analysis of the semi-structured interviews resulted in getting the perspectives of those involved in reception services, economic subsistence, and healthcare services for Nigerian refugees. Findings drawn from this data were presented with graphs and tables. A cartographic analysis using QGIS2.18 software was used to generate a site map of the Minawao camp.

Results

2. Minawao: a reception area for Nigerian refugees in Cameroon

The Minawao camp accommodates refugees with diverse physical and demographic characteristics.

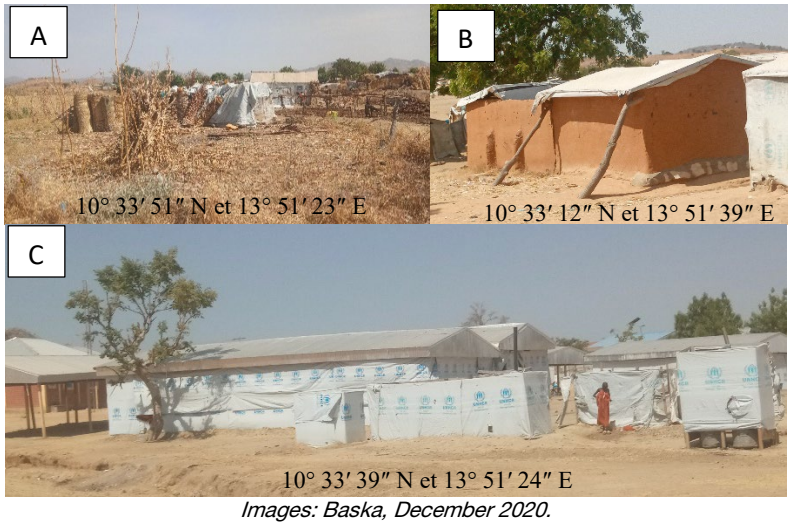
2.1. Attributes of refugee reception sites

The Minawao camp is situated to the west of Maroua, thirty kilometres from the Nigerian border. It has an area of 623 hectares (UNHCR, 2020, p. 1). This site is set within the commune of Mokolo in the Mayo-Tsanaga department and is in proximity to a village of the same name. It is bordered to the west by the village Gadala, located southwest of Zamai and northeast of Gouringuel. Numerous Nigerians have resided in the Minawao refugee camp since May 2013 (UNHCR, 2014). The density of the refugee population in the camp has grown substantially. Minawao exhibits a Sudano-Sahelian type of climate, which is distinguished by the presence of two seasons: a relatively brief rainy season lasting from June to October, and a severe dry season spanning from November to May. Annual precipitation varies between 700 and 900 millimetres. Temperatures may reach 42 °C (Samantha and Bolivard, 2017, p. 17).

Overall, the area's vegetation consists of a forested savannah that has suffered severe degradation by both human activities and the adverse effects of the climate. Two kilometres east of Minawao lies the Zamay forest reserve that provides sanctuary to an extensive assortment of trees and shrubs. The camp is divided into four sectors that are further divided into 88 blocks. The camp is run by a refugee president and 88 block leaders who administratively represent the refugees, plus traditional headmen, law enforcement officers, and humanitarian organisations, such as the United Nations High Commissioner for Refugees (UNHCR), the International Medical Corps (IMC), Public Concern, the Red Cross, Plan International, Adelpa, MINSANTE, and Première Urgence International (PUI). Two police stations and a public authority administrative office have been set up by the Cameroonian government. Escalating healthcare problems among refugees since the camp's inception have incited the Cameroonian government and humanitarian actors to build two integrated health facilities, Minawao Health Centres 1 and 2.

The refugees' precarious housing situation can be attributed to the pressing nature of their requirements and the lack of foresight regarding the influx of Nigerian migrants seeking sanctuary in the Minawao camp. Due to the urgent circumstances, humanitarian aid providers were unable to construct suitable housing with standard materials prior to the arrival of the refugees into the Minawao camp, even though it is widely acknowledged that proper accommodation is a critical factor in managing the health conditions of refugees residing in such a confined geographical space. We noted that Minawao has two categories of living quarters: box shelters or tents erected with impermanent materials like tarpaulins, and structures constructed with earthen bricks. Shelters made with tarpaulins retain greater heat in the dry season and greater humidity in the rainy season (UNHCR, 2015). However, some households have managed to build their own earthen brick huts (Plate 1).

Plate 1. Type of refugee shelters in the Minawao camp



Images: Baska, December 2020.

Plate 1: Photo A shows a box shelter made of a tarpaulin fixed with ropes stretched out on two sides. Photo B shows structures made of clay, and photo C shows an uninterrupted block of tarpaulin shelters extending across the Minawao camp.

As illustrated in Plate 1, tarpaulin is the prime material used to build camp shelters, which constitute 78% of the camp's living accommodation, according to field surveys. Numerous refugees from diverse backgrounds live in these confined quarters.

