



Prevalence of burnout among clinical undergraduates in the university of Ibadan

Chigozirim A. Abangwu¹, Margaret B. Fatudimu¹, Talhatu K. Hamzat^{1*}

1 Department of Physiotherapy, College of Medicine, University of Ibadan

***Correspondence to**

Margaret B. FATUDIMU,
Department of
Physiotherapy, College of
Medicine (UCH), University
of Ibadan
PMB 5017 GPO Dugbe,
Ibadan.
Tel: 234-803 631 4575
Email:
bukolafatudimu@yahoo.com
m

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Abstract:

Purpose: to provide information on prevalence of burnout among University of Ibadan clinical students.

Methods: A total of 361 students at the clinical phase of their training for degrees in Medicine and Surgery (n=185); Physiotherapy (n= 28); Dentistry (n=73); and Medical Laboratory Sciences (n=75) at the University of Ibadan were recruited using proportionally stratified random sampling technique. Socio-demographic information were obtained, and their burnout level assessed using Maslach Burnout Inventory (MBI). Data were summarised using descriptive statistics and inferential statistics of chi-square test of association and kruskal-wallis at p= 0.05.

Results: Results showed a pattern of high prevalence of burnout in the depersonalization domain (72.6%), 44% had feelings of low personal accomplishment, and 12.7% had feelings of emotional exhaustion on the MBI grading. Both the low personal accomplishment and feeling of emotional exhaustion are precursor to actual burnout. Results suggest that about 7 in every 10 students experience burnout or are at a risk of having burnout.

Conclusion: There was a high prevalence of burnout among students at the clinical phase of studies at the College of Medicine, University of Ibadan. the need for appropriate measures to guard against possible factors predisposing to burnout among clinical students at different levels of their trainings. The need to institute appropriate measures to minimize the effect of the identified factors that might lead to burnout in clinical students at different levels of their training was highlighted.

Key words: Prevalence, Undergraduate, Burnout.

1.Introduction

Burnout is a term coined by Freudenberg (1) to describe workers' reactions to the chronic stress which was found to be increasingly common in occupations involving numerous direct interactions with people. This phenomenon has been studied and characterized in detail over time (2). Burnout is described as a syndrome of emotional exhaustion, depersonalization

and diminished personal accomplishment that usually occurs among 'people-helping' professionals (3). This includes health care professionals, counsellors and coaches, educators, and ministers of religion (4,

5). It has been observed that the major risk factors of burnout include work overload, lack of control, lack of reward, lack of community, value conflict, and lack of fairness (6). Burnout may lead to mental distress in the form of anxiety, depression, frustration, hostility, or fear (7). Prior research has shown that burnout can also lead to lower commitment, higher turnover, absenteeism, reduced productivity, low morale, and lower human consideration (8). This in turn reduces an individual's ability to cope with personal and professional responsibilities and perpetuates an increased susceptibility to burnout as they transition through their academic life (9).

Medical schools and colleges are recognized as stressful environments that often exert a negative

effect on the academic performance as well as the physical health and psychological wellbeing of its students (10). It has been proposed that the general mental health of tertiary-level students should be of considerable concern to stakeholders in tertiary education, due to their high vulnerability to stress. According to Igbokwe et al (11), the increased demands of academic life as well as the high societal expectations of material prosperity (consequent on a successful university career) may act as physical and psychological stressors, which may trigger stress and other dysfunctional behaviours, such as burnout (11). Burnout was observed to be particularly prevalent among medical students (12) and has been linked to serious consideration of dropping out of medical school, suicide ideation and specialty choice (13,14). During the period of medical training, students are exposed to stress, study challenges such as understanding content, balancing study time, lacking motivation, basic skills requirements as well as long training hours in wards and clinics (15,16). High rates of psychological morbidity, such as anxiety and depressive symptoms, have been reported among medical students in several studies worldwide (10,17,18). Findings suggest that personal factors such as anxiety traits, medicine choice factors, relationship patterns and academic burnout are relevant for persistence of high levels of Beck Depression Inventory during medical training (19). Suicidal ideation was significantly associated with burnout, and depressive symptoms (20) and there has been a recent upsurge in the reported cases of students in Nigeria committing suicide (21, 22). This upsurge is reportedly related to increased stress and possible burnout. Considering that the conditions exist that may increase susceptibility of clinical sciences students to burnout, it is pertinent to interrogate this subject among this group of students. We could not locate any scientific evidence to indicate that this subject had received a deserving attention of previous investigator in our environment. Prevalence of burnout among students at the clinical phase of their degrees training (clinical students) was studied. Association between Socio-demographic Characteristics and Burnout Level was also assessed.

