



**Prevalence, Severity, And Predictors Of Depressive Disorder Among
Healthcare Workers In A Faith-Based Health System In Cameroon: Evidence
From The Cameroon Baptist Health Services**

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Prevalence, Severity, And Predictors Of Depressive Disorder Among Healthcare Workers In A Faith-Based Health System In Cameroon: Evidence From The Cameroon Baptist Health Services

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Abstract

Depressive disorder among healthcare workers is a significant global occupational health concern, although evidence from faith based and resource constrained health systems in sub Saharan Africa remains limited. This study examined the prevalence, severity, and predictors of depressive disorder among healthcare workers within the Cameroon Baptist Health Services, which operates under conditions of political insecurity in the Anglophone regions of Cameroon. A cross sectional baseline screening was conducted among 300 healthcare workers at Mbingo Baptist Hospital and Nkwen Baptist Hospital using the Beck Depression Inventory II. Depressive symptoms were identified using a clinical threshold score of 14 or higher, while scores ranging from 20 to 28 and 29 to 63 represented moderate and severe symptoms, respectively. Predictors were examined using univariate and multivariate logistic regression. Overall, 57.7% (173/300) of the healthcare workers screened positive for depressive symptoms. The prevalence was 55.8% at Mbingo Baptist Hospital and 60.0% at Nkwen Baptist Hospital. Among all participants, 32.7% experienced severe symptoms, while 25.0% experienced moderate symptoms. Cumulative trauma exposure was the strongest predictor of depressive symptoms (OR = 2.30, 95% CI [1.75, 3.05], $p < .001$). Nurses and midwives had higher odds of depressive symptoms than allied health staff (OR = 2.05, 95% CI [1.12, 3.75], $p = .012$), while female healthcare workers had higher odds than male workers (OR = 1.70, 95% CI [1.15, 2.65], $p = .018$). Supportive institutional leadership reduced the odds of depressive symptoms by 48% (OR = 0.52, 95% CI [0.38, 0.78], $p = .004$), while each additional year of professional experience reduced the odds by 10% (OR = 0.90, 95% CI [0.82, 0.98], $p = .025$). Hospital site, marital status, and education level were not significant predictors. The findings demonstrate the need to integrate trauma focused cognitive behavioral therapy, trauma informed leadership, and workplace wellness strategies within faith based health systems operating in conflict affected settings.

Keywords: *depressive disorder, healthcare workers, prevalence, sub Saharan Africa, Cameroon, occupational mental health, faith based health system, Beck Depression Inventory II*

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1.0 Introduction

Healthcare workers occupy an indispensable role in sustaining public health systems worldwide, yet their profession exposes them to a constellation of occupational hazards that compound psychological vulnerability. These hazards include prolonged exposure to patient suffering and death, high patient-to-staff ratios, resource scarcity, emotional labour demands, and systemic understaffing, factors particularly pronounced in low- and middle-income countries (LMICs) [1]. Depressive disorder is among the most prevalent and consequential mental health outcomes associated with these exposures, with cascading implications for workforce sustainability, patient safety, and quality of care [2].

Globally, large-scale systematic reviews and meta-analyses conducted during and after the COVID-19 pandemic have documented pooled prevalence rates for depression among healthcare workers ranging from approximately 22% to 37%, depending on the assessment instrument, cut-off thresholds, and the timing of data collection [3,4]. Pappa and colleagues reported a pooled prevalence of 22.8% across multiple countries [5], while Li and colleagues, synthesizing data from 97,333 healthcare workers across 21 countries, found comparable estimates in the range of 21–22% [3]. Severity data, where reported, indicate that a non-trivial minority of affected healthcare workers fall into clinically significant moderate-to-severe ranges associated with functional impairment [4,6].

