

A cross-sectional analysis of mental health disorders in a mental health services-seeking population of children, adolescents, and young adults in the context of ongoing violence and displacement in northern Cameroon

Joël Miafo Djatche^{a,1}, Olivia D. Herrington^{b,*}, Daniel Nzebou^a, Deron Galusha^c, Yap Boum^d, Saria Hassan^c

^a *Univers Psy, B.P. 35579, Yaoundé, Cameroon*

^b *Yale School of Medicine, 333 Cedar St, New Haven, CT 06510, United States*

^c *Emory School of Medicine, 201 Dowman Dr, Atlanta, GA 30322, United States*

^d *Epicentre, Médecins Sans Frontières, BP 12069, Bastos Après Elecram, Yaoundé, Cameroon*

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ABSTRACT

Background: Displacement and conflict exposure are known risk factors for mental health conditions. Here, we examine the mental health of youth in a conflict-affected region of Cameroon.

Methods: Participants were recruited from among beneficiaries of a project conducted by Univers Psy and the United Nations Population Fund in Cameroon's Far North region. Community health workers conducted sensitization campaigns, following which they referred adolescents and young adults who self-identified as having mental health concerns to clinical psychologists. We ultimately conducted chart reviews of 948 of these youth. Univariate analyses using chi-squared tests were used to assess the relationships among demographics, displacement status, and mental health. Logistic regressions were then performed to determine the odds of having a psychiatric disorder based on displacement status.

Outcome: Sixty-eight percent of evaluated youth met criteria for a psychiatric disorder. Anxiety disorders were most prevalent at 24.3%, followed by trauma- and stressor-related disorders at 17.0%, and mood disorders at 8.0%. Refugees and IDPs had 0.11 (95% CI 0.06, 0.19) and 0.46 (95% CI 0.29, 0.74) odds, respectively, of any diagnosis compared to the host population. Females had 1.71 (95% CI 1.17, 2.50) odds of an anxiety disorder and 2.18 (95% CI 1.16, 4.10) odds of a mood disorder compared to males.

Interpretation: In a youth sample in Cameroon self-identified as having mental health concerns, this study found high rates of psychiatric illness, particularly anxiety disorders. We found a higher prevalence among host population individuals than among displaced individuals and especially in the female population.

1. Introduction

Sub-Saharan Africa is home to 6.3 million refugees and 17.7 million internally displaced persons (IDPs), as well as over 900,000 formerly displaced individuals [1]. The mental health needs among these individuals tend to be greater than among non-displaced and non-conflict-exposed individuals [2]. Rates of post-traumatic stress disorder (PTSD) and depression, for example, are high among adult African IDPs: a review study that aggregated data from several African countries found a prevalence of PTSD of 42–54% among adult African IDPs and a

prevalence of depression of 31–67% [3]. Individual country studies have shown similar results: 38% of adult Somali refugees assessed in an Ethiopian refugee camp were found to have depression, and 54% of displaced individuals in Darfur were found to have PTSD [4,5].

There is a strong relationship between conflict exposure and mental health disorders [6], including among children and adolescents [7,8]. However, the scarcity of literature on mental health on the African continent, particularly among conflict-affected populations, is striking [9,10]. The prevalence of psychiatric disorders among child and adolescent refugees and conflict-affected youth in particular has not

* Corresponding author.

E-mail address: Olivia.herrington@yale.edu (O.D. Herrington).

¹ The first two authors share first authorship.

been well defined [11,12]. There are 18 million displaced children and adolescents worldwide, of whom two-thirds are IDPs and one-third are refugees. Most refugee children and adolescents reside in low- and middle-income countries (LMICs) within their region of origin. Most research on displaced populations, however, focuses only on the minority who are refugees resettled in high-income countries (HICs) [13]. Very little is known or documented in the scientific literature concerning the psychiatric epidemiology of displaced and conflict-affected children and adolescents on the African continent. The scientific literature that does exist on displaced populations on the continent focuses almost exclusively on adults. This knowledge gap is striking, given that 57% of the continent's refugees are under 18 years old [14].