2. Patients and Methods

2.1. Study participants and recruitment criteria:

This is a cross-sectional study which involved 361 (clinical students) at the College of Medicine, University of Ibadan. They were selected using the stratified random sampling technique from the Bachelor of Physiotherapy (BPT), Bachelor of Medicine, Bachelor of Surgery (MBBS), Bachelor of Dentistry (B.DS), and Bachelor of Medical Laboratory Sciences (B.MLS) degree programs of the University of Ibadan. They were selected from among

those residents in the Alexander Brown Hall of residence for the medical students at the University. Ethical approval was obtained from the University of Ibadan/University College Hospital (UI/UCH) Health Research Ethics Committee. A brief description of the nature, purpose and procedure of the study were made to the participants, assuring them of confidentiality of the information obtained from them, before handing out the questionnaire forms to them. Information on social and demographic factors was gathered using a purposefully designed data gathering form.

2.3. Procedures of the study:

The Maslach Burnout Inventory (MBI) was used to assess burnout level among the respondents. The MBI is designed to measure hypothetical aspects of the burnout syndrome by assessing the three dimensions of depression: emotional exhaustion, depersonalization and reduced personal accomplishment. It includes 22 items that measure all three burnout dimensions. These items are written in the form of statements about personal feelings or attitudes (e.g., "I feel burned out from my work" and "I don't really care what happens to some recipients"). The items are answered in terms of the frequency with which the respondent experience these feelings, on a 7-point, fully anchored scale (ranging from 0, "never" to 6 "every day"). The MBI is considered the gold standard for identifying burnout in medical research literature (23). The original form of this instrument was designed by Maslach et al, (24). Several studies in Nigeria (25, 26, 27) used the MBI and adjudged it a useful instrument for measuring burnout among Nigerians.

Data analysis

Data obtained were entered and analysed using SPSS version 10. The descriptive statistics of range, mean, standard deviation and frequency percentages was calculated. Kruskal Wallis test was used to analyse the burnout scores across each of type of degree and level of study. In addition, Chi square test of association was computed for association between social demographic characteristics and burnout level among the clinical students. Level of significance was set at 0.05.

3. Results

A total of 361 respondents (mean age 22.73±2.03 years) participated in this study, out of which 201 (55.7%) were males; a larger percentage (44.6%) were aged between 22 and 23 years, and the majority were studying Medicine and Surgery as shown in table 1. Prevalence of Burnout among Clinical Students of University of Ibadan

Table 2 shows the distribution pattern of burnout level among the students who took part in this study. It was

observed from the result that 12.7% (n=46) had high emotional exhaustion, 72.6% (n=262) had high depersonalization while 159 (44%) of them had low personal accomplishment. The non-parametric test Kruskal-Wallis (K-W) analysis was computed to determine if there is a significant difference in burnout level among the student across the various academic disciplines. As presented in Table 3, the result indicated no statistically significant difference ($p>0.05$) across the groups except in the depersonalization domain of the burnout measure only ($p=0.05$). Outcome of this analysis is presented in Table 3.