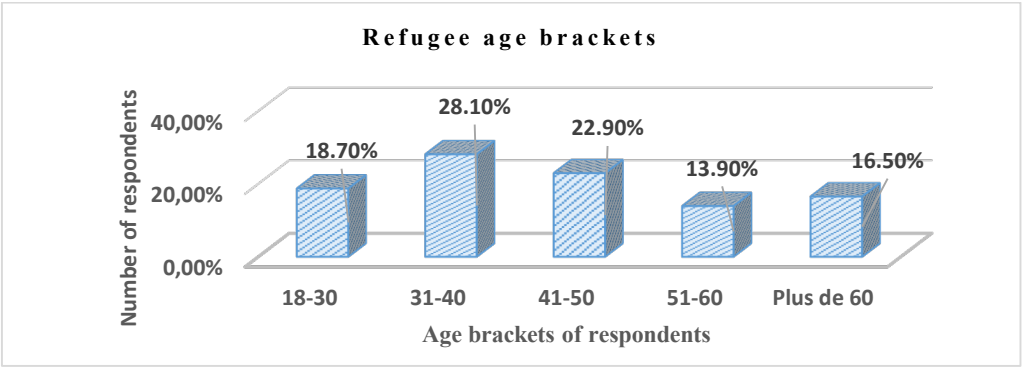
2.2. Demographic characteristics of Minawao camp refugees

The demographic characteristics of Minawao refugees include those of age, gender, ethnic group affiliation, marital status, family size, place of origin, and year of arrival in the camp.

2.2.1. Characterisation of refugees according to age and gender

Boko Haram's violence in North-East Nigeria has spared no age group. Children, young people, and the elderly have all been victims of their terrorist attacks. However, we observed that the majority of refugees in the Minawao camp are younger in age (Figure 2).

Figure 2. Age brackets of refugees surveyed in the Minawao camp

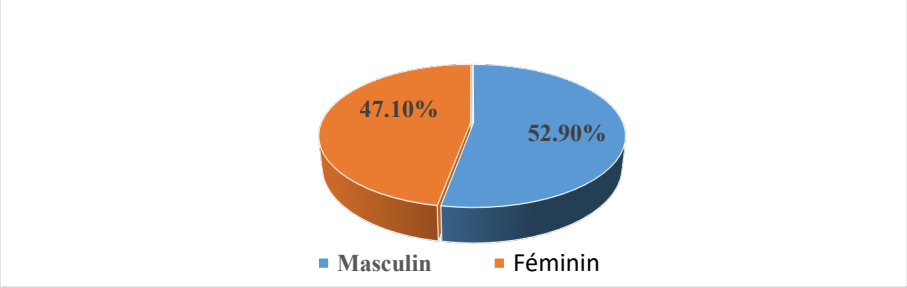


Source: field survey, January 2019-June 2020.

In Minawao, 28.10% of the refugee population is between 31 and 40 years of age, the most representative age bracket in the camp. The 41-to-50-year-old age bracket follows with 22.90%. The 51-to-60-year-old age bracket has the smallest proportion with 13.90% of the population. Age is a decisive determinant with respect to healthcare and health resilience,

and gender is one as well for specific personal traits. Young people under the age of 18 are considered vulnerable, and the population has sex-specific characteristics. The Minawao camp is noted for its gender imbalance. According to surveys carried out in the camp, men (458) slightly outnumber women (408) (Figure 3).

Figure 3. Sex distribution of refugees surveyed in the Minawao camp



Source: field survey, January 2019-June 2020.

(Masculin : Male / Féminin : Female)

Gender is a significant factor to the extent that the characteristics of healthcare and resilience vary according to an individual's sex.

2.2.2. Characterisation of refugees according to ethnic group affiliation and marital status

The terrorist attacks in north-east Nigeria have impacted all ethnic groups from that part of the country, and this accounts for the wide range of Nigerian ethnic groups present at the Minawao camp. Field surveys have identified eleven ethnic groups, with the Kanuri representing one half of the camp's population (Table 1).