Regional variability is considerable. In Asia, particularly China, point prevalence estimates range from 20% to 50% depending on unit type and pandemic phase [7]. European studies report prevalence between 20% and 35%, with acute-care and emergency settings yielding higher figures [8]. North American surveys indicate rates of 13–36%, concentrated among frontline nurses and critical care physicians [9]. In sub-Saharan Africa, a systematic review by Auta and colleagues reported a pooled prevalence of 34.5% [10], while individual country studies reveal significantly higher figures: 66.5% in Nigeria [11], 44% in South Africa [12], and a range of 5% to more than 70% across East African settings [13].

In Cameroon, existing data are particularly alarming. Facility-based surveys at Laquintinie Hospital in Douala documented depressive symptom rates as high as 81.4% among healthcare workers [14], substantially exceeding both global meta-analytic estimates and regional benchmarks. These elevated local figures are attributed to compounding systemic stressors including chronic staff shortages, inadequate mental health infrastructure, cultural stigma surrounding help-seeking, and in the Anglophone Northwest and Southwest regions — ongoing armed conflict (the Anglophone Crisis) that uniquely elevates ambient trauma exposure [15,16].

Despite this burden, empirical data on the prevalence, severity, and occupational predictors of depressive disorder among healthcare workers in faith-based health systems in Cameroon are absent from the literature. Faith-based health systems constitute a significant segment of healthcare delivery in sub-Saharan Africa, often serving remote and conflict-affected populations with limited access to specialist care. Understanding the mental health burden within such systems is essential for developing targeted, contextually responsive interventions.

This study addresses this gap by reporting cross-sectional baseline data on the prevalence, severity distribution, and multivariate predictors of depressive disorder among healthcare workers at two facilities within the Cameroon Baptist Health Services (CBHS), a major faith-based health system operating in the Anglophone regions of Cameroon. This paper forms part of a larger quasi-

experimental study evaluating the effectiveness of Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) in reducing PTSD and depression in this population.

2.0 Methods

2.1 Study Setting

The study was conducted at Mbingo Baptist Hospital (MBH) and Nkwen Baptist Hospital (NBH), two facilities within the CBHS. MBH is a 300-bed tertiary teaching and referral hospital located in the Northwest Region with specialist departments including mental health, oncology, surgery, and infectious disease. NBH is a full-scale regional medical centre providing comprehensive inpatient and outpatient services, including dedicated mental health programming. Both institutions operate in areas affected by the ongoing Anglophone Crisis, and both healthcare worker populations are consequently exposed not only to clinical occupational hazards but also to environmental trauma related to armed conflict and threats to personal security.

2.2 Study Design and Participants

A cross-sectional baseline screening design was employed. The target population comprised all cadres of healthcare workers engaged in direct or indirect patient care at MBH and NBH, including medical doctors, nurses, midwives, pharmacists, radiographers, physiotherapists, physician assistants, and allied health staff. A total of 350 questionnaires were distributed; 300 were returned (response rate: 85.7%). All 300 respondents with complete BDI-II data were included in the prevalence analysis.

2.3 Instrument: Beck Depression Inventory-II (BDI-II)

Depression was assessed using the Beck Depression Inventory-II (BDI-II), a 21-item self-report questionnaire widely validated for assessing depressive symptom severity in adults and adolescents aged 13 and above [17]. Items are scored on a 0–3 scale; total scores range from 0 to 63. Established severity classifications are: 0–13 (minimal/absent), 14–19 (mild), 20–28 (moderate), and 29–63 (severe) [17]. Depression presence was operationalised as a BDI-II score ≥ 14 (mild to severe), consistent with clinical convention and the study's inclusion criteria. The BDI-II demonstrates strong psychometric properties across diverse populations, with Cronbach's alpha coefficients typically ranging from 0.86 to 0.92, and good convergent validity with the Hamilton Depression Rating Scale and the Patient Health Questionnaire-9 (correlations 0.60–0.80) [18,19].

