

AN ASSESSMENT OF THE LEVEL OF AWARENESS, PREVALENCE, RISK FACTORS AND COPING MECHANISMS OF BURNOUT AMONGST NURSING STUDENTS OF THE UNIVERSITY OF BUEA

Binwi Florence

Mba Tchioffo Houston and Palle Paul Njunde, The University of Buea

Abstract: Nursing education is demanding and places students at risk of burnout. The aim of this study was to assess the level of awareness, prevalence, risk factors and coping mechanisms of burnout among nursing students of the University of Buea. A mixed method study design was used. The study duration was seven months. A sample of 196 and 8 nursing students for the quantitative and qualitative studies were purposively selected to take part in the study from the University of Buea, Cameroon. Data was collected using a well-structured questionnaire and a focused group discussion guide, entered into an excel spreadsheet then analyzed using the Maslach Burnout Inventory-Student Survey (BMI-SS). The aim of this study was to assess the level of awareness, prevalence, identify risk factors, and investigate coping mechanisms of nursing students about burnout at the University of Buea. A School based cross-sectional study design was used, within the period of 7 months, with target population being nursing students at the Faculty of Health Sciences, University of Buea. Nursing students who met the inclusion criteria, with a calculated minimum sample size of 196 participants. purposive method was used in selecting research area, and participants respectively. A structured questionnaire and a focused group discussion guide was used to collect relevant data. The data collected was coded, information inputted in an excel spread sheet, and hardcopy stored in a private box all accessible only to the researcher. Data analysis was done using SPSS version 27 for windows. Statistical significance was set at $p < 0.05$. A total of 196 nursing students participated in this study. Majority of the participants were aware of burnout 178(90.8%). The prevalence of burnout among nursing students was relatively high 111(56.6%). The identified risk factors to burnout among nursing students are; high work load, poor work-life balance, exposure to traumatic events and lack of autonomy. The coping mechanisms to burnout used by nursing students involved support from friends/family, taking breaks during busy a day, seeking help from professional and engaging in activities that helped them relax. Nursing students should identify and use mechanisms that help them to better cope with burnout.

Key words: Awareness, Burnout, Coping mechanisms, Prevalence, Risk factors, UB

Introduction

Burnout is characterized by physical and emotional exhaustion from long-term exposure to physical and emotionally demanding work[1]. Burnout refers to a constellation of feelings of exhaustion, depersonalization, and low sense of personal accomplishment that develops secondary to long-term occupational stress[2]. Burnout is a state of emotional, mental, and physical exhaustion caused by prolonged stress, overwork, and lack of balance in life[3]. Nursing students are particularly vulnerable to burnout due to the demands of their academics[4]. In the context of nursing education, burnout can have severe consequences on the well-being and academic performance of nursing students. Many nursing students have low or no awareness that academic demands can cause burnout syndrome[5]. Awareness of burnout increases with academic year, with senior students more likely to recognize symptoms[6]. It has been increasingly recognized as a significant issue in various professions, including healthcare and education. Nursing students, in particular, are vulnerable to burnout due to the demanding nature of their work and studies. Lack of awareness leads students to normalize exhaustion

as “part of nursing training”[7]. Burnout can lead to decreased productivity, poor academic performance, and compromised patient care[8]. This study aims to investigate burnout among nursing students at the University of Buea, focusing on awareness, prevalence, risk factors, and coping mechanisms. Burnout, defined as emotional exhaustion, depersonalization, and low personal achievement, negatively impacts motivation and may further decrease productivity of already limited workforces. Nursing burnout is an important problem that affects nurses' wellness, the quality of care and the health institutions.

Globally, burnout is a significant concern in the nursing profession, with studies indicating high prevalence rates among nurses and nursing students[9]. The World Health Organization (WHO) recently declared burnout as an "occupational phenomenon" in the International Classification of Diseases. Burnout is defined by WHO as a syndrome resulting from chronic workplace stress not successfully managed, with 3 dimensions: emotional exhaustion, depersonalization, reduced personal accomplishment. High academic workload is the strongest predictor of emotional exhaustion. The occupational stress associated with the nursing profession is increasingly recognized and nursing students' absenteeism is a significant global problem. Nursing education requires students to balance intensive theoretical learning with clinical practice, direct patient care, night shifts, and frequent assessments. Workplace burnout is a worldwide phenomenon that is little understood within the educational work force. Burnout can be the result of long-term exposure to personal and/or work-related stressors and affect student nurses' performance[10].

Globally, burnout is a significant concern in the healthcare sector, affecting nurses, nursing students, and educators[11]. A study conducted in the United States found that 40% of nurses experienced burnout, leading to decreased job satisfaction and increased turnover[12]. Similarly, a study in Australia reported that 60% of nursing students experienced burnout, which negatively impacted their academic performance[13]. Ensuring the psychological wellbeing of individual nursing students is becoming increasingly recognized as an important strategy in maintaining a healthy students and encouraging great results within their academic[14]. Evidence has suggested that burnout symptoms in nurses is high across specialties and countries, but no meta-analysis have been performed to investigate burnout symptoms prevalence in nursing students and educators globally.

Amongst health related educational fields, nursing students are known to struggle with burnout symptoms the most, carrying serious consequences for success[15]. Nurses are particularly susceptible to job burnout and kinds of factors related to their burnout. However, limited studies focus on the relationships among nurses' psychological capital, creative tendency, and job burnout in China[16].

In Africa, burnout is a growing concern in the nursing profession, with studies indicating high levels of emotional exhaustion and depersonalization among nurses [17][18]. Cultural beliefs in Africa sometimes attribute burnout symptoms to “spiritual attack” rather than occupational stress. A study in South Africa found that 42% of nursing students experienced burnout, with academic stress and lack of support being significant predictors[19]. Burnout, defined as emotional exhaustion, depersonalization, Stress and burnout among healthcare workers has been recognized as a global crisis needing urgent attention. Yet few studies have examined stress and burnout among healthcare providers in sub-Saharan Africa, and even fewer among maternity providers who work under very stressful conditions. While there is ample information on its prevalence and risk factors in well-resourced settings in high-income countries, it remains poorly studied in the low-and middle-income countries of sub-Saharan Africa, which bear the larger share of the global burden of disease.