Table 1. Different ethnic group affiliations of Minawao camp refugees

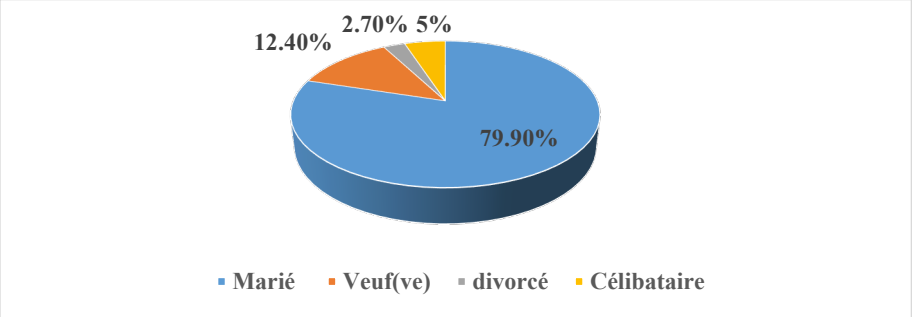
Ethnic group	Number	Percentage (%)
Kanuri	457	52.8
Hausa	11	1.3
Dghwede	1	0.1
Mafa	131	15.1
Fulani	20	2.3
Glavda	59	6.8
Mandara	31	3.6
Zalidva	54	6.2
Chinane	15	1.7
Dogoide	61	7.0
Glauda	26	3.0
Total	866	100.0

Source: field survey, January 2019-June 2020.

The Kanuri constitute the most populous ethnic group in the Minawao refugee camp representing 52.8% of the refugees, followed by the Mafa with 15.1%. The Dghwede are the least represented, comprising 0.1% of the population.

The marital status of young people and adults in the Minawao refugee camp varies. Surveys indicate that they are married, single, widows or widowers, or divorced (Figure 4).

Figure 4. Marital status of Nigerian refugees in the Minawao camp



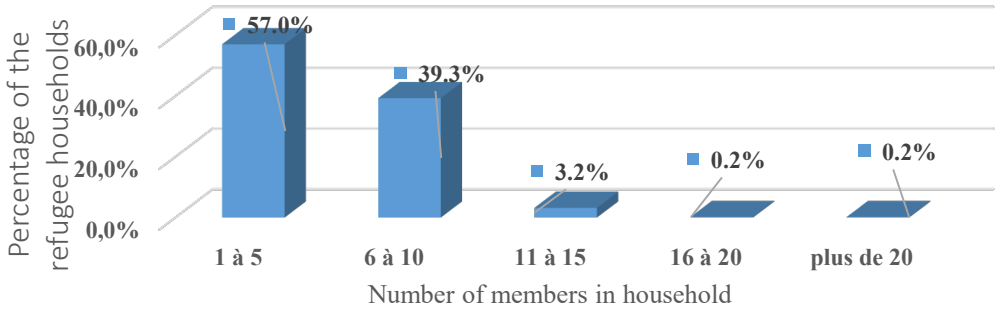
Source: field survey, January 2019-June 2020.
(Marié : Married / Veuf(ve) : Widowed/ Divorcé : Divorced/ Célibataire : Single)

As shown in Figure 4, the prevailing marital status is that of married (79.90%). Widows and widowers comprise 12.40% of the surveyed population, putting them in second place. Single people comprise 5% of the total and divorced individuals 2.70%. The high proportion of married individuals is attributed to the fact that 50% of the surveyed population is young (between 30 and 50 years old), and therefore of a marriageable age. Widowed and divorced individuals predominantly consist of those whose spouses were either killed by Boko Haram or forcibly coerced into joining the sect.

2.2.3. Characterisation of refugees according to family size and place of origin

The Minawao refugee camp accommodates over 58,561 Nigerian refugees (UNHCR, 2019, p. 1). The results of the survey conducted on 866 refugees show that their family sizes differ considerably (Figure 5).

Figure 5. Distribution of refugees surveyed according to family size



Source: field survey, January 2019-June 2020.

As shown in Figure 5, 57% of refugee households consist of a single to five members, whereas 39.3% have six to ten individuals. Families comprising eleven to fifteen members account for 3.2% of the total number of households. Households with sixteen to twenty members comprise 0.2% of the total, which is equivalent to the proportion of households with over twenty members.

All the refugees arrived at the Minawao camp from several small communities in Nigeria as victims of various forms of violence. They fled along the Cameroonian border through Kolofata, Fotokol, Achigashya, Limani, Mora, Mokolo Moskota, Megdeme, and Koza. They were then retrieved by the UNHCR and registered in the transit zones (Kousseri, Gadala) prior to being transported to the Minawao camp. The refugees were surveyed to ascertain their respective communities of origin (Table 2).

Table 2. Place of origin of Nigerian refugees in the Minawao camp

Lieux de provenance	Effectifs	Pourcentage (%)
Banki	402	46,4
Kunduga	35	4
Kodeyi	13	1,5
Zala	4	0,5
Koghum	6	0,7
Borno State	29	3,3
Nigeria	98	11,3
Kerawa	8	0,9
Zeleve	1	0,1
Peteque	11	1,3
Djoubouli	3	0,3
Mangari	7	0,8
Ngoshe	5	0,6
Angourva	1	0,1
Boko	7	0,8
Allawa	1	0,1
Kougoum	87	10
Barawa	3	0,3
Mongono	16	1,8
Chikede	21	2,4
Guandara	1	0,1
Tarmua	29	3,3
Atagara	5	0,6
Chinene	9	1
Malari	7	0,8
Dallori	9	1
Ashigashia	4	0,5
Peteque	3	0,3
Turmagana	2	0,2
Kumshe	15	1,7
Balus	3	0,3
Bama	14	1,6
Atag	1	0,1
Boko	6	0,7
Total	866	100