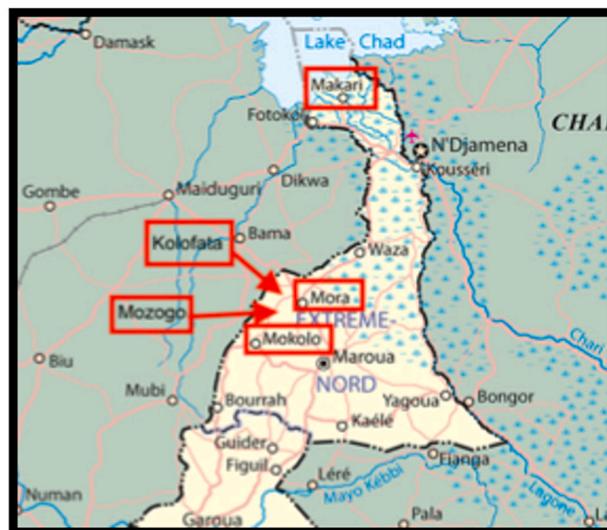
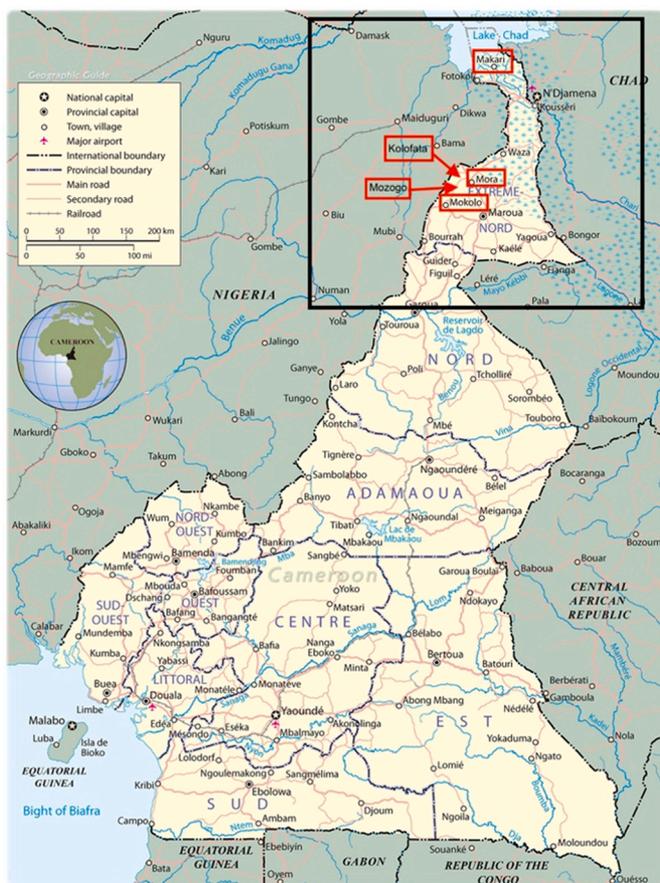
Cameroon, a country located right at the dividing line between West and Central Africa, epitomizes this trend: 66% of the 300,000 refugees living there are under 18 years old [14]. Cameroon has been plagued by violence for over half a decade. In 2014, the activities of the group Boko Haram in Nigeria began to extend across the Nigerian-Cameroonian border [15]. Since then, Cameroonians, particularly in the Far North region, have known tremendous chaos and fear. In 2019 alone, Boko Haram was responsible for the deaths of 225 Cameroonian civilians, both adults and children [16]. The region's governor estimated that 100 attacks occurred in just the last few months of 2019 [15]. 437,000

particular. While analyzing the plight of a very particular population, this work seeks to contribute more broadly toward building a much-needed body of literature on the epidemiology of mental illness among refugee, IDP, and other conflict-affected children and adolescents in sub-Saharan Africa in order to implement homegrown solutions to address these challenges.

2. Methods

2.1. Setting

This study took place in five localities in Cameroon's Far North region: Kolofata, Makary, Mokolo, Mora, and Mozogo. The region was chosen because Boko Haram has launched massive, effective, and regular attacks there. Indeed, the group's presence in the Far North region began in 2009, a full five years before its first major attack on Cameroonian soil. The region also became the site of Cameroonian military counterattacks on Boko Haram [18]. The specific localities within the region were selected because they border Nigeria and have been especially vulnerable to Boko Haram's violence.