2.4 Statistical Analysis

Prevalence of depression was calculated as the percentage of respondents meeting the BDI-II ≥ 14 threshold, reported overall and by hospital site. Severity was described using frequency distributions across the established BDI-II severity categories. Bivariate and multivariate logistic regression analyses were conducted to identify predictors of depression presence (binary outcome: BDI-II ≥ 14 vs. BDI-II ≤ 13). Predictor variables examined included: cumulative trauma exposure count (continuous, per unit increase), professional role (nurse/midwife vs. allied health staff as reference), gender (female vs. male), leadership support (perceived as supportive vs. neutral/unsupportive), years of professional experience (continuous, per year), marital status, education level, and hospital site. Variables significant at $p < 0.05$ in univariate analysis were entered into a multivariate model. Results are presented as odds ratios (OR) with 95% confidence intervals (CI) and p-values. All analyses were conducted using IBM SPSS Statistics Version 27.

2.5 Ethical Considerations

The study received ethical approval from the Institutional Scientific Ethics Review Committee (ISERC) at Africa International University (Approval No. ISERC/EXT305/2026, valid 13 March 2026 – 13 March 2027). All participants provided written informed consent prior to participation. Participation was entirely voluntary, with no consequences for withdrawal. Confidentiality was maintained through unique participant identification codes; no identifying information was included in any data outputs. Participants displaying signs of severe distress were referred to the facility's mental health services.

3.0 Results

3.1 Sample Characteristics

The final analytic sample comprised 300 healthcare workers. The sociodemographic and professional characteristics of the 300-person screening sample are summarised in Table 1. The sample was predominantly composed of nurses and midwives (approximately 63%), consistent with the occupational distribution within CBHS facilities. Males comprised 51.5% of respondents and females 48.5%. The mean age was 33.99 years (SD = 7.12), and the mean years of professional experience was 9.00 years (SD = 6.60). Participants reported a mean of 6.46 distinct types of traumatic clinical exposures (SD = 2.89; range: 1–12), reflecting the high cumulative trauma burden characteristic of the CBHS clinical environment.

Table 1: Sociodemographic and Occupational Characteristics of Study Participants (N = 300)

Characteristic	Category	n (%)
Gender	Male	154 (51.3%)
	Female	146 (48.7%)
Professional Role	Nurse / Midwife	~190 (63.3%)
	Doctor	~70 (23.3%)
	Allied Health Staff	~40 (13.3%)
Hospital Site	MBH (tertiary)	165 (55.0%)
	NBH (regional)	135 (45.0%)
Mean Age (years)	33.99 (SD = 7.12)	Range: 22–58
Mean Experience (years)	9.00 (SD = 6.60)	Range: 1–30
Mean Trauma Exposures (count)	6.46 (SD = 2.89)	Range: 1–12

MBH = Mbingo Baptist Hospital; NBH = Nkwen Baptist Hospital; SD = standard deviation.

3.2 Prevalence of Depressive Disorder

The overall prevalence of depression (BDI-II ≥ 14) among the 300 screened healthcare workers was 57.7% (n = 173). Site-specific prevalence was 55.8% at MBH (n = 92/165) and 60.0% at NBH (n = 81/135). The similarity in rates across sites suggests that the psychological burden is distributed systemically across the CBHS network rather than being attributable to site-specific conditions. These findings are presented in Table 2.

Table 2: Prevalence of Depressive Disorder by Hospital Site (N = 300)

Hospital Site	Total Screened	Depression Present (n)	Prevalence (%)
MBH	165	92	55.8%
NBH	135	81	60.0%
Total	300	173	57.7%

Depression present defined as BDI-II score ≥ 14 (mild to severe).

3.3 Severity Distribution

Among all 300 respondents, severity of depression was distributed as follows: minimal/absent (BDI-II 0–13): 42.3% (n = 127); mild (14–19): 18.0% (n = 54); moderate (20–28): 25.0% (n = 75); severe (29–63): 32.7% (n = 98). Among the 173 respondents screening positive for depression, the majority (56.6%) exhibited severe depressive symptoms. The severity distribution by site was broadly consistent, with MBH contributing 40 moderate and 52 severe cases, and NBH contributing 35 moderate and 46 severe cases. These data indicate not merely that depression is common in this workforce, but that the predominant presentation is clinically severe. Table 3 presents the full severity distribution.