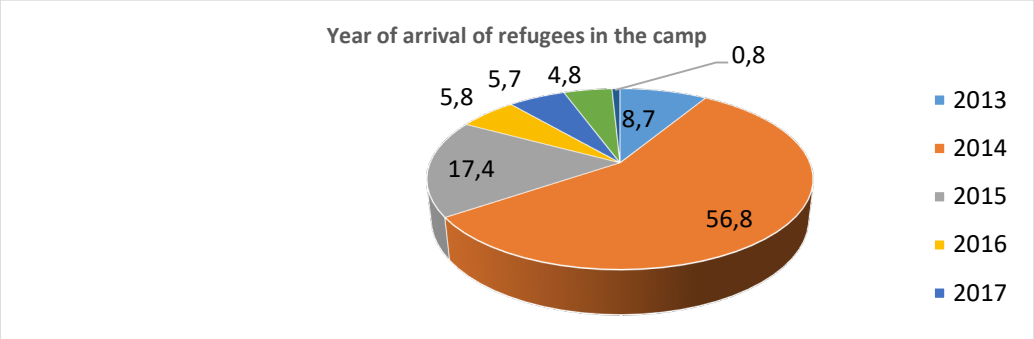
Source: Field survey, January 2019-June 2020.

Table legend:
Lieux de provenance = Place of origin
Effectifs = Number
Pourcentage = Percentage

Table 2 shows Minawao camp refugees originating from 34 distinct localities in Nigeria. The largest percentage of refugees (46.4%) came from Banki, because this town, overrun by the Boko Haram, lies in close proximity with the Cameroonian border. Its inhabitants, threatened by the terrorist attacks of Boko Harm, fled in search of refuge in the Minawao camp, where they have been provided with food, shelter, and medical attention in safe conditions. The level of assistance they have received has differed based on their year of arrival at the camp.

As a result of Boko Haram's violent attacks, the Cameroon government and the UNHCR opened the Minawao reception centre for Nigerian refugees in July 2013. The scale of violence in Nigeria since 2014 has compelled a greater number of people to seek refuge in Cameroon. The annual influx of refugees into the camp has varied (Figure 6).

Figure 6. Year of arrival of Nigerian refugees at the Minawao camp



Source: field survey, January 2019-June 2020.

The largest group of refugees, representing 56.8% of the overall migrant population, was observed in 2014. That year, Boko Haram had besieged northern Nigeria and attacked the local population, which was compelled to flee in large numbers to the Cameroonian border. The massive influx of refugees entering Cameroon was a turning point for humanitarians providing relief. According to survey results, it should be noted that the Nigerians refugees escaping the violence of the Islamic sect Boko Haram originated from diverse localities. The socio-demographic characteristics of the refugees in the Minawao camp, having been clearly identified, has facilitated the delivery of healthcare services in a more effective manner.

2.3. Healthcare services for refugees at the Minawao camp

The provision of healthcare services to refugees in the Minawao camp was examined with particular attention, given the extent infrastructure and medical equipment, the identification of the prevalent illnesses within the camp, and the record of healthcare providers. Also examined were the constraints that affect the provision of healthcare to the refugees.

2.3.1. Health infrastructure and medical equipment for the efficient delivery of healthcare

Infrastructure and medical equipment have been necessary to ensure that refugees in the Minawao camp have had access to adequate healthcare services.

2.3.1.1. Infrastructure

As soon as the first refugees arrived in the Minawao camp, it became critical to address their medical needs without delay. The Cameroon government and the UNHCR thus created two integrated health centres, designated Minawao Health Centres 1 and 2 (Plate 2).

Plate 2. Partial view of the Minawao health facilities

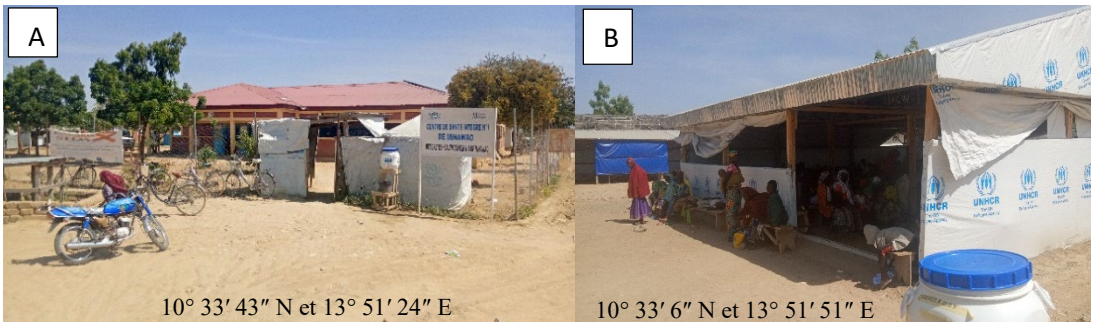


Image: Baska, December 2019.