Table 1: Socio-demographic Characteristics of Participants N=361

Variables	n	(%)
Gender		
Male	201	
Female	55.7	
	160	44.3
Degree program		
B. PT	28	7.8
MBBS	185	51.2
BDS	73	20.2
MLS	75	20.8
Level of Training		
400L	80	22.2
500L	188	52.1
600L	93	25.8

Table 2: Prevalence of Burnout among the Clinical Undergraduate Students (N=361)

Burn out	Low	Moderate	High
	n	N	n
	(%)	(%)	(%)
Emotional exhaustion	225	90	46
	62.3	24.9	12.7
Depersonalization	69	30	262
	19.1	8.3	72.6
Personal accomplishment	159	78	124
	44	21.6	34.3

Table 3: Comparison of Burnout Level across Various Disciplines Using Kruskal-Wallis Test

	Burn out	EE	DN	PA
Degree Programmes	BPT (n=28) Mean Rank	172.46	209.55	187.39
	MBBS (n=185) Mean Rank	185.98	180.38	189.67
	BDS (n=73) Mean Rank	184.20	162.94	164.49
	MLS (n=75) Mean Rank	168.80	189.45	173.29
X²		2.30	7.84*	4.19
p-value		0.15	0.05	0.24

Keys; EE= Emotional exhaustion, DN= depersonalization, PA= personal accomplishment. X^2 = Kruskal-Wallis Test of difference * = significant x^2 at $p < 0.05$

Comparison of Burnout Levels among Clinical Students across Various Levels of Study.

The non-parametric test Kruskal-Wallis (K-W) analysis of variance was computed to determine if there is a significant difference in the burnout level among the students across the levels of study. The result indicated that there is a statistically significant difference across the study level in the depersonalization domain of the burn out measure, $X^2 = 26.9$, $p=0.000$. The summary of is as shown in Table 4

Association between Socio-demographic Characteristics and Burnout Level

A chi square test of association was computed for association between social demographic characteristics and burnout level among the clinical students. It was observed that there was a significant association between burnout level and students' level of study ($X^2 = 32.36$, $p= 0.00$) and degree program, ($X^2 = 16.36$, $p = 0.01$) respectively as shown in table 5. There was however no significant association with

other socio-demographic characteristics of participants ($p > 0.05$).

Table 4 Comparison of in Burnout Level across Various Levels of Study Using Kruskal-Wallis Test (n = 36)

	Burn out	EE	DN	PA
Level of study	400L (n=71) Mean Rank	163.39	215.37	178.30
	500L (n=188) Mean Rank	184.45	181.68	187.48
	600L (n=93) Mean Rank	187.52	161.21	177.38
X²		3.5	26.9	6.64
Df		3	3	3
p-value		0.32	0.00	0.08

Keys; EE= Emotional exhaustion, DN= depersonalization, PA= personal accomplishment.

4. Discussion

The participants of this study comprised of 361 students in the clinical phases of their respective disciplines. Nearly three quarters of the respondents were found to have a high level of burnout in the depersonalization domain and majority had a moderate-low level of burnout in the emotional-exhaustion and personal-accomplishment domains of the Maslach Burnout Inventory. This finding suggest that a significant proportion of the respondents are suffering from burnout or at a risk of suffering from it. This observation is like earlier studies (28, 29, 30, 31, 32) which showed incidence of burnout among clinical medical students in different institutions around the globe. The differences however are that unlike the earlier ones where all domains were similar, there is high prevalence of one domain above the others in this present study.

Depersonalization domain of burnout is characterized by feelings of negativity, cynicism, disinterest,

impersonal disposition, and detachment towards other people, especially co-workers, or for people working in the healthcare system; patients or clients (33, 34). The high prevalence of burnout particularly in the depersonalization domain among the respondents in this study may be explained by the academic workload students in the clinical phase of their medical education are exposed to. In addition, this observed pattern could also be explained by depression characterized by fatigue, inability to concentrate, insomnia, irritability, and feeling as if one is “just going through the motions which is all too familiar in students in healthcare professions:” as reported by Krasner et al (35) who noted that 50% of those who met the criteria for burnout also met criteria for depression.