Cameroonians have been displaced by the violence. The country is home, also, to 30,000 Nigerian refugees fleeing Boko Haram's attacks in Nigeria [17].

This paper seeks to examine the prevalence of psychiatric diagnoses among children, adolescents, and young adults living in Cameroon's Far North self-identified as having mental health concerns and to assess how this prevalence varies with displacement status. We hypothesize that there will be high rates of trauma- and stressor-related diagnoses in

Map of Cameroon, with the Far North magnified on the right and the locations of data collection indicated in red [19].

2.2. Ethical considerations

Ethical approval for the data collection portion of this study was obtained through an agreement between the United Nations Population Fund (UNFPA) and the Cameroonian government. This agreement,

entitled Cameroon Country Programme 2018–2020, allows UNFPA and its partner organizations to conduct research and clinical interventions. Univers Psy (UNIPSY), a Cameroon-based mental health non-profit, is one of these partner organizations. Participants agreed orally to receive mental health care and to allow UNIPSY to use information related to their care for research purposes.

Ethical approval for the data analysis portion of the study was provided by the Yale University Institutional Review Board. Informed consent for the statistical analysis was not required because the data was de-identified.

2.3. Design

The study was designed as a cross-sectional analysis. It examined the prevalence of a wide range of psychiatric diagnoses among adolescents and young adults in the Far North region and compared prevalence across four categories of displacement: IDP, refugee, returnee, and host population. IDPs were participants displaced from elsewhere within Cameroon. Refugees were participants who had fled to Cameroon from Nigeria. Returnees were participants who were formerly displaced, including both former refugees and former IDPs. Host population members were participants who had never been displaced. Participant diagnoses were retrieved from patient charts. All such diagnoses had been established through unstructured diagnostic interviews by clinical psychologists, who had evaluated participants using DSM-5 and ICD-10 criteria. A minority of these diagnostic interviews took place in the community; most took place in a hospital setting. These interviews were completed between April 2018 and January 2019.

2.4. Role of the funding source

The data collection was supported by funding from UNFPA Cameroon. SH was supported by a grant from the National Institutes of Health/National Heart Lung and Blood Institute: 5K12HL138037. However, this funding played no role in data analysis, manuscript preparation, or the decision to submit for publication.

2.5. Sampling

The study population included 1420 adolescents and young adults, aged 10 and older. We excluded data from participants older than 24 years, leaving us with a study population of 948.

Participants were recruited from among beneficiaries of a project financed by the Central Emergency Response Fund (CERF) and conducted jointly by UNIPSY and UNFPA. The project aimed to improve access to mental health care, reproductive health services, and support around gender-based violence for IDPs, refugees, returnees, and members of the host population in the Far North, specifically in Mora, Mozogo, Mokolo, Makary, and Kolofata. Community health workers conducted sensitization campaigns in IDP camps, refugee camps, and community areas inhabited by the host population in local languages. Following a sensitization event, the community health workers would ask those at the event whether they have any mental health concerns. Those with concerns would self-identify to the community health workers, who would then refer them to the clinical psychologists. The psychologists were available to evaluate individuals regardless of their displacement status, and the sensitization model was designed to enable accessibility of psychological evaluation regardless of displacement status. Because participants were recruited through self-identification, they are presumed to be demographically representative of the area from which they were recruited.

Diagnoses were determined by clinical psychologists on the basis of their training and expertise. The psychologists conducted thorough diagnostic interviews with the aid of interpreters. The medical records of individuals evaluated by clinical psychologists during the 2018 CERF project were eligible for inclusion. The original 1420 participants

represent all youth who sought mental health services, either through outreach or referral by healthcare providers or organizations, during the 10-month study period in Mora, Mozogo, Mokolo, Makary, and Kolofata.

2.6. Independent variables

Our primary independent variable was displacement status. Other independent variables, which could be considered to be confounders, were age, sex, and locality within the Far North region. Age was recorded as three grouped intervals—10–14 years old, 15–19 years old, and 20–24 years old—in order to align with the format preferred by Cameroon's Ministry of Health. While a patient's exact age is recorded in their medical chart, only their age cohort was recorded in the dataset. Sex was male or female. Displacement status was separated into four categories: refugees, IDPs, returnees, and host population. Locality within the Far North region included Kolofata, Makary, Mokolo, Mora, and Mozogo, the five localities where the CERF project took place.