Photo A: Minawao Integrated Health Centre 1. Photo B: a room for ailing mothers and children at the integrated Health Centre 2 of the Minawao Camp.

The Regional Hospital Annex in Mokolo has served to treat severe cases. We noted that 82.6% of households go to either of the two Minawao centres for treatment. On the other hand, 17.4% mentioned that they prefer traditional medicine or self-medication.

2.3.1.2. Availability of health infrastructure and medical equipment

The effectiveness of healthcare services for refugees can be measured as a function of available infrastructure and medical equipment. Between 2013, the year the Minawao camp was established, and 2019, the two Mindanao health facilities functioned satisfactorily, despite the deficiencies of the infrastructure and the poor condition of certain medical equipment (Table 3).

Table 3. Infrastructure and available equipment between 2013 and 2019

Health facilities	Mindanao Health Centre 1	Mindanao Health Centre 2
Infrastructure available	4 adult consultation rooms for curative and paediatric care	6 temporary consultation rooms
	4 hospitalisation rooms	1 hangar
	1 fully equipped maternity building	1 malnutrition care area
	1 laboratory department	
	1 minor surgery room	
Equipment available	55 beds	scales
	55 nightstand	thermometers
	1 microscope	nutritional support equipment
	1 centrifuge	
	scales	
	blood pressure monitors	
	thermometers	

Source: field survey, January 2019-June 2020.

Table 3 provides a summary of the infrastructure and equipment present in the two health centres. It shows that Minawao Health Centre 1 is furnished with a greater quantity of equipment than Minawao Health Centre 2. These two health facilities are supported by humanitarian organisations (e.g. IMC) that offer healthcare services to refugees, notwithstanding the recurrence of specific medical conditions identified in the camp.

2.3.1. Recurring medical conditions in the Minawao camp

The living conditions in the camp, which include precarious and overcrowded housing, the susceptibility to climate hazards and disease vectors, and the risk of malnourishment have contributed to the outbreak of several diseases within the camp. In addition, the enduring trauma inflicted by the violence perpetrated by Boko-Haram has exacerbated these issues. Most cases are treated at Minawao Health Centres 1 and 2 (Table 4).

Table 4. Recurring medical conditions in the Minawao camp

Medical condition	Number	%
Malaria	226	26.10
Typhoid fever	119	13.74
Rheumatism	21	2.42
Dysentery	197	22.75
Malnutrition	44	5.08
Measles	19	2.19
Stomach aches	30	3.46
When ascribing diseases to the camp's living conditions, tuberculosis must be cited	19	2.57
Respiratory infections	105	12.12
Diarrhoea	59	6.81
Dermatosis	23	2.66
Ovarian cyst	4	0.46
Total	866	100.00

Source: field survey, January 2019-June 2020.

Table 4 presents 12 medical conditions identified within the Minawao refugee camp. The most frequently recurring diseases are malaria with 26.10% of cases, dysentery with 22.75%, typhoid fever with 13.47%, and respiratory infections with 12.12%. Ovarian cysts are the least prevalent affecting 0.46% of those surveyed. The recurrence of these diseases is attributable to the precarious living conditions endured by the refugees, which are caused by a combination of factors, such as the inadequate supply of potable water, a substandard sanitation infrastructure, the precarity of the shelters, and the limited availability of appropriate healthcare.

2.3.2. *Factors leading to the outbreak of recurring diseases in the Minawao camp*

The conditions in the Minawao refugee camp are favourable for the proliferation of diseases. Multiple factors contribute to their recurrence (Table 5).

Table 5. Disease outbreak factors in the Minawao refugee camp

Disease outbreak factors	Number	%
Unsanitary conditions	316	36.5
Lack of resources	190	21.9
Loss of interest in life	79	9.1
Excessive introspection	172	19.9
Rainy season	464	53.6
Dry season	172	19.9
Windy climatic conditions	162	18.7
Poor nutrition	116	13.4
Mosquito bite	199	23
Stress	49	5.7
Way of life	89	10.3
Living environment	114	13.2
Remembrance of the war	75	8.7
Sensation of cold	251	29

Source: field survey, January 2019-June 2020.

Table 5 shows the various factors that contribute to the outbreak of diseases in the Minawao refugee camp. According to 53.6% of respondents, humid conditions during the rainy season are the leading cause of disease outbreaks. The second leading cause of diseases is attributed to unsanitary conditions for 36.5% of respondents, with mosquito bites cited by 23%.