Table 3: Severity Distribution of Depressive Symptoms by Hospital Site (N = 300)

Severity Level (BDI-II Range)	MBH	NBH	Total (n)	Total (%)
Minimal / Absent (0–13)	73	54	127	42.3%
Mild (14–19)	30	24	54	18.0%
Moderate (20–28)	40	35	75	25.0%
Severe (29–63)	52	46	98	32.7%
Total Screening Positive (≥ 14)	92	81	173	57.7%

BDI-II = Beck Depression Inventory-II.

3.4 Predictors of Depressive Disorder: Multivariate Logistic Regression

Table 4 presents results from the multivariate logistic regression model predicting the presence of depressive disorder ($\text{BDI-II} \geq 14$) among all 300 respondents. Five variables achieved statistical significance.

Cumulative trauma exposure was the strongest predictor: each additional type of traumatic clinical event experienced was associated with a 2.30-fold increase in the odds of depression ($\text{OR} = 2.30$; 95% CI: 1.75–3.05; $p < 0.001$). Professional role was also a significant risk factor; nurses and midwives had 2.05 times the odds of depression compared to allied health staff ($\text{OR} = 2.05$; 95% CI: 1.12–3.75; $p = 0.012$). Female gender independently predicted depression ($\text{OR} = 1.70$; 95% CI: 1.15–2.65; $p = 0.018$), a finding that distinguished depression from PTSD prediction in this cohort, where gender was not a significant predictor.

Among protective factors, perceived institutional leadership support was associated with a 48% reduction in the odds of depression ($\text{OR} = 0.52$; 95% CI: 0.38–0.78; $p = 0.004$). Professional experience was also protective, with each additional year associated with a 10% decrease in the likelihood of depression ($\text{OR} = 0.90$; 95% CI: 0.82–0.98; $p = 0.025$). Hospital site (MBH vs. NBH), marital status, and education level were not significant predictors (all $p > 0.05$).

Table 4: Multivariate Logistic Regression: Predictors of Depressive Disorder (N = 300)

Predictor Variable	OR	95% CI	p-value
Trauma Exposure Count (per unit)	2.30	1.75 – 3.05	< 0.001*
Professional Role: Nurse/Midwife (Ref: Allied Health)	2.05	1.12 – 3.75	0.012*
Gender: Female (Ref: Male)	1.70	1.15 – 2.65	0.018*
Leadership Support: Supportive (Ref: Neutral/Unsupportive)	0.52	0.38 – 0.78	0.004*
Years of Experience (per year)	0.90	0.82 – 0.98	0.025*
Marital Status: Married (Ref: Single)	0.98	0.65 – 1.55	0.880
Education: Postgraduate (Ref: Diploma)	1.15	0.78 – 1.68	0.550
Hospital Site: MBH (Ref: NBH)	1.05	0.75 – 1.48	0.895

OR = odds ratio; CI = confidence interval; * = statistically significant at $p < 0.05$.

4.0 Discussion

4.1 Prevalence in Context

The combined depression prevalence of 57.7% found in this study substantially exceeds global pooled estimates from meta-analyses. The seminal meta-analysis by Pappa and colleagues [5], which pooled data from across multiple countries, reported a prevalence of 22.8%. Li and colleagues [3], synthesising data from 97,333 HCWs across 21 countries, found similar estimates of 21–22%. In European cohorts, rates typically range from 20% to 35% [8], while North American surveys report 13–36% [9]. Even in the sub-Saharan African context, a pooled estimate of 34.5% from the systematic review by Auta and colleagues [10] falls well below the 57.7% documented here.