Burnout is a response to chronic work-related stress. Maternal mortality remains remarkably high in low and middle-income countries, accounting for 94% of maternal death with Midwives serving as the main providers of skilled care to curb the menace[20]. Burnout among maternal healthcare workers in sub-Saharan Africa may have a negative effect on services provided and efforts to mitigate high maternal mortality. In terms of the three dimensions of burnout, of the 101 participants, nearly three quarters (72%) reported emotional exhaustion, over one third (43%) reported depersonalization while almost three quarters (74%) experienced reduced personal accomplishment. Based on these findings, burnout appears to be common among participating maternal health staff as they experienced more burnout than their colleagues working in other medical settings and countries.

In Cameroon, there is limited research on burnout among nursing students and educators. However, studies suggest that the nursing profession is facing significant challenges, including inadequate staffing, poor working conditions, high workload and limited resources[21][22]. A study at the University of Yaoundé found that nursing students experienced high levels of stress and burnout due to academic demands and clinical practice[23].

Problem Statement

Burnout is more than just “feeling tired.” It’s a state of chronic stress that leaves people emotionally drained, feeling detached from their work, and doubting their own competence. For nursing students, this is a real threat. Students juggle with heavy coursework, long clinical shifts, and the emotional weight of caring for sick patients during their internships in the hospital. Globally, this pressure shows in the numbers: about 1 in 3 nursing students experience burnout, with emotional exhaustion being the most common sign.

The situation in Africa, including Cameroon, is likely worse. Limited resources, large class sizes, and few clinical training sites add extra strain. Yet, when we look at Cameroon, there’s a clear gap: most research on burnout has focused on already working nurses in the hospitals. Very little has been done on nursing students in universities.

At the University of Buea, these challenges feel even more real. The Faculty of Health Sciences trains nurses for the South West Region and beyond, but it does so under tough conditions: overcrowded classes, few clinical placement sites, frequent power cuts that disrupt lectures, and the constant pressure to meet both academic and clinical standards. Nursing students are doing their best, but we do not actually know how many are burning out, what puts them at risk, or how they cope. Without this data, it’s hard for the faculty to design support systems that truly help.

This matters because burnout doesn’t just affect the person experiencing it. It lowers academic performance, pushes students to drop out, reduces the quality of teaching, and eventually affects the quality of care patients receive. If we don’t measure and understand burnout at the University of Buea, we can not fix it.

For this reason, this study aims to assess burnout among nursing students at the University of Buea. Specifically, it will look at how aware they are of burnout, how common it is, what factors increase their risk, and what coping strategies they currently use. The goal is simple: provide evidence that faculty leaders and health policymakers can use to protect the mental health of Cameroon’s future nurses.

Research Objectives

General Objective

To investigate the level of awareness, prevalence, risk factors, and coping mechanisms of nursing students to burnout at the University of Buea.

Specific Objectives

- I. To assess the level of awareness about burnout among nursing students at the university of Buea
- II. To determine the prevalence of burnout among nursing students at the university of Buea.
- III. To identify the risk factors associated with burnout among nursing students at the university of Buea.
- IV. To explore the coping mechanisms used by nursing students to manage burnout at the university of Buea.

Research Questions

- I. What is the level of awareness of burnout among nursing students at the University of Buea?
- II. What is the prevalence of burnout among nursing students at the University of Buea?
- III. What are the risk factors contributing to burnout among nursing students at the University of Buea?
- IV. What coping mechanisms do nursing students use to manage burnout at the University of Buea?

Research Hypothesis

H₀₁: Nursing Students in the University of Buea have a low level of awareness about Burnout.

H₀₂: Nursing Students in the University of Buea have a high level of awareness about Burnout.

Theoretical Framework

The study was guided by Maslach's Burnout Theory, which posits that burnout is a result of chronic stress and strain caused by prolonged exposure to work-related stressors. The theory suggests that burnout can be prevented or mitigated by identifying and addressing the underlying causes of stress and providing support and resources to individuals. The most current supported explanatory theories of burnout considering that, instead of being antagonistic to each other, they are complementary and provide a more global view of this syndrome. Specifically, the following theories are summarized: 1) social cognitive theory; 2) social exchange theory; 3) organizational theory; 4) structural theory; 5) job demands–resources theory; 6) emotional contagion theory.

Social Cognitive Theory: This approach is characterized by giving a central role to individual variables such as self-efficacy, self-confidence and self-concept in the development and evolution of burnout. So, this syndrome is triggered when the worker harbours doubt about their own effectiveness, or that of their group, in achieving professional goals. These approaches were corroborated in a study conducted in a Spanish context with 274 secondary school teachers showing that burnout occurred after the emergence of professional efficacy crises. The circumstances facilitate the development of inefficacy expectations or efficacy crises are the following: 1) negative experiences of failure in the past, 2) lack of reference models who have gone through a similar experience and have overcome it, 3) lack of external reinforcement for the work, 4) lack of feedback on the work completed or excessive negative criticism, and 5) difficulties at work. In this way, crises of effectiveness would lead to low professional fulfillment which, if maintained over time, would generate emotional exhaustion and then cynicism/depersonalization as a way of coping with stress.

Social Exchange Theory: This theory considers that burnout occurs when the worker perceives a lack of equity between the efforts and contributions made and the results obtained in their work [24][25]. This lack of reciprocity, which can occur with service users, colleagues, supervisors, and organizations, consumes the emotional resources of professionals, generating an emotional exhaustion that becomes chronic. From this approach, burnout can be triggered by the significant interpersonal demands involved in dealing with clients/users that become emotionally consuming. Thus, to avoid contact with the original source of discomfort, depersonalization or cynicism is used as a stress coping strategy, which ultimately leads to low personal fulfillment.

Organizational Theory: This approach considers that burnout is a consequence of organizational and work stressors combined with inadequate individual coping strategies. Within this theory, there are two alternative models to explain the relationships between the dimensions of burnout. Burnout starts because of the existence of organizational stressors or risk factors, such as work overload or role ambiguity, and before which some individuals show as a coping strategy a decrease in their organizational commitment, which is very similar to cynicism and depersonalization. Subsequently, the person will experience low personal fulfillment at work and emotional exhaustion, which triggers burnout syndrome. Thus, depersonalization would be the first phase of burnout, followed by a feeling of low self-fulfillment and, finally, emotional exhaustion. The emotional exhaustion caused by enduring work stressors is the initial dimension of this syndrome. Depersonalization is considered a coping strategy in the face of emotional exhaustion and low personal fulfillment is the result.