Humanitarian organisations are engaged to provide effective care for patients.

2.3.3. The involvement of organisations delivering health and humanitarian services to refugees

An array of humanitarian organisations has addressed the multiple needs of the refugees residing in the Minawao camp (Table 6).

Table 6. Organisations delivering health and humanitarian services

Name of the organisation	Acronym	Scope	Domains of intervention
Ministry of Public Health (Cameroon)	MINSANTE	National	Public health
United Nations High Commissioner for Refugees	UNHCR, Maroua sub-delegation	International	Protection/governance, food security, health, nutrition, education, accommodation, environment
Première Urgence Internationale	PUI	International	Camp management
Action Local pour Le Développement Participatif et Autogéré	ALDEPA	National	Child protection and gender-based violence
World Health Organisation	WHO, Maroua office	International	Health
International Medical Corps	IMC	International	Health, nutrition, child protection and gender-based violence
Cameroonian Red Cross	CR	National	Health, accommodation, WASH, sanitation
Public Concern	PC	International	Education, shelters
Plan International	PLAN, Mokolo desk	International	Education, child protection and gender-based violence, WASH, Livehoods, environment

Source: field survey, January 2019-June 2020.

Table 6 lists the various organisations dedicated to the care and health resilience of refugees in the Minawao camp. These organisations, whose mandates may be national (ALDEPA, CR, MINSANTE), or international (UNHCR, PUI, WHO, IMC, PC), provide aid in the sectors of general health, food, nutrition, environment, education, governance, camp administration, child protection, and sanitation (see Table 7).

Table 7. Feedback of refugees on humanitarian action and health services at the Minawao camp

Feedback of refugees on **humanitarian action and health services**		**Number**	**%**
Satisfied		687	79.33
Not satisfied		179	20.67
Total		866	100

Source: field survey, January 2019-June 2020.

Table 7 shows that more than 79% of refugees are satisfied with the assistance provided to them by the above organisations, despite the limited financial resources that could have been used to provide more effective aid. The medical staff consists of physicians, nurses, caregivers, midwives, psychologists, laboratory technicians, nutritionists, and a psychiatric nurse, who all strive to surmount the numerous constraints to healthcare.

2.3.4. Constraints linked to healthcare

The scope of services offered at the Minawao health centres, and the availability of medical equipment are insufficient to ultimately improve patient care. Healthcare personnel face a wide range of challenges in the course of their work (Table 8).

Table 8. Constraints linked to the healthcare of Minawao camp refugees

Constraints linked to healthcare	**Minawao Health Centre 1**	**Minawao Health Centre 2**
Problem with the patient's ability to move	Very significant	Rather significant
Problem with the patient's accommodation	Very significant	Very significant
Problem with nourishment for the sick	Very significant	Rather significant
Patient has problems paying for medical expenses	Not significant at all	Not significant at all
Problem with managing a case requiring a clinical intervention	Very significant	Rather significant
Problem with managing a case requiring laboratory tests	Very significant	Rather significant
Problem with the case management of a rare disease or a chronic health condition	Very significant	Very significant
Lack of female staff for receiving, understanding the needs of, and caring for female patients	Very significant	Very significant
Shortage of private areas for receiving and listening to patients	Very significant	Very significant
Shortage of medical-social personnel	Very significant	Very significant
Lack of compliance standards, protocols, and practice guidelines for healthcare practitioners	Rather significant	Very significant

Source: field survey, January 2019-June 2020.

Table 8 outlines the constraints faced by humanitarian personnel in providing healthcare services to refugees. At the Minawao Health Centre 1, the majority of these constraints are regarded as being very significant with the exception of the minor issue of paying for medical expenses and the rather significant problem of the lack of compliance standards, protocols, and practice guidelines for healthcare practitioners. At the Minawao Health Centre 2, all problems presented in Table 8 are very significant with the exception of the problems of a patient's ability to move, a patient's nourishment, management of cases requiring a clinical intervention, cases requiring laboratory tests, as well as the patient's ability to pay for medical expenses, which are constraints to be considered as rather significant. Faced with these various constraints, refugees and health personnel have adopted alternate strategies to build health resilience.

2.4. On the resilience of the health system in the Minawao refugee camp during health emergencies

Inadequate healthcare coverage necessitates the development of resilience at the community and family levels, as well as within refugee healthcare services.

2.4.1. Resilience at the family level

The refugees hold the view that the efforts made by the government of Cameroon and humanitarian organisations are absolutely unsatisfactory. They have vehemently criticised the use of modern medicine. They complain about the long wait times for consultations, the ineffectiveness of prescribed medications, and the poor demeanour of health personnel. In response to these drawbacks, refugees have turned to alternative forms of care (Table 9).