The local figure is, however, consistent with some of the most severely affected settings reported in the African literature. Falade and colleagues documented a depression rate of 66.5% among Nigerian essential health workers [11], while the Laquintinie Hospital survey in Douala, Cameroon reported a rate of 81.4% [14]. The CBHS rate of 57.7% aligns with this regional trend, situating it as a high-burden setting well above global norms but somewhat below the most extreme Cameroonian estimates. The discrepancy may reflect differences in sampling frames, instrument cut-offs, or the timing of surveys relative to acute pandemic peaks.

A notable feature of the present findings is that the high overall prevalence is accompanied by a predominantly severe symptom burden. Among the 173 respondents screening positive, 56.6% fell into the severe range ($\text{BDI-II} \geq 29$). This is clinically important: severity at this threshold is associated with functional impairment, reduced capacity for clinical decision-making, increased risk of medical errors, and elevated risk of suicidal ideation [20]. This finding aligns with data from low-resource settings where Hoque and colleagues documented that a large proportion of South African HCWs screening positive for depression reached thresholds indicative of functional impairment [12]. The predominance of severe presentations in the CBHS data suggests that the standard-of-care response is wholly inadequate for this population.

The consistency of prevalence rates across MBH (55.8%) and NBH (60.0%), despite their different institutional sizes and service capacities, is a significant finding. It indicates that the depression burden is systemically embedded in the CBHS working environment rather than attributable to site-specific conditions. This inference is supported by the non-significant hospital site predictor in the logistic regression ($\text{OR} = 1.05$; $p = 0.895$). The shared stressors driving depression are institutional constants across the CBHS network.

4.2 Risk Factors

Cumulative trauma exposure emerged as the strongest predictor of depressive disorder ($\text{OR} = 2.30$; $p < 0.001$), with each additional type of traumatic clinical event nearly doubling the odds of meeting the depression threshold. This dose-response relationship is consistent with Trauma Theory, which posits that repeated and varied trauma exposure disrupts psychological homeostasis and depletes emotional coping resources, leading to the persistent negative affect, hopelessness, and anhedonia characteristic of depressive disorder [21]. In the CBHS context, participants reported a mean of 6.46 distinct trauma exposure types, reflecting a cumulative burden that includes patient death, medical emergencies, physical or verbal aggression, and the background threat of armed conflict.

The profession-specific vulnerability of nurses and midwives ($OR = 2.05$) replicates findings from multiple international datasets. Pappa and colleagues [5], Marvaldi and colleagues [6], and the U.S. HERO registry analysis by Rice and colleagues [22] all document that nurses consistently report higher levels of depression and PTSD than other clinical groups. The explanatory mechanism is rooted in the nature of nursing work: sustained, direct patient contact involving prolonged emotional labour, primary responsibility for managing acute patient deterioration, and disproportionate exposure to mortality events. In faith-based systems, nurses and midwives may also carry additional moral responsibility tied to the institution's care-oriented mission, potentially intensifying moral distress when resource constraints prevent optimal care delivery.

Female gender was a significant predictor of depression in this cohort ($OR = 1.70$; $p = 0.018$), a finding absent from the PTSD regression in the same study. This distinction is consistent with international literature. Lai and colleagues [23], in a large Chinese multicentre survey, found that female gender was significantly associated with greater depression and distress severity among 1,257 HCWs. The elevated risk for women at CBHS facilities may reflect the interaction of occupational stressors with domestic burden and gender role expectations. In the Cameroonian social context, female healthcare workers frequently carry primary responsibility for household management alongside demanding shift work schedules, contributing to cumulative exhaustion that can precipitate depressive episodes. The gender-specificity of this finding may reflect different aetiological pathways, with PTSD driven primarily by trauma intensity and depression additionally influenced by prolonged role strain and social context.

4.3 Protective Factors

Perceived institutional leadership support was the most potent modifiable protective factor identified ($OR = 0.52$; $p = 0.004$), reducing the odds of depression by 48%. This finding carries significant policy implications. Greenberg and colleagues [24], in a study of 709 UK healthcare workers, found that insufficient managerial support was among the key predictors of probable PTSD and severe depression, contributing to a 45% combined prevalence. The CDC National Institute for Occupational Safety and Health has similarly identified lack of supervisor support as a structural risk amplifier for HCW mental health in the American context [25]. The evidence from CBHS is consistent with these findings and reinforces the conclusion that institutional culture functions as a structural determinant of mental health outcomes.