Demands–Resources Theory: This approach postulates that burnout occurs when there is an imbalance between the demands and resources derived from work [26]. Job demands are those job factors that require sustained physical or mental effort and are associated with certain physiological costs due to activation of the hypothalamic–pituitary–adrenal axis and psychological costs (e.g., subjective fatigue, reduced focus of attention, and redefinition of task requirements). Common work demands include work overload, emotional labor, time pressure, or interpersonal conflicts. When recovery in the face of such demands is insufficient or inadequate, a state of physical and mental exhaustion is triggered [27]. Work resources, on the other hand, refer to the physical, psychological, organizational, or social aspects of work that can reduce the demands of work and the associated physiological and psychological costs and that can be decisive in achieving work objectives. Resources at work can be organizational in nature, but also personal. When demands exceed resources, fatigue occurs; if this

imbalance is maintained over time, fatigue becomes chronic and, finally, burnout appears. Therefore, job demands have a direct and positive relationship with burnout, especially emotional exhaustion, while the existence of job resources inversely influences depersonalization by minimizing or reducing its use as a coping strategy.

Structural Theory: This approach maintains that burnout is a response to chronic job stress that appears when the coping strategies employed by the individual to manage job stressors fail. Initially, work stress will elicit a series of coping strategies[28]. When the coping strategies initially employed are not successful, they lead to professional failure and to the development of feelings of low personal fulfillment at work and emotional exhaustion[29]. Faced with these feelings, the subject develops depersonalization attitudes as a new form of coping. (The sequence is illustrated in Figure 3.) In turn, burnout will have adverse consequences both for the health of individuals and for organizations. This model has been empirically contrasted with different professional groups such as teachers or nurses.

Theory of Emotional Contagion: Emotional contagion refers to the tendency to automatically imitate and synchronize facial expressions, vocalizations, postures, and movements with those of other people and, consequently, to converge emotionally with them[30]. When people work together, it is common for them to share situations and experience collective emotions, such as sadness, fear, or exhaustion [31]. Therefore, from this theory it is considered that burnout occurs in work groups, since there are shared beliefs and emotions that are developed throughout social interaction[32]. This burnout contagion has been evidenced especially in teaching and health personnel[33] as well as between spouses (outside work)[34]. In the clinical context, nursing students may 'catch' exhaustion, cynicism, or hopelessness from overworked staff nurses during ward rotations. Thus, emotional contagion influences the development of burnout both inside and outside the workplace.

Materials and Methods

This study was conducted using a school based mixed-methods design, combined both quantitative and qualitative approaches to investigate burnout among nursing students at the University of Buea. The study consisted of two phases: a cross-sectional survey phase and a focus group discussion phase, which answered to all objectives. The study was conducted in the Fako Division, South West Region of Cameroon, at the University of Buea precisely. The university has a Faculty of Health Sciences that offers undergraduate and postgraduate programmes in nursing and specialties.

Buea is located in the Eastern slopes of Mount Cameroon and has a total surface area of 870 square kilometers. It has an equatorial climate and temperature range between 20-28 °C. Due to the richness of the volcanic soil and adequate rainfall, this town is thereby fertile for agriculture hence subsistence agriculture is the main farming activity in the Fako Division. Farmers mostly cultivate plantain, maize, coco yams, beans and other food stuff this gives them little or no time to visit the hospital for Check up with regards to their health. The original inhabitants of Buea are the Bakweri people but the presence of schools health facilities, traditional institutions, hotels and good climate has led to the migration of many people from other parts of the country to Buea and to Bokwango specifically.

The study area University of Buea is located in Cameroon, South West Region, Buea. It is a subdivision consisting of several villages, and is the municipal headquarters and doubles as the regional capital of the south west region. It covers approximately 870 square kilometers, and includes four district urban spaces: Buea Station, Soppo, Molyko/Mile 17, and Buea town. It is bounded to the North by Mount Cameroon, to the Southwest by the city of Limbe, South East by the Tiko municipality, Muyuka municipality to the East and Idenau district to the West. Molyko is a home to a diverse population, with an estimated population of above 200,000 inhabitants and an annual growth rate of 5% as per United nations (UN) projections for urban population growth rate for Africa. The district is a hub for administrative business, tourism and financial activities, served by an airfield, roads, a regional hospital and the University of Buea. The district climate is equatorial, with moderate temperature and a slight seasonal variation between the rainy and the dry season. The town's location at the foot of the mountain, strong academic excellence, its diverse socio-economic and geographic characteristics makes it an appealing choice for nursing schools and other educational institutions. The nursing programmes in Buea typically takes 1-4 years to complete. Faculty of Health Sciences located

at Bomaka has different departments such as: nursing, biomedical sciences. Medical laboratory, public health, and medicine

The study population consisted of all Nursing students at the University of Buea. A well-structured questionnaire with closed ended multiple choice questions and focus group discussion guide was used to collect data. Data was collected on socio-demographic characteristics, awareness on burnout, prevalence of burnout, risk factors contributing to burnout and coping mechanisms used to manage burnout among nursing students. This questionnaire was pre-tested amongst 20 students of the Biaka Higher institute, to analyze for validity and reliability, modified appropriately and used for data collection.

Reliability was ensured by pre-testing the questionnaire with nursing students of Biaka Higher institute, Buea and some corrections were made. This study was authorized by Department of Nursing, Faculty of Health Sciences, University of Buea, Cameroon. Ethical clearance was obtained from the Faculty of Health Sciences Institutional Review Board (No). A written consent form was signed by each participant willing to take part after going through the participant's information sheet. Data collected was entered into an excel spreadsheet then analyzed using the Maslach Burnout Inventory Student Survey (MBI-SS) Scale.

The Maslach Burnout Inventory Student Survey (MBI-SS) Scale was used to establish a baseline score for the participants in the study, The MBI-SS, is the student version of the Maslach Burnout Inventory. It's the most validated tool in the world to measure academic burnout instead of job burnout. The Maslach Scale is a fifteen question Likert-type instrument that measures Burnout. It has 15 items divided into 3 subscales that match the 3 dimensions of burnout:

1. Emotional Exhaustion [EE], 5 items, Feeling drained, tired, and overwhelmed by academic demands and clinical work for example for nursing students "I feel emotionally drained by my studies", "I feel used up at the end of a day in school/clinical".
2. Cynicism [CY], 4 items, Detachment, loss of interest, negative/doubtful attitude toward studies and the nursing profession, for example for nursing students "I have become less enthusiastic about my studies", "I doubt the significance of my studies".
3. Academic Efficacy [AE], 6 items, Feeling competent, successful, and effective as a student. For example for nursing students "I can effectively solve the problems that arise in my studies", "I feel I am making an effective contribution to the classes I attend".