Table 9. Alternative types of care received by Nigerian refugees in Minawao

Types of care	Number	%
Traditional medicine	109	12.6
Healer	109	12.6
Witch doctor	19	2.2
Self-medication	234	27.0
Nothing	395	45.6
Total	866	100.0

Source: field survey, January 2019-June 2020.

Table 9 shows that Minawao refugees resort to several types of treatment options. Although 45.6% of refugees have been treated in accordance with modern medicine, many prefer alternative methods of treatment, such as self-medication (27.0%), healers and traditional practitioners (12.6% each), or the witch doctor (2.2%). These types of care can be attributed to the grievances lodged by the refugees regarding modern medicine.

2.4.2. Resilience in the community

As a result of inadequate healthcare equipment and infrastructure, refugees have formed communities to self-manage specific medical conditions by devising sex-specific intervention strategies (Table 10).

Table 10. Traditional practices and community initiatives for the care of young people, and adult men and women afflicted with chronic illnesses

Sex	Community reaction to reports of chronic illnesses	Opportunity for disease prevention in the community	Community medical care strategy	Psychosocial management strategy for chronic illnesses in the community	Socioeconomic care strategy to help survivors reintegrate into the community	
Women	The patient's close friends and family provide support to overcome the illness	Uplift the person's living conditions	Serious cases are transferred by passenger tricycle. Less serious cases are treated at the Minawao Health Centre	Interview with the patient and verification of information before treatment	Counsel and support to help set up an IGA[1] (sewing machine, animals for breeding, funding for a business)	
Men	Means are put in place to isolate the patient	Raise awareness among patients and communities on the potential causes of their illnesses	The patient is treated at the Health Centre	Consultations are available to talk with patients during their medical treatment	Support for IGAs	

Source: field survey, January 2019-June 2020.

Table 10 summarises the strategies for building resilience in the refugee community. The interventions are sex specific.

2.4.3. Resilience at the health centres

Concerning health matters, given the critical medical needs of the Minawao refugees, humanitarian organisations have deployed resources to aid in disease prevention and deliver effective medical services to patients. The Cameroonian Ministry of Public Health and humanitarian organisation has launched routine vaccination campaigns to prevent infectious diseases, such as measles, tetanus, poliomyelitis, and meningococcal meningitis. In this regard, the Mokolo District Hospital coordinated thirty-four (34) vaccination sessions in the

[11]Income-generating activity.

camp (HDM Activity Report, 2014–2015 cited by Bapowa N. and Kiam C., 2016, p.90). On average, fifteen patients visit the Mokolo District Hospital per day, that is, ten patients being kept under observation and five expectant mothers (HDM activity report, 2015 cited by Bapowa N. and Kiam C., 2016, p.91). In 2014, the Maroua regional hospital received 25 refugee patients who were transferred from the Mokolo District Hospital, but only eleven in 2015 (HRM Statistics Unit, March 2016 cited by Bapowa N. and Kiam, 2016, p.92).

Regarding matters related to the access to water, hygiene, and sanitation, the Minawao camp is equipped with pits and latrines. According to the UNHCR (2019), the Minawao camp had 2,690 operational latrines in February 2019, which is equivalent to one latrine for two households. This represents a shortfall of 1,105 latrines. In addition, the camp had 2,157 functional showers, representing a shortfall of 621 showers, plus 36 bore holes and 33 public spigots, which accounted for a shortfall of 45 water points. Of the total 690 m3/day of water flow into the camp, 21% is sourced from Mokolo-Minawao, 55% generated from the sinking of bore holes, and 24% from Mayo-Louti 1 and 2 pumps. We noted that the community is experiencing a deficit of 449 m3 of water per day. At the Minawao camp, 88 hygiene promoters are employed, which is twenty fewer than needed (UNHCR, 2018). The resolution of these deficits could well be achieved by the implementation of an upgraded potable water supply infrastructure, as well as through the promotion of a hygiene and sanitation awareness programme.

Discussion and conclusion

Effectively administering refugees has consistently posed a formidable challenge. The very definition of what constitutes a refugee status must be considered from both a theoretical and legal standpoint. This has been exemplified by migrant communities in South-east Asia, Africa, Latin America, and France who have had to adjust to their new environment, redefine their identity and their legal status, and work out their relationship with host populations and humanitarian institutions (Lassailly-Jacob et al., 1999, p. 505). Using the same rationale, Nsoga (2020, p. 14) delineated the normative, structural, and infrastructural components of the national refugee protection framework, along with the various means of coordination deployed by humanitarian personnel to safeguard refugees who have fled under duress. This has contributed to a clearer understanding of the circumstances related to the reception, assistance/protection, and ultimate survival of refugees. His study examines the capacity of normative, structural, and institutional dynamics to offer a more upgraded and more regulated framework for protecting refugees. Consistent with Kone's assertion (2017, p. 4) that holds the view that, due to the proliferation of conflicts, violent attacks, and natural disasters, the number of people displaced within their own country will inevitably grow. In his opinion, the long-term resolution of the issue of internal displacement is governed by a distinct international convention. Thus, this present study shows that Minawao is indeed a place for providing care and building resilience for the benefit of Nigerian refugees in the Far North of Cameroon who are in critical need of healthcare and basic necessities. Data were gathered and processed from field surveys conducted on 866 randomly selected individuals. The findings indicate that, from the standpoint of reception services and health infrastructure, solutions are not so clear-cut. Due to emergency conditions and the failure of having anticipated the influx of Nigerian refugees migrating to the Minawao camp, refugee accommodation is precarious. Two types of housing were observed in the camp: box shelters

