

PREVALENCE AND SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH BURNOUT AMONG POSTGRADUATE STUDENTS IN THE DEPARTMENT OF PUBLIC HEALTH AT THE UNIVERSITY OF PORT HARCOURT.

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ABSTRACT

Introduction:

Burnout syndrome is a sustained response to chronic work stress comprising three dimensions: emotional exhaustion, depersonalization, and lack of personal accomplishment. It may be associated with school stress, work, and other environmental factors. This study sought to determine the prevalence and sociodemographic factors associated with burnout among postgraduate students of the Public Health Department in the University of Port Harcourt in 2019.

Methods:

This study was a cross-sectional study carried out among postgraduate students of the Public Health programme in the University of Port Harcourt. The study tool was an online questionnaire dispersed via email. The Maslach Burnout Inventory-Student Scale (MBI-SS) was used to determine the prevalence of burnout and its dimensions: emotional exhaustion, depersonalization, and lack of personal accomplishment. The sociodemographic factors (age, sex, and marital status) were also analyzed. All analyses were done at 95% confidence interval with a p value set at 0.05.

Results:

A total of one hundred and twenty-three postgraduate students responded. Slightly above a quarter (25.2%) experienced burnout. The prevalence of emotional exhaustion, depersonalization and lack of personal accomplishment amounted to 25.2%, 36.6% and 34.1% respectively. Only age among the studied sociodemographic factors was statistically significant ($P = 0.046$).

Conclusion:

Burnout syndrome affects a significant number of postgraduate students in the Department of Public Health in the University of Port Harcourt especially in the dimension of emotional exhaustion. Early identification of burnout pointers is required for the best management to reduce the morbidity associated with burnout. Prevention is essential and should reflect in policymaking.

Key words:

Burnout, Postgraduate students, Public Health, University of Port Harcourt

INTRODUCTION

The word "burnout" was coined by Freudenberger, a clinical psychologist who introduced it to describe physical and emotional exhaustion (EE) which he observed in healthcare workers.¹ Burnout is a global phenomenon that harms workers at all organizational cadres. This affects the organization as a whole and ultimately leads to significant human and economic costs.^{2,3,4}

The burnout syndrome is a severe outcome of repeated exposure to stressors associated with work. The burnout syndrome model first materialized in the early 1970s, intending to describe the cycle of physical and mental decline in professionals working in fields such as health care, social work, teaching or emergency legal services.⁵ Afterwards, burnout syndrome was characterized as a prolonged reaction to persistent job stress made up of three dimensions: the incidence of being emotionally drained (emotional exhaustion), cynical views and feelings directed at service recipients (depersonalization), and notions of low achievement and professional negligence also known as lack of personal accomplishment.⁶

Personality is one of the significant factors linked to burnout and emotional stability.⁷ Ghorpade et al.⁸ in 2007 carried out a research in a large state university in the United States. His findings showed the important connection between personality and burnout. Personality tremendously affects both the actions of the students and their vulnerability to burnout.^{9,10}

Research shows that burnout is a growing problem among postgraduate students.¹¹⁻¹³ Student burnout is a syndrome characterized by exhaustion and disengagement owing to prolonged stressful experiences in school.

Burnout is a significant predictor of suicidal ideation,¹⁴ depression, and life dissatisfaction.¹⁵

Although the origin of the word burnout is credited to Freudenberger,¹⁶ most of what is known about this phenomenon is based on the theory of Maslach and Jackson¹⁷ who characterised burnout as "a syndrome of emotional exhaustion, depersonalization, and reduced personal achievement induced by prolonged exposure to stress due to continuous engagement with clients in human services occupations". The construct of burnout has been applied to the educational background and is known as academic burnout. Zhang, Gan, and Cham¹⁸ defined academic burnout as feeling drained due to study demands (exhaustion), having a negative and disinterested attitude towards one's schoolwork (cynicism), and feeling inferior as a student (reduced efficacy). Students suffering from academic burnout typically have symptoms such as lack of enthusiasm for the course content, failure to sustain attention in the classroom, zero involvement in class events, loss of meaningful sense in the class activities and the feeling of irrelevance. Most students seeking therapy are likely suffering from burnout or any of its effects.¹⁹

Sociodemographic characteristics are factors of, relating to, or involving a combination of social and demographic factors. These characteristics include age, sex, education, migration, background and ethnicity, religious affiliation, marital status, household, employment, and income. Age, gender, and marital status have consistently been identified as important factors in explaining the variability in the prevalence of burnout.

Various studies have shown that burnout is a growing problem among postgraduate students worldwide.²⁰⁻²² The major causes of exhaustion

and possible overload among students in graduate school are usually attributed to high demands and expectations from their lecturers owing to the complex functions of teaching, researching, and publishing their works. These require significant commitment, mental energy, and study hours.²³

Sometimes the stress involved in the course of study might lead to dropping out of the course due to inability to adapt or late adaptation to the amount of workload. Some who do not do this end up with mental distress, sleeping disorders such as insomnia and other debilitating health problems. The use of psychoactive substances as well as suicide have also been reported.²⁴

A study done by Maria José Quina et al.²⁵ in Brazil among postgraduate nursing students revealed that 69.8% of the masters and doctoral students had high levels of emotional exhaustion. The same study showed that 27.1% had high depersonalization and 24.8% had low academic effectiveness. Putting together these dimensions, it showed that 11.6% of the sample had indicators for Burnout syndrome, comprising 11.4% of the Masters students and 12.24% of the doctoral students. Of these respondents, most were female (93.3%), up to 30 years of age (66.7%) and reconciled studies and work (66.7%).