Important: AE is scored in reverse, Low AE = High burnout. Scale: 7-point Likert scale "0 = Never, 1 = A few times a year, 2 = Once a month, 3 = A few times a month, 4 = Once a week, 5 = A few times a week, 6 = Every day". Scoring: - EE: 0 - 30 points, - CY: 0 - 24 points, - AE: 0 - 36 points.

Interpreting Prevalence: To report burnout prevalence, researchers usually classify: High Burnout; High EE + High CY + Low AE, Moderate Burnout; High on 1-2 dimensions, Low Burnout; Low on EE and CY, High on AE. Most studies use the upper 1/3 cut-off scores from their sample to define "high".

Results

A total of 196 participants were enrolled in the study, with no missing data recorded for the socio demographic variables. The majority of participants were aged 21-25 years, 93 (47.4%). Majority of participants were female, 162 (82.7%). More than half were undergraduate students 171 (87.2%). Regarding marital status, the majority of participants were single, 167 (85.2%). In terms of religion, most participants were Christian, 188 (95.9%). Concerning monthly income, the majority of participants earned less than 50,000 XAF, 174 (88.8%). Regarding the number of hours spend in school, most of the participants spend 5 to 10 hours in school, 92 (46.9%). In terms of chronic illness, most participants had no chronic illness, 190 (96.9%). Finally, majority of participants do not regret their career choice, 175 (89.3%), Table 1.

Table 1. Socio demographic Characteristics of Study Participants

Variables	Categories	Frequency (n=196)	Percentage (%)
Age Range (Years)	Below 20	83	42.3
	21 – 25	93	47.4
	26 – 30	11	5.6
	31+	9	4.6
	Total	196	100.0
Gender	Male	34	17.3
	Female	162	82.7
	Total	196	100.0
Level	Undergraduate	171	87.2
	Postgraduate	25	12.8
	Total	196	100.0
Marital Status	Married	24	12.2
	Single	167	85.2
	Divorce	3	1.5
	Widowed	2	1.0
	Total	196	100.0
Religion	Christian	188	95.9
	Islam	4	2.0
	Others	4	2.0
	Total	196	100.0
Monthly Income (xfa)	<50000	174	88.8
	50000 – 100 000	13	6.6
	100 000 – 150 000	6	3.1
	>150 000	3	1.5
	Total	196	100.0
Hours Spend in school	1 – 5 hours	85	43.4
	5 – 10 hours	92	46.9
	10 hours and above	19	9.7
	Total	196	100.0
Presence of Chronic Illness	Yes	6	3.1
	No	190	96.9
	Total	196	100.0
Regret of career choice	Yes	21	10.7
	No	175	89.3
	Total	196	100.0

Findings showed that most of them had heard of burnout, 168 (85.7%). Most participants recognized that burnout is a common issue among nursing students, 167 (85.2%). More than half of the participants have not received information/training on burnout, 115 (58.7%). Regarding symptoms of burnout, majority of participants sometimes recognized the symptoms of burnout, 102 (52.0%). Most participants have experienced physical symptoms of burnout, 187(95.4%). Majority of participants agree that burnout affects their ability to perform, 176 (89.8%). However, knowledge gaps were evident, as a considerable number strongly agree that addressing burnout is important, 149 (76.0%) (Table 2)

Table 2. Awareness of Burnout among nursing students

Variables	Categories	Frequency n = 196	Percentage (%)
Heard of burnout	Yes	168	85.7
	No	28	14.3
	Total	196	100.0
Burnout a common issue	Yes	167	85.2

among nursing students	No	29	14.8
	Total	196	100.0
Received	Yes	81	41.3
information/training on	No	115	58.7
burnout	Total	196	100.0
	Yes, often	47	24.0
Recognized symptoms of	Yes sometimes	102	52.0
burnout	Rarely	27	13.8
	No	20	10.2
	Total	196	100.0
Experienced physical	Yes	187	95.4
symptoms of burnout	No	9	4.6
	Total	196	100.0
Burnout affects ability to	Yes	176	89.8
perform	No	20	10.2
	Total	196	100.0
	Strongly agree	149	76.0
	Agree	33	16.8
Addressing burnout is	Neutral	9	4.6
important	Disagree	5	2.6
	Strongly disagree	0	0.0
	Total	196	100.0
Average	Aware	178	90.8%
Awareness(MRS)	Not Aware	18	9.2%

To determine the prevalence of burnout among nursing students, the Maslach Burnout Inventory Scoring Scale (MBI) was used to group participants according to burnout levels. Among the 196 participants, most 85(43.4%) had low burnout. 67(34.2%) had moderate burnout while 44(22.4%) had high burnout. (Table 3)

Table 3. Level of Burnout among nursing students in the FHS

Maslach Burnout Inventory Scoring Scale (MBI)	Frequency (n=196)	Percentage (%)
High (>10)	44	22.4
Moderate (6-9)	67	34.2
Low (0-5)	85	43.4
Total	196	100.0

The overall prevalence of burnout among nursing students was 111(56.6%), those with no burnout constitute 85(43.4%). (Figure 1)