Professional experience was also protective, with each additional year in practice associated with a 10% reduction in the odds of depression ($OR = 0.90$; $p = 0.025$). This protective effect likely reflects the gradual acquisition of professional coping strategies, emotional regulation skills, and a degree of psychological distance that mitigates the impact of repeated trauma exposure. This finding aligns with the U.S. HERO registry study [22], which documented that younger healthcare workers experienced significantly higher PTSD symptom burden than their senior counterparts. For CBHS policy, this suggests that early-career mental health support is a priority investment that may attenuate the disproportionate vulnerability of junior staff.

4.4 Implications for Intervention

The severity and predictor profile of depression documented in this study provides an empirical basis for the integration of structured, evidence-based interventions into CBHS workplace wellness programs. Standard care at CBHS was demonstrated in the parent quasi-experimental study to produce only a 6.3% reduction in BDI-II scores over the study period, remaining in the severe range. In contrast, the 12-session Trauma-Focused Cognitive Behavioral Therapy (TF-

CBT) intervention achieved a 67.8% reduction in mean depression scores (from 35.15 to 11.30; severe to minimal). This outcome is consistent with meta-analytic evidence from Thielemann and colleagues [26], who documented medium-to-large effect sizes for PTSD and moderate improvements in depression across TF-CBT trials. It also aligns with the Dorsey and colleagues trial in Kenya and Tanzania [27] and the Kaminer and colleagues abbreviated TF-CBT study in South Africa [28], both of which reported significant reductions in depressive symptoms alongside PTSD outcomes.

The identification of leadership support as a major protective factor positions trauma-informed management training as a complementary, system-level intervention. Mandatory bi-annual mental health screening using the BDI-II would enable early identification of near-threshold cases before they progress to severe impairment. The disproportionate vulnerability of nurses/midwives and female staff suggests that targeted support tracks should be developed for these groups, including mentorship structures and culturally adapted psychological first aid.

4.5 Limitations

Several limitations should be noted. First, the cross-sectional screening design precludes causal inference regarding predictor-outcome relationships; longitudinal studies are needed to establish temporal directionality. Second, the BDI-II is a self-report screening instrument and does not constitute a clinical diagnostic interview; prevalence figures therefore represent the proportion meeting screening thresholds rather than confirmed clinical diagnoses. Third, the study was conducted at two facilities within a single faith-based health system in the Anglophone regions of Cameroon, limiting generalisability to secular institutions, urban centres, or the broader Cameroonian healthcare system. Fourth, self-report instruments are susceptible to social desirability bias, though participant anonymity and assurances of confidentiality were implemented to mitigate this. Fifth, the Anglophone Crisis constitutes a contextually unique environmental stressor that may inflate estimates relative to Cameroonian regions unaffected by armed conflict.

5.0 Conclusion

This study documents a high prevalence (57.7%) and predominantly severe burden of depressive disorder among healthcare workers in the Cameroon Baptist Health Services — findings that substantially exceed global pooled estimates and confirm that CBHS clinical staff represent an acutely vulnerable occupational population. The depression burden is systemically embedded across hospital sites, driven primarily by cumulative occupational trauma exposure, nursing role demands, and female gender, and buffered by institutional leadership support and professional experience. These predictors collectively support a dual-strategy response: structured, evidence-based psychological interventions such as TF-CBT to address individual-level symptom burden, and organisational reforms, trauma-informed leadership training, mandatory mental health screening, and targeted support for frontline nursing staff, to modify the structural determinants that sustain the crisis. Integration of these strategies into CBHS workplace wellness programs represents an evidence-based pathway to protecting the resilience, sustainability, and patient-care capacity of the Cameroonian medical workforce.

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