2.7. Dependent variable

The dependent variable was psychiatric diagnosis. In the interest of enabling useful analysis, individual diagnoses were summed into categories. Diagnoses that did not fit into any of these categories and for which few participants screened positive were grouped together as “Other.” Table 1 displays the breakdown of each diagnostic grouping.

2.8. Statistical analysis

We completed univariate analyses, using the chi-squared test, to examine differences in independent variables including mental health disorders across displacement status. We then performed logistic regressions to determine the odds of meeting criteria for a psychiatric diagnosis across each displacement category, using the host population as the reference group. A separate model was created for each psychiatric diagnostic category: any disorder (encompassing the three individual categories as well as diagnoses categorized as “Other”), anxiety disorders, mood disorders, and trauma- and stressor-related disorders. We controlled for age, sex, and locality. These were the only variables

Table 1
Diagnostic categories.

Category	Individual diagnoses included
Anxiety disorders	<ul style="list-style-type: none"> • Agoraphobia • Generalized anxiety disorder • Panic disorder • Unspecified anxiety disorder
Trauma- and stressor-related disorders	<ul style="list-style-type: none"> • Acute stress disorder • Adjustment disorder • Post-traumatic stress disorder
Mood disorders	<ul style="list-style-type: none"> • Bipolar disorder • Moderate to severe depression
Other	<ul style="list-style-type: none"> • Antisocial personality disorder • Attachment disorder • Cerebral palsy • Complicated grief • Conduct disorder • Conversion disorder • Disturbance in the mother-child relationship • Epilepsy • Medical conditions • Other psychoses • Post-partum psychosis • Psychotic disorder • Schizophrenia • Self-injurious/suicidal behavior • Sleep disorder • Somatic symptom disorder • Substance use disorder

Table 2
Demographics and diagnostic prevalence.

Variable	Category	Study population n (%)
Age	10–14 years old	152 (16.0)
	15–19 years old	401 (42.3)
	20–24 years old	395 (41.7)
Sex	Female	655 (69.1)
	Male	293 (30.9)
Refugee status	Internally displaced	344 (36.3)
	Host population	410 (43.2)
	Refugee	41 (4.3)
	Returnee	153 (16.1)
Locality	Kolofata	196 (20.7)
	Makary	166 (17.5)
	Mokolo	197 (20.8)
	Mora	201 (21.2)
	Mozogo	188 (19.8)
Diagnosis	Any disorder	641 (68.9)
	Anxiety disorder	230 (24.7)
	Mood disorder	76 (8.2)
	Trauma- or stressor-related disorder	161 (17.3)
	Other	174 (18.7)
	None	292 (31.3)

Table 3
Univariate analysis.

	Host population (N = 410)	IDP (N = 344)	Refugees (N = 41)	Returnees (N = 153)	p-Value
	n(%)	n(%)	n(%)	n(%)	
Locality					< 0.0001
Kolofata	35 (8.5)	99 (28.8)	30 (73.2)	32 (20.9)	
Makary	31 (7.6)	24 (7)	2 (4.9)	109 (71.2)	
Mokolo	172 (42)	23 (6.7)	0 (0)	2 (1.3)	
Mora	102 (24.9)	84 (24.4)	7 (17.1)	8 (5.2)	
Mozogo	70 (17.1)	114 (33.1)	2 (4.9)	2 (1.3)	
Disorder					< 0.0001
Anxiety	145 (36.7)	76 (22.1)	7 (17.1)	2 (1.3)	
Mood disorder	47 (11.9)	26 (7.6)	3 (7.3)	0 (0)	
Trauma- or stressor-related disorder	70 (17.7)	72 (20.9)	8 (19.5)	11 (7.2)	
Other	93 (23.5)	68 (19.8)	3 (7.3)	10 (6.5)	
None	40 (10.1)	102 (29.7)	20 (48.8)	130 (85)	
Age group					<0.0001
10–14 years old	50 (12.2)	62 (18)	12 (29.3)	28 (18.3)	
15–19 years old	188 (45.9)	111 (32.3)	14 (34.1)	88 (57.5)	
20–24 years old	172 (42)	171 (49.7)	15 (36.6)	37 (24.2)	
Sex					0.0057
Female	287 (70)	229 (66.6)	38 (92.7)	101 (66)	
Male	123 (30)	115 (33.4)	3 (7.3)	52 (34)	

that were significant at the $p < 0.2$ level in the univariate analysis. Given collinearity between locality and displacement status, locality was not included in the final models.