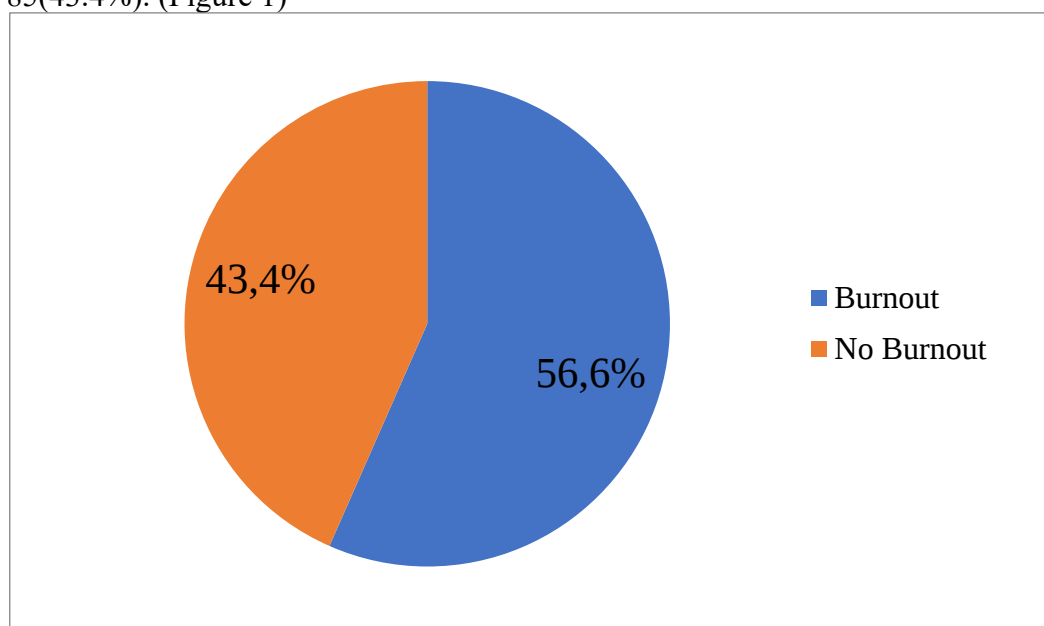


Figure 1. Overall prevalence of burnout of nursing students

several risk factors were significantly associated with burnout awareness among nursing students. In the multivariate analysis, nursing students with high work load had significantly awareness to burnout than those with low work load [aOR = 0.60, 95% CI: (0.10, 0.35), $p = 0.002$]. Poor work-life balance was another risk factors of burnout, nursing students who had poor work-life balance are significantly more likely to experienced burnout than those with better work-life balance [aOR = 15.15, 95% CI: (1.65, 139.3), $p < 0.016$]. Again, nursing students who are exposed to traumatic events are significantly more likely to experienced burnout than those with no exposure to traumatic events [aOR = 0.07 CI: (0.01, 0.36), $p = 0.002$]. Finally, nursing students who lack autonomy are more likely to experienced burnout than those with autonomy [aOR = 0.26 CI: (0.07, 0.98), $p = 0.047$]. Other risk factors such as lack of support, limited resources, pressure to meet academic/clinical expectations, poor coping mechanisms and inadequate feedback or recognition were not significantly associated with burnout awareness after adjusting for confounders. (Table 4)

Table 4. Risk factors associated to burnout awareness among nursing students

Factors	Awareness of Burnout n (%)		cOR (95% CI)	P- value	aOR (95% CI)	p-value
	Yes	No				
High work load						
No	18(75.0)	6(25.0)	1	-	-	-
Yes	160(93.0)	12(7.0)	0.23(0.08-0.67)	0.008	0.6(0.10-0.35)	0.002
Lack of support						
No	53(93.0)	4(7.0)	1	-	-	-
Yes	125(89.9)	14(10.1)	1.48(0.47-4.72)	0.504	3.51(0.82-14.99)	0.090
Limited resources						
No	63(88.7)	8(11.3)	1	-	-	-
Yes	115(92.0)	10(8.0)	0.69(0.26-1.82)	0.448	0.86(0.24-3.12)	0.820
Poor work-life balance						
No	53(96.4)	2(3.6)	1	-	-	-
Yes	125(88.7)	16(11.3)	3.39(0.75-15.27)	0.112	15.15(1.65-139.3)	0.016
Exposure to traumatic events						
No	74(82.2)	16(17.8)	1	-	-	-
Yes	104(98.1)	2(1.9)	0.09(0.02-0.39)	0.002	0.07(0.01-0.36)	0.002
Pressure to meet academic/clinical						

expectations						
No	35(85.4)	6(14.6)	1	-	-	-
Yes	143(92.3)	12(7.7)	0.49(0.17-1.39)	0.181	0.52(0.12-2.33)	0.392
Lack of autonomy						
No	57(89.1)	7(10.9)	1	-	-	-
Yes	121(91.7)	11(8.3)	0.74(0.27-2.01)	0.555	0.26(0.07-0.98)	0.047
Poor coping mechanisms						
No	39(90.7)	4(9.3)	1	-	-	-
Yes	139(90.8)	14(9.2)	0.98(0.31-3.15)	0.976	1.11(0.21-5.81)	0.900
Inadequate feedback or recognition						
No	59(93.7)	4(6.3)	1	-	-	-
Yes	119(89.5)	14(10.5)	1.74(0.55-5.50)	0.349	4.66(0.86-25.21)	0.074

The most commonly reported coping mechanisms used by nursing students to manage burnout was practice selfcare routines, reported by 141 (71.9%) of respondents. This was followed by taking breaks during busy days, reported by 139 (70.9%) of respondents. Support from friends and family was also identified as a major coping mechanism, reported by 134 (68.4%) of respondents. Engaging in activities that helps to relax was reported by 131 (66.8%) of respondents. Also, setting boundaries to maintain work-life balance was reported by 116 (59.2%) of respondents. In addition, 104 (53.1%) of respondents indicated meditation and mindfulness as a coping mechanism, while feel comfortable saying no to extra responsibilities and seeking professional help were the least reported coping mechanisms reported by 92 (46.9%) and 77 (39.3%) respectfully (Figure 2).