and tents made with impermanent materials such as tarpaulins, and structures made of earthen bricks. We also noted that the Minawao Health Centre 1 contains four consultation rooms dedicated to paediatric and curative care, four hospitalisation rooms, one fully equipped maternity building, one laboratory department, and one room designated for minor surgery. While at the Minawao Health Centre 2, the situation is critical with only has six temporary consultation rooms, one hangar, one room for treating malnutrition, plus scales, thermometers, and nutritional support equipment. However, health services are a cause for concern in the Eastern and Adamawa regions where there are only 179 health outposts to serve a population of some 1,817,590 people. In addition, only 33% of the health services functioning in permanently built structures with proper medical equipment, trained personnel, and a management committee are able to operate at maximum capacity. Conversely, 18% of health services are almost entirely devoid of these essential resources (NAMA et al., 2013, p .22).

We noted that refugee health services are not functional to the same degree between the two health centres. The Minawao Health Centre 1, which is situated in a more suitable environment, has satisfactory infrastructure and equipment. On the other hand, the basic infrastructure of Minawao Health Centre 2 is built using provisional materials. A prior study was carried out by Lémouogué et al. (2019, pp. 1–8) examining Cameroon as a receptive country for displaced persons from the standpoint of socio-demographic transformation and the management of individuals with specific needs. In so doing, the authors used demographic data to examine the healthcare services provided to Central African refugees with specific needs who were displaced by Boko Haram and arrived in the East region of Cameroon. His study explained how the proficient utilisation of demographic data was able to contribute to a better understanding of humanitarian issues and help guide decision-makers on behalf of the Central African refugee camp in Gado-Badzéré (Lémouogué et al., 2019, pp. 1–2). This present study attempts to demonstrate this point as well.

Hoyez (2012, p. 12) investigated the problem of ‘mobility and access to healthcare for migrants in France’ and reached the same conclusion. He demonstrated that health reception centres for migrants are dependent on the mobilisation of aid providers within the local context, and that even when such reception centres are operational, they may be incapable of treating the specific health conditions that arise from the hardships of migration. For this reason, the refugees who were surveyed resort to other forms of care at the community level as a means to build their own health resilience. This resilience is gender-based. When confronted with a chronic disease, the community implements gender-based interventions in an effort to contain the potential spread of the disease. Alternative forms of resilience have been generated through the referral of patients to traditional medicinal practices for the treatment of chronic illnesses. The psychosocial and socio-economic management strategy for cases of chronic illnesses in the community has been demonstrated. Chiabi A. et al. (2016) also described the socio-demographic and clinical characteristics of children from the Central African refugee camp of Gado-Badzéré in the East region of Cameroon. That preliminary study unveiled the camp’s high prevalence of health complications affecting children, such as acute malnutrition, malaria, gastroenteritis, and measles outbreaks. It has also underscored the vital role of Cameroonian paediatricians and other health practitioners in responding to the urgent needs of the Gado-Badzéré camp. Leaving aside routine hospital procedures, health measures for these vulnerable populations should be implemented in a

sustained and ongoing basis with the view of containing the outbreak and spread of vaccine-preventable diseases. Following up on health surveillance, the refugees have formed a hygiene and health committee to ensure that they can receive better healthcare. This committee intervenes in situations involving the suspicion of chronic diseases. Endowing these committees greater power and providing them with adequate resources would be of great value when health emergencies break out within the camp. The problems that impede people's access to healthcare and their acquisition of health resilience described in this study translate into a distressing situation which necessitates additional financial resources to cover even the most basic vital needs in the camp. However, in light of the findings derived from this investigation, it can be said that the insufficiency in financial resources required to provide medicines and medical supplies is disgraceful, and, once again, is a plea for the greater involvement of humanitarians and health professionals. This also is a plea for solutions to the refugees' poor access to water and sanitation facilities, and their insufficient means of subsistence. The resources earmarked to the Nigerian refugees residing in the Minawao camp should grant them greater self-sufficiency in order for them to optimise their healthcare capabilities and health resilience.

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