3. Results

Study participant demographics and the relative prevalence of each diagnostic category are described in Table 2. Our study population primarily included adolescents and young adults, with only 16.0% in the youngest age cohort of 10–14 years old and the remaining 84.0% of participants aged 15–24 years. The population was predominantly, 69.1%, female. Over half had been displaced at some point in their lives, most often as IDPs. They were fairly evenly distributed across the five study localities, with roughly 20% coming from each locality. Two-thirds of study participants were diagnosed with at least one mental health condition. Of the diagnostic categories assessed, anxiety disorders were most common at 24.3%. “Other” disorders were next at 18.4%, followed by trauma- and stressor-related disorders at 17.0% and then mood disorders at 8.0%.

The univariate analysis showed that, among displacement categories, the host population had the highest prevalence of anxiety disorders at 36.7%, the highest prevalence of mood disorders at 11.9%, and the highest prevalence of other disorders at 23.5% (see Table 3). However, IDPs had the highest prevalence of trauma- and stressor-related disorders at 20.9% ($p < 0.0001$). The following independent variables were found to be significantly associated with displacement status: age ($p < 0.0001$), sex ($p = 0.0057$), and locality ($p < 0.0001$). In order to assess for collinearity, we first performed a bivariate analysis, followed by a multivariable regression.

Notably, all groups of displaced persons (IDPs, returnees, and refugees) were less likely than host population participants to meet criteria for any psychiatric disorder. Refugees and returnees, united into a single category here for ease and accuracy of analysis, had 0.11 (95% CI 0.06, 0.19) odds of a diagnosis compared to host population participants. IDPs had 0.46 odds (95% CI 0.29, 0.74) of a diagnosis compared to host population participants (see Table 4).

Across all diagnoses, increasing age conferred higher odds of having a mental health disorder. This difference was statistically significant for anxiety disorders and, in the case of the 20- to 24-year-olds, for trauma- and stressor-related disorders. The 15- to 19-year-olds had 2.42 (95% CI 1.30, 4.48) odds of having an anxiety disorder compared to the 10- to 14-year-olds, and the 20- to 24-year-olds had 3.26 (95% CI 1.79, 5.95)

Table 4
Odds ratio results using the adjusted multivariable logistic regression models.

Odds ratio estimates				
Characteristic	Any disorder: point estimate [95% CI]	Anxiety disorders: point estimate [95% CI]	Mood disorders: point estimate [95% CI]	Trauma- and stressor-related disorders: point estimate [95% CI]
Status				
Host population	Reference	Reference	Reference	Reference
Refugees and returnees	0.11 [0.06–0.19]*	0.30 [0.14–0.67]*	0.32 [0.09–1.18]	0.71 [0.37–1.39]
IDPs	0.46 [0.29–0.74]*	0.54 [0.36–0.80]*	0.75 [0.41–1.36]	1.34 [0.87–2.07]
Age				
10–14 years old	Reference	Reference	Reference	Reference
15–19 years old	1.06 [0.62–1.80]	2.42 [1.30–4.48]*	2.04 [0.81–5.15]	1.65 [0.93–2.94]
20–24 years old	1.55 [0.92–2.64]	3.26 [1.79–5.95]*	1.92 [0.77–4.79]	1.79 [1.02–3.13]*
Gender				
Male	Reference	Reference	Reference	Reference
Female	1.34 [0.89–2.01]	1.71 [1.17–2.50]*	2.18 [1.16–4.10]*	1.27 [0.83–1.95]

* p -Value < 0.05.

odds compared to the 10- to 14-year-olds. The 20- to 24-year-olds had 1.79 (95% CI 1.02, 3.13) odds of having a trauma- or stressor-related disorder compared to the 10- to 14-year-olds (see Table 4).