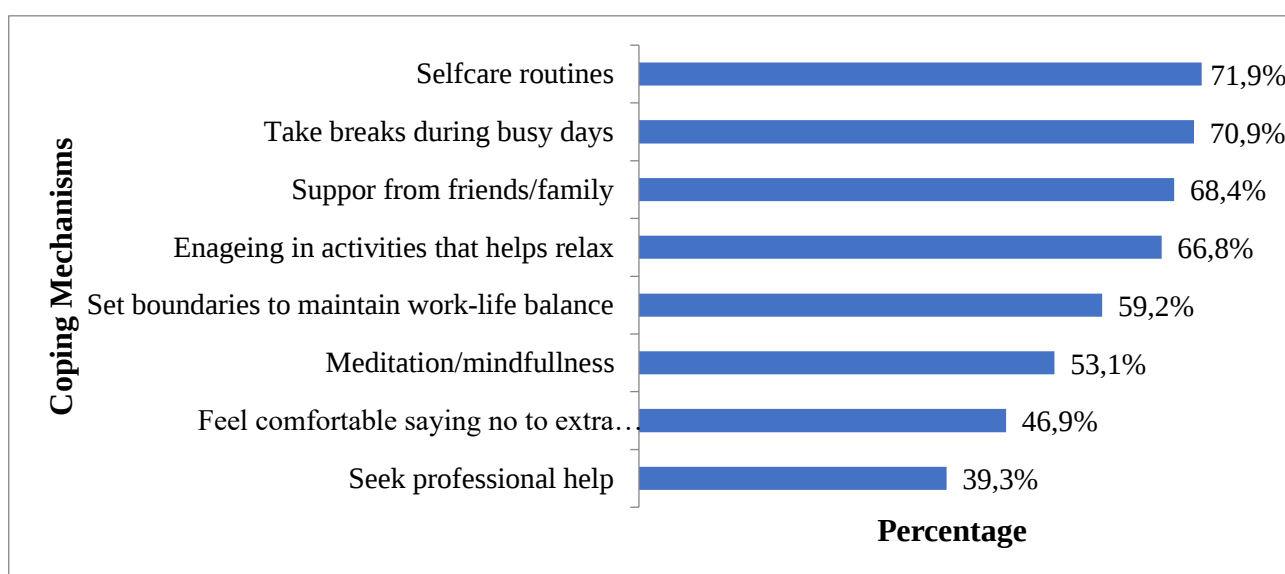


Figure 2. Coping mechanisms used by nursing students to manage burnout

The qualitative study included a total of eight nursing students, comprising seven females and one male, aged between 18 and 27 years. Participants were single and spend between 6 to 10 hours in school daily.

Nursing students showed varying awareness on burnout. Most participants understood the causes of burnout but did not fully understand the specific risks of it. Nursing students demonstrated an understanding of the risk factors of burnout. They emphasized factors like stressful activities. However, they lack the understanding of the actual risk factors that can lead to burnout.

Participants spoke about some risk factors like continuous exposure to stress, and stressful activities. Nursing students acknowledged the importance of managing burnout through coping strategies like relaxation and breathing techniques, seek support, time management and meditation.

Results and Discussion

The aim of this study was to investigate the level of awareness, prevalence, risk factors, and coping mechanisms of nursing students to burnout at the University of Buea. The majority of the participants were female nursing students and aged between 21 and 25 years with a mean age and standard deviation of 22.05 ± 4.479 years and were undergraduates and single with income less than fifty thousand FCFA, and do not consume alcohol or have any chronic diseases. This is almost similar to the study carried out in Iran, 21.24 ± 1.34 years old (range: 18–25 years old) [35]. Almost similar to the study in Cameroon, 21.8 ± 2.4 years old (range: 18–30 years old) [36]. The similarities in this study may be due to the fact that nursing programs worldwide tend to attract a majority of young students entering the university directly after secondary education, with female students being more attracted to the nursing field. This explains why both studies report participants mostly aged between 18–25 years and predominantly female. This study reported a relatively higher awareness (90.8%) of burnout among nursing students. Findings from focus group discussion also revealed that nursing students showed varying awareness on burnout. Nursing students generally acknowledged that they have experienced burnout and it did affect them in several ways like being tired and unable to go about other daily activities, reduce performance in academics. This is in line with a study in UK, who reported that burnout adversely affects the well-being of nursing students, diminishes the quality of their academic performance and can shorten career duration [37]. Similarly, this aligns with a study in Egypt, who noted that burnout in nursing students is linked to poorer academic performance and psychological distress [38]. The finding rejects the hypothesis which states that nursing students in the University of Buea have a low level of awareness about Burnout. To determine the prevalence of burnout among nursing students, the Maslach Burnout Inventory Scoring Student Survey (MBI-SS) Scale was used to group participants according to burnout levels. The finding revealed that the levels of burn out among nursing students range from low to high. The overall prevalence of burnout among nursing students was 56.6%. This finding is similar with a study in UK, 70%. This finding is similar to other African studies which reported high levels of burnout among nurses and nursing students. Another study in Nigeria found that 60% of nurses experienced burnout, with workload and lack of resources being major contributors [39]. A study at the University of Yaoundé found that nursing students experienced high levels of stress and burnout due to academic demands and clinical practice. This finding is contrary to a study in South Africa, 42% of nursing students experienced burnout, with academic stress and lack of support being significant predictors [40]. The findings accepted the hypothesis which states that the prevalence of burnout among nursing students is high.

Findings revealed that several risk factors were significantly associated with burnout awareness among nursing students. The findings showed that nursing students with high work load are 0.6 times more awareness to burnout than those with low work load [$p = 0.002$]. This aligns with a study in South Korea that reported that the impact of burnout on nursing workforce turnover is significant, with rates increasing to a range of 20 % to 30 % [41]. Poor work-life balance was another risk factor of burnout, nursing students who had poor work-life balance are 15.15 times more likely to experienced burnout than those with better work-life balance [$p < 0.016$]. This aligns with a study in Nigeria noted that the work of nursing students takes up so much of their time and energy to the extent that they have little time left for family and friends, can lead to job burnout [42]. Studies have identified various risk factors for burnout, including academic stress, clinical practice stress, lack of support, and poor work-life balance [43][44].

Again, nursing students who are exposed to traumatic events are 0.07 times more likely to experienced burnout than those with no exposure to traumatic events [$aOR = 0.07$ CI: (0.01, 0.36), $p = 0.002$]. Finally, nursing students who lack autonomy are 0.26 times likely to experienced burnout than those with autonomy [$aOR = 0.26$ CI: (0.07, 0.98), $p = 0.047$]. The finding from focus group discussion reveals that nursing students demonstrated an understanding of the risk factors of burnout. They emphasized mostly stressful activities as the risk factor that can lead to burnout. This finding aligns with a study in Nigeria, who noted that burnout is strongly related to workload and time pressure, role conflict and role ambiguity, lack of social support, lack of feedback, lack of autonomy and lack of participation in decision making. Prolonged job strain can lead to burnout, health complaints, and

increased turnover. The finding accepted the hypothesis which states that the risk factors to burnout among nursing students are known.