There was no significant difference in burnout scores in the clinical science students across various disciplines as shown by the results. However further analysis of the result showed that the B. Physiotherapy (B.PT) degree students had the highest and pronounced level of burnout in the depersonalization domain. Other observed trend is such that students of the Medicine and Surgery (MBBS) had the highest score in low personal accomplishment domain, with students studying Medical Laboratory Sciences (B.MLS) and Dental surgery (BDS) falling in between. The pattern seen in the group of MBBS and BDS students in this study aligns with that reported in various previous studies (36, 20, 37, 29, 38). The results obtained in this study for the B.MLS degree program is like that which was observed in the study by Robakwoska et al (39). The result obtained in this study also revealed that BPT students are the most vulnerable to experiencing feelings of negativity, cynicism, disinterest, impersonal disposition and detachment towards other people or patients compared to other degree programme in this study. The MBBS students are more vulnerable to experiencing decline in feelings of work competence, achievement and having a compulsion to analyse themselves negatively as regards performance at work. This observed pattern could be due to the different curriculum in each degree programme, the different environments of study in the various departments of study as well as the psychological and emotional demand on the students in their day-to-day interactions with individuals they come across. It is also plausible that Physiotherapy students having the most hands-on involving activities in their trainings at the undergraduate level compared to others could have been what contributed to the pattern observed in this study. This pattern was also obtained in previous study on professional physiotherapists by Sanchez et al (40).

Table 5 Chi-square association between burnout levels and social demographic variables of clinical students

Socio-demographics	Emotional exhaustion			Depersonalization			Personal accomplishment		
	X2	df	p-value	X2	Df	p-value	X2	df	p-value
Level	9.52	9	0.39	32.36	6	0.00	10.58	6	0.10
Tribe	5.78	6	0.45	2.91	4	0.57	6.53	4	0.16
Age	20.3	36	0.98	28.75	24	0.23	19.70	24	0.71
Gender	2.35	3	0.50	2.79	2	0.25	0.84	2	0.66
Program	10.7	9	0.29	16.36	6	0.01	8.05	6	0.24

Across the levels of study, the 400 Level (4th year) students had the highest level of burnout with significant pattern in the depersonalization domain. It is probable that this trend of result is because students at this level are yet to acclimatize or develop a coping strategy to the different factors that may cause burnout in the environments for different programs of study. Earlier studies carried out by Guthrie (41), Sreeramareddy (42) and Feras et al (37) had reported that because of the improved gradual adaptation a student may experience less or cope better with the pressure exerted by the environment.

Studies investigating the relationship between age and burnout level found no significant association (43,44,45) while others reported a relationship between age and burnout level across the three burnout instruments used in those studies (46,47). These authors (46, 47) further observed that increasing age was associated with increase school or work experience, hence suggesting that the higher an individual's experience, the higher the exposure to the factors that might be responsible for burnout in such environment. Conversely, findings from this present study suggests that the higher the work or school experience (the various levels) the more the students got to adapt to the school environment and demands, thereby fostering positive coping mechanisms to deal with burnout.

Findings from this study also revealed no gender pattern in the level of burnout. This is in synchrony with the report of findings by Backovic et al (48) and Fares et al (37) while other studies such as that conducted by Altannir et al (49) and Galan et al (20) established that the females are significantly more predisposed to developing and have high levels of burnout when compared to their male counterparts. The influence of gender on burnout in studies observing an association is however unclear with views suggesting

that females have a higher likelihood to perceive challenging or threatening situations as stressful when compared to the male gender (37)

5. Conclusion

There was a high prevalence of burnout among students at the clinical phase of studies at the College of Medicine, University of Ibadan. Furthermore, the B. Physiotherapy students had the highest level of burnout in comparison to the other degree programs, with the dental students recording the lowest prevalence. In addition, the prevalence of burnout in each level was of a statically significant difference at all levels with the 400 Level students being the highest ranked and the 600 Level students the lowest. The need to institute appropriate measures to minimize the effect of the identified factors that might lead to burnout in clinical students at different levels of their training was highlighted.

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