Females had a higher likelihood of meeting diagnostic criteria in all categories, a difference that remained statistically significant for both anxiety and mood disorders (see Table 4). Females were nearly twice as likely as males to have an anxiety disorder, with an odds ratio of 1.71 (95% CI 1.17, 2.50). They were more than twice as likely to have a mood disorder, with an odds ratio of 2.18 (95% CI 1.16, 4.10).

4. Discussion

To our knowledge, this study is the first to examine mental health of children and young adults in Cameroon's Far North. We found a high burden of mental illness among the children, adolescents, and young adults in this population who self-identified as having concerns about their mental health—particularly among females, in the case of mood and anxiety disorders. Nearly 68% of participants met criteria for at least one psychiatric diagnosis.

The results of this study are similar to those published in other studies of the mental health of displaced children and adolescents across the African continent. A 2008 study of IDPs aged 6 to 17 in Darfur, for example, found that 75% of these youth met criteria for PTSD and 38% met criteria for depression [9].

By contrast, studies examining the impact of conflict on the host population are scarce. Neugebauer et al.'s study of Rwandan children and adolescents who had survived the country's 1994 genocide included only children living in the community. They found that between 53.9% and 61.6% of these children and adolescents had "probable PTSD" [20].

Anxiety disorders were most common in this study population, followed by trauma- and stressor-related disorders, then mood disorders. This aligns with Owaoje et al.'s identification of anxiety and mood disorders as the most prevalent psychiatric diagnoses among adult IDPs in several African countries [3]. Meyer et al. similarly found high rates of anxiety and depression among adolescents living in two Ugandan refugee camps [21]. Other studies of mental health conditions among IDP and refugee populations found high rates of PTSD and depression but did not assess participants for anxiety disorders [4,5]. Indeed, few studies of conflict-exposed populations assess participants for anxiety disorders [23]. The high prevalence of such disorders among this study's participants suggests the importance of screening other displaced and conflict-affected young individuals for anxiety in order to appropriately target the mental health care provided to the population.

Interestingly, participants with a history of displacement—whether as IDPs, refugees, or returnees—were less likely than host population participants to meet criteria for a psychiatric diagnosis. This result is an unexpected departure from the existing literature. Based on the reality that displaced populations endure social exclusion and a relative lack of resources, Reed et al. posit that "[d]isplaced children might have more psychological problems than do non-relocated peers, despite some shared conflict exposure." These authors note that their expected trend held true in Turkey [13]. Additionally, a study in Uganda found higher rates of anxiety, hyperarousal, sleep problems, psychosomatic symptoms, and behavioral problems among Sudanese refugee children than among their non-displaced Ugandan peers [24].

The discrepancy in rates of mental illness between host population and displaced participants in our study may be rooted in an unusual pattern of exposure to ongoing violence. The host population has been vulnerable to Boko Haram's assaults on Cameroon's Far North. In early 2020, 46% percent of those affected by these attacks were members of the host population, 35% were IDPs, 13% were returnees, and just 6% were refugees [25]. If this pattern has been a consistent one in the Far North over the last several years, adolescents in the host population may have had more traumatic exposures than their displaced peers. These traumatic exposures may leave them at higher risk of mental health difficulties.

While not statistically significant, there was a trend toward IDPs and refugees being more likely than host population participants to receive a trauma- or stressor-related diagnosis. This trend is consistent with findings in prior studies. A comparison between 13- to 21-year-old IDPs and same-age non-displaced peers in the Democratic Republic of the Congo's Ituri District found higher scores on a measure of PTSD among the IDPs than among the non-displaced adolescents [26]. Higher rates of PTSD among displaced youth may, unsurprisingly, correlate with higher rates of traumatic exposure. Paardekooper, De Jong, & Hermanns found that Sudanese refugee children living in Uganda had had two to three times as many traumatic experiences as their Ugandan host population peers [24].