The most commonly reported coping mechanisms used by nursing students to manage burnout was practice selfcare routines, reported by 71.9% of respondents. This was followed by taking breaks during busy days, reported by 70.9% of respondents. This suggests that students are primarily employing reactive, self-management techniques to mitigate the acute stressors of their demanding academic and clinical schedules. Support from friends and family was also identified as a major coping mechanism, reported by 68.4% of respondents. For nursing students, who are navigating a uniquely challenging and emotionally charged environment, the support of non-academic social circles likely provides a crucial outlet for emotional expression, validation, and a sense of normalcy outside the clinical and classroom setting. Engaging in activities that helps to relax was reported by 66.8% of respondents. Also, setting boundaries to maintain work-life balance was reported by 59.2% of respondents. The act of setting boundaries, in particular, suggests a conscious effort to compartmentalize academic life to protect personal time, which is a sophisticated coping skill often developed through experience. 53.1% of respondents indicated meditation and mindfulness as a coping mechanism, while feel comfortable saying no to extra responsibilities and seeking professional help were the least reported coping mechanisms reported by 6.9% and 39.3% respectfully. The moderate figure for meditation might be attributed to a lack of training, time constraints, or skepticism regarding its efficacy among a student population more accustomed to active problem-solving. The focus group discussion revealed that nursing students acknowledged the importance of managing burnout through coping strategies like relaxation and breathing techniques, seek support, time management and meditation. This aligns with a study in USA, reported that coping mechanisms for burnout among nursing students include stress management techniques, such as mindfulness, exercise, and relaxation. Other studies have reported the effectiveness of support groups, mentorship programs, and wellness initiatives in reducing burnout [45][46].

Conclusion

This study revealed that the Nursing Students in the University of Buea have a very high (90.8%) level of awareness about burnout. The prevalence of burnout among nursing students in the University of Buea is very high (56.6%). Risk factors to burnout among nursing students in the University of Buea are known and include high work load, poor work-life balance, exposure to traumatic events and lack autonomy. The effective coping mechanisms to burnout used by nursing students in the University of Buea involved support from friends/family, taking breaks during busy day, seeking help from professional and engaging in activities that helped relax. This study has helped to assess the level of awareness on burnout among Nursing students in the University of Buea to ensure that the prevalence of burnout is being reduced. It is of importance for the Nursing students to engage in mindfulness, relaxation techniques, exercise, and regular breaks to reduce stress. Build peer support networks and rely on family/friends to buffer against burnout. Access mental health services when stress becomes overwhelming, as counseling has been shown to reduce burnout symptoms. Prioritize academic and clinical tasks to avoid overload and maintain balance. To the nursing educators, Establish mentorship programs to guide students through academic and clinical challenges, reducing role ambiguity and stress. Create safe spaces for students to discuss burnout experiences without stigma. To the Ensure accessible psychological support within institutions to address burnout early. Establish institutional policies that encourage work-life balance and reduce academic stress.

Acknowledgements

The authors would like to thank all the participants who took part in this study.

REFERENCES

- [1] C. Maslach and S. E. Jackson, "The measurement of experienced burnout," *Journal of Occupational Behavior*, vol. 2, no. 2, pp. 99–113, 1981.
- [2] C. Maslach, *Burnout: The Cost of Caring*. Englewood Cliffs, NJ, USA: Prentice-Hall, 1982.

- [3] World Health Organization, "Burn-out an 'occupational phenomenon': International Classification of Diseases 11th Revision," Geneva, Switzerland: WHO, 2020.
- [4] A. Rudman and J. P. Gustavsson, "Burnout during nursing training predicts lower performance at work after 10 years: A longitudinal nationwide study," *BMC Nursing*, vol. 11, Art. no. 20, 2012.
- [5] L. N. Dyrbye, M. R. Thomas, F. S. Massie, et al., "Burnout and suicidal ideation among U.S. medical students," *Annals of Internal Medicine*, vol. 149, no. 5, pp. 334–341, 2008.
- [6] C. Maslach, W. B. Schaufeli, and M. P. Leiter, "Job burnout," *Annual Review of Psychology*, vol. 52, pp. 397–422, 2001.
- [7] C. Gibbons, M. Dempster, and M. Moutray, "Stress and eustress in nursing students," *Journal of Advanced Nursing*, vol. 61, no. 3, pp. 282–290, 2008.
- [8] D. S. Tawfik, A. Scheid, J. Profit, et al., "Evidence relating health care provider burnout and quality of care: A systematic review and meta-analysis," *Annals of Internal Medicine*, vol. 171, no. 8, pp. 555–567, 2019.
- [9] L. Pradas-Hernández, T. Ariza, J. L. Gómez-Urquiza, L. Albendín-García, E. I. De la Fuente, and G. A. Cañadas-De la Fuente, "Prevalence of burnout in paediatric nurses: A systematic review and meta-analysis," *PLoS ONE*, vol. 13, no. 4, Art. no. e0195039, 2018.
- [10] J. Jun, M. M. Ojemeni, R. Kalamani, M. Tonges, and A. Ochoa-Coggins, "Relationship between nurse burnout, patient and organizational outcomes: Systematic review," *International Journal of Nursing Studies*, vol. 119, Art. no. 103933, 2021.
- [11] B. W. Dubale, L. E. Friedman, Z. Chemali, J. W. Denninger, D. H. Mehta, A. Alem, G. L. Fricchione, M. L. Dossett, and B. Gelaye, "Systematic review of burnout among healthcare providers in sub-Saharan Africa," *BMC Public Health*, vol. 19, no. 1, pp. 1–20, 2019.
- [12] L. H. Aiken, S. P. Clarke, D. M. Sloane, J. Sochalski, and J. H. Silber, "Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction," *JAMA*, vol. 288, no. 16, pp. 1987–1993, 2002.
- [13] C. Ferguson, L. Ferguson, and X. Xu, "Burnout in Australian nursing students: A cross-sectional study," *Collegian*, vol. 25, no. 4, pp. 399–406, 2018.
- [14] K. Turner and V. L. McCarthy, "Stress and anxiety among nursing students: A review of intervention strategies in literature between 2009 and 2015," *Issues in Mental Health Nursing*, vol. 38, no. 3, pp. 189–203, 2017.
- [15] H. Alharbi, A. F. Almutairi, E. M. Alhelih, and A. S. Alshehry, "The prevalence and related factors of burnout among nursing students: A systematic review," *Journal of Clinical Nursing*, vol. 29, nos. 17–18, pp. 3159–3169, 2020.
- [16] Y. Zhao, W. Wu, M. Wang, L. Liu, and J. Wang, "The relationship between psychological capital, creative tendency, and job burnout in Chinese nurses: A cross-sectional study," *BMC Nursing*, vol. 19, Art. no. 108, 2020.
- [17] J. Pienaar and C. F. Sieberhagen, "Burnout in South African nursing: The role of coping strategies and psychological strengths," *SA Journal of Industrial Psychology*, vol. 31, no. 2, pp. 42–48, 2005.
- [18] N. Khamisa, K. Peltzer, and B. Oldenburg, "Burnout in relation to specific contributing factors and health outcomes among nurses: A systematic review," *International Journal of Environmental Research and Public Health*, vol. 10, no. 6, pp. 2214–2240, 2013.
- [19] B. Z. Sikhakhane and B. C. Nkala, "Burnout among nursing students at a South African university," *Health SA Gesondheid*, vol. 27, Art. no. 1815, 2022.
- [20] World Health Organization, *Trends in Maternal Mortality 2000 to 2017: Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division*. Geneva, Switzerland: WHO, 2019.
- [21] T. E. Tandi, Y.-J. Chou, Y. Ma, C. O. Afoh, P. J. Kabo, L. N. Aminde, et al., "Understanding factors associated with health workforce turnover in rural Cameroon: A cross-sectional study," *Human Resources for Health*, vol. 17, no. 1, Art. no. 25, 2019.