Older age within our study population was associated with higher rates of mental illness. This trend diverges from the results of similar studies, at least in the category of trauma- and stressor-related disorders. The study of Darfuri 6- to 17-year-olds demonstrated that the 13- to 17-year-olds were more likely than the 6- to 12-year-olds to have witnessed violence, been coerced into fighting, and/or lost an immediate family member in the conflict. Despite the older participants' having this more extensive trauma history, no significant difference in rates of PTSD between the age groups emerged [9]. Interestingly, Mels et al. found a greater burden of PTSD symptomatology among conflict-exposed 13- to 15-year-olds in the Democratic Republic of the Congo than in 15- to 21-year-olds after controlling for traumatic exposures and daily stressors. They suggest that other studies that have identified higher rates of PTSD among older participants would see a reduction in this difference if they controlled for number of traumatic experiences [26]. In our study, the significance of age as a determinant of psychiatric illness could be explained by older participants' having experienced more accumulated years of conflict exposure, potentially even as combatants recruited by Boko Haram.

Females were more likely in our study population than males to receive a mental health diagnosis, a difference that remained statistically significant for mood and anxiety disorders. This finding, which may reflect either an increase in exposure to gender-based violence or an underlying vulnerability to psychiatric illness in times of stress, is consistent with other studies. Morgos, Worden, & Gupta found that, despite equivalent levels of exposure to traumatic events, PTSD and depressive symptomatology were more common among females than among males [9]. Similarly, a study of South Sudanese refugees aged 13 to 17 in Uganda found that the female adolescents had 3.1 higher odds of anxiety and 2.7 higher odds of depression than the males [24]. Among Rwandan child and adolescent genocide survivors, PTSD symptoms were more prevalent among females than among males [20]. Indeed, Mels et al. note that being female is an established risk factor for greater psychopathology [26].

While examining the plight of a very particular population, this work seeks to contribute more broadly toward building a much-needed body of literature on the epidemiology of mental illness among conflict-affected children and adolescents on the African continent. Understanding the prevalence of mental illness and any differences conferred by displacement is critical in informing interventions that can meet the mental health needs of displaced and conflict-affected populations. During the COVID-19 pandemic, Cameroon has integrated psychological support at the center of patient management, with use of SMS and WhatsApp messages as a key component [22]. This approach could be extended to populations affected by conflicts and tailored to specifically address the challenge highlighted in this study.

This study has certain limitations. Firstly, the study population included youth who self-identified as having mental health concerns or were referred by healthcare providers or organizations. While the relative prevalence of various diagnostic categories and the comparisons between categories of displacement remain meaningful, it is not possible to draw conclusions from our data about the overall prevalence of psychiatric disorders in this population. The study population likely demonstrates a prevalence of psychiatric illness that is higher than in the

general population but lower than in a purely clinical population. Additionally, youth with severe psychiatric illness, who may face community stigma or difficulty motivating themselves to attend a public event, may not have attended the sensitization campaign events. Although some of these individuals may be captured by referrals, many may not be represented in this data. Secondly, diagnostic interviews were conducted as unstructured clinical assessments rather than structured clinical interviews. In addition, these interviews relied on interpreters, raising the possibility that some nuances were lost in translation. Thirdly, data collection aggregated the number of diagnoses for each age category. The analysis was then forced to consider each positive diagnosis as a participant, eliminating the possibility of investigating patterns of co-morbid conditions. Fourthly, most study participants were older adolescents and younger adults, with a smaller proportion in the 10- to 14-year-old age group. It was more difficult, then, to accurately assess the mental health burden of this youngest age group.

5. Conclusion

This study demonstrates that the significant youth mental health needs in Cameroon's Far North most often take the form of an anxiety disorder and are more prevalent among individuals in the host population than among displaced individuals. These findings suggest that tailoring a mental health intervention only to displaced youth would neglect the significant difficulties that host population youth, especially females, also face. These findings also suggest that it may be especially beneficial to target anxiety disorders, a diagnostic category that is less commonly addressed in the setting of conflict and other humanitarian crisis than are PTSD and depression.

Contributors' statement

Authors JMD, DN, and YB contributed to the original research design and data collection. Authors ODH, DG, and SH contributed to the design and execution of the data analysis. Authors ODH, JMD, and SH wrote the manuscript. All authors reviewed and edited the manuscript.

Data sharing

De-identified participant data will be available beginning 2 months and ending 4 years after publication to researchers who provide a methodologically sound proposal. Proposals should be directed to joel1darchi@gmail.com. Any party requesting data will be required to sign a data access agreement and may utilize the data only for the purposes outlined in the proposal.

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Declaration of Competing Interest

The authors have no competing interests to disclose.

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