- [22] R. M. Bona, Y. Nana, V. Makoge, and J. J. Bigna, "Work conditions and burnout among healthcare workers in Cameroon: A cross-sectional study," *BMC Health Services Research*, vol. 21, no. 1, Art. no. 437, 2021.
- [23] P. C. Ngassa, F. Monebenimp, J. N. Nana, and H. T. Kuate, "Stress and burnout among nursing students at the University of Yaoundé I, Cameroon," *African Journal of Health Professions Education*, vol. 9, no. 3, pp. 135–139, 2017.
- [24] E. Demerouti, A. B. Bakker, F. Nachreiner, and W. B. Schaufeli, "The job demands-resources model of burnout," *Journal of Applied Psychology*, vol. 86, no. 3, pp. 499–512, 2001.
- [25] A. B. Bakker and E. Demerouti, "The job demands-resources model: State of the art," *Journal of Managerial Psychology*, vol. 22, no. 3, pp. 309–328, 2007.
- [26] W. B. Schaufeli, C. Maslach, and T. Marek, *Professional Burnout: Recent Developments in Theory and Research*. Washington, DC, USA: Taylor & Francis, 1993, pp. 1–12.
- [27] W. B. Schaufeli, M. P. Leiter, and C. Maslach, "Burnout: 35 years of research and practice," *Career Development International*, vol. 14, no. 3, pp. 204–220, 2009.
- [28] R. T. Golembiewski and R. F. Munzenrider, *Phases of Burnout: Developments in Concepts and Applications*. New York, NY, USA: Praeger, 1988.
- [29] R. T. Golembiewski, R. F. Munzenrider, and P. Carter, "Phases of progressive burnout and their work site covariants: Critical issues in OD research and praxis," *The Journal of Applied Behavioral Science*, vol. 19, no. 4, pp. 461–481, 1983.
- [30] E. Hatfield, J. T. Cacioppo, and R. L. Rapson, *Emotional Contagion*. Cambridge, U.K.: Cambridge University Press, 1994.
- [31] S. G. Barsade, "The ripple effect: Emotional contagion and its influence on group behavior," *Administrative Science Quarterly*, vol. 47, no. 4, pp. 644–675, 2002.
- [32] A. B. Bakker, W. B. Schaufeli, and H. J. Sixma, "Burnout contagion among general practitioners," *Journal of Affective Disorders*, vol. 62, no. 3, pp. 209–218, 2001.
- [33] A. B. Bakker, P. M. Le Blanc, and W. B. Schaufeli, "Burnout contagion among intensive care nurses," *Journal of Advanced Nursing*, vol. 51, no. 3, pp. 276–287, 2005.
- [34] M. Westman and D. Etzion, "Crossover of stress, strain and resources from one spouse to another," *Journal of Organizational Behavior*, vol. 16, no. 2, pp. 169–181, 1995.
- [35] A. A. Ghods, A. Ebadi, H. Sharif Nia, K. Allen, and T. Ali-Abadi, "Academic burnout in nursing students: An explanatory sequential design," *Nursing Open*, vol. 10, pp. 535–543, 2022.
- [36] T. Tum, N. Akwi, E. Ndum, S. Ngeze, R. Tchoffo, and R. Mbu, "Burnout among nursing students in the English-speaking regions of Cameroon," *Pan African Medical Journal*, vol. 42, Art. no. 123, 2022.
- [37] C. Gibbons, M. Dempster, and M. Moutray, "Stress, coping and satisfaction in nursing students," *Journal of Advanced Nursing*, vol. 67, no. 1, pp. 162–170, 2011.
- [38] T. Alsaratee, A. Alkhawaldeh, K. Alomari, and M. Al-Bashtawy, "Burnout, psychological distress, and academic performance among nursing students: A cross-sectional study," *Heliyon*, vol. 11, no. 3, Art. no. e4518, 2025.
- [39] O. A. Bolarinwa, A. M. Adebayo, and M. D. Dairo, "Burnout syndrome among nurses in a Nigerian tertiary hospital: Prevalence and associated factors," *African Health Sciences*, vol. 20, no. 2, pp. 803–812, 2020.
- [40] D. J. West, P. Smith, and R. Hoffman, "Burnout and its predictors among nursing students in South Africa," *Curationis*, vol. 41, no. 1, Art. no. a1847, 2018.
- [41] S. H. Bae, "Nursing workforce turnover and burnout: A systematic review," *International Nursing Review*, vol. 70, no. 2, pp. 234–245, 2023.
- [42] B. N. Nwokeoma, C. N. Eze, and C. C. Onyebuchi, "Burnout among nurses in Nigeria: A systematic review," *Journal of Nursing Education and Practice*, vol. 10, no. 3, pp. 1–11, 2020.
- [43] A. O. Owolabi, A. O. Ogunjimi, and F. M. OlaOlorun, "Academic and clinical stressors among nursing students in Nigeria," *Nurse Education Today*, vol. 75, pp. 112–118, 2019.
- [44] D. Mabunda, O. Nyalela, and R. Mogale, "Support systems and burnout among nursing educators in South Africa," *African Journal of Nursing and Midwifery*, vol. 23, no. 2, pp. 1–12, 2021.

- [45] M. P. Van Hook and M. Rothenberg, "Quality of life and compassion satisfaction/fatigue and burnout in social workers," *Journal of Social Work Education*, vol. 45, no. 2, pp. 267–276, 2009.
- [46] J. E. Hill, R. M. Duffy, A. Wald, and D. Weeks, "Wellness initiatives and burnout reduction in healthcare workers: A systematic review," *Joint Commission Journal on Quality and Patient Safety*, vol. 47, no. 5, pp. 276–286, 2021.