In South Africa, a study done by Dlungawe et al.²⁶ established that the most cited reasons for burnout are heavy workload (76%), stress related to the demands of the programme (64%), demands of employment while studying (60%), not enough time spent on studies outside face-to-face sessions (56%), the difficulty of the programme (52%) and insufficient academic progress (44%). Also, it was reported in a survey done by the Council of Higher Education, Pretoria in South Africa in 2015 that at postgraduate level, the rate of premature departure from Masters

programmes in South Africa (SA) was estimated at 46% in 2013. Premature departure varies across fields of study, and is higher for science and lower for arts, social science, and legal studies.

A study done by Ugwu et al.²⁶ revealed that 22% of college students in Benue State were found to have the burnout syndrome and associated factors such as sex, religion, and marriage were identified.

The prevalence and sociodemographic factors of burnout amongst postgraduate students in Public Health (MPH) in University of Port Harcourt is noteworthy because of the growing number of students who apply to, and are enrolled in the program owing to the high standard of the Public Health programme in the University of Port Harcourt. This increases the pressure and competition among the students while limiting time set aside for their work, family, and leisure. It also makes research mentorship less effective as the lecturers are assigned to more students and may not easily be available for the required follow-up. Most of the students have to combine this programme with domestic responsibilities and sometimes employment.

Therefore, with this study, the prevalence of burnout among postgraduate students in Public Health (MPH) in the University of Port Harcourt will be determined as well as the associated sociodemographic factors.

No recent work on burnout amongst postgraduate students in Public Health (MPH) students in the University of Port Harcourt has been done. Hence the study findings could form the basis of an interventional study to recognise early signs of burnout and in turn limit its occurrence.

The study was done to determine the prevalence and associated factors of burnout among postgraduate students in the Public

Health programme in the University of Port Harcourt, one of the renowned schools in Nigeria.

METHOD

This study was a cross-sectional study carried out over three months between August and October 2019 among postgraduate public health students at the University of Port Harcourt, Rivers State, South-South Nigeria. The University of Port Harcourt is one of the Federal Universities in Nigeria located in Port Harcourt, Rivers State, Southern Nigeria. The study population consisted of postgraduate students in the Public Health programme in the Department of Preventive and Social Medicine, University of Port Harcourt. The different departments are Masters in Public Health (MPH), Health Management, Environmental Health, Occupational Health, and Epidemiology.

A sample size of 140 postgraduate public health students was calculated using the formula, $n = pq / (e/1.96)^2$, where n is the sample size, p is the working prevalence rate, q is 100-p and e is the margin of error tolerated at 95% confidence level. The whole population study method was used in this study due to the small population size. Data was collected using online questionnaires which were based on Maslach Burnout Inventory: Student Survey (MBI-SS) and created with Google form. This is the standard tool for calculating burnout among

students worldwide. This scale consists of 15 questions in 3 burnout categories: emotional exhaustion (EE), depersonalization (D), and lack of personal achievement. All items were scored on a 7-point frequency rating scale ranging from 1 (never) to 7 (always).

The questionnaire had three sections. The first part enabled the respondents to give informed consent before filling their respective questionnaires. The second section showed the sociodemographic characteristics required for the study which included age, sex, marital status, number of children, and department. The third section contained the MBI-SS scale which was subdivided into the three aforementioned dimensions. These questionnaires were sent to one hundred and forty students via email and WhatsApp. A total of 123 respondents filled the questionnaires.

The filled questionnaires were exported from Google Form to Microsoft Excel for proper coding. The data was then exported to Statistical Package for Social Science (SPSS) version 25 where it was analyzed. The statistical significance of each sociodemographic factor was checked using chi square. P value was placed at 0.05 and all analyses were done at 95% confidence interval.

RESULT

A total of 123 responses were adequately completed and used for data analysis giving a response rate of 87.9%.

Table 1a: Socio-demographic characteristics of the study population.

Variable	Frequency	Percent
Age		
25 years and less	8	6.5
26 – 34 years	70	56.9
35 – 45 years	42	34.1
Above 45 years	3	2.4
Mean	32.87	
Sex		
Male	63	51.2

Female	60	48.8
<i>Marital status</i>		
Single	45	36.6
Married	76	61.8
Widowed	1	0.8
Living with partner	1	0.8
<i>Number of children</i>		
None	53	43.1
One	17	13.8
Two	24	19.5
Three	20	16.3
Four	8	6.5
More than four	1	0.8

More than half (56.9%) of the respondents were within the ages 26 – 34 years and only 2.4% were above 45 years. Both male and female respondents were almost evenly distributed with 51.2% males and 48.8%

females. Most (61%) of the subjects were married and about two-fifths (43.1%) had no children. Only 7.3% of the respondents had four children and above.

Table 1b: Other sociodemographic characteristics

Variable	Frequency	Percent
<i>Area of study before the post-graduate program</i>		
Medicine	39	31.7
Nursing	15	12.2
Basic medical science	34	27.6
Social science	7	5.7
Pharmacy	13	10.6
Other	15	12.2
<i>Other disciplines (n = 15)</i>		
Animal and environmental biology	1	0.8
Biochemistry	1	0.8
Dietetics	6	4.9
Microbiology	2	1.6
Optometry	1	0.8
Public health	4	3.3
<i>Current employment</i>		
Medical doctor	37	30.1
Nurse	15	12.2
Pharmacist	13	10.6
Lab scientist	9	7.3
Academician	7	5.7
Unemployed	28	22.8
Other	14	11.4
<i>Other forms of employment</i>		
Business	7	5.7
Dietician	2	1.6
Offshore worker	1	0.8
Public health service	1	0.8
Social worker	1	0.8

Student	1	0.8
Volunteer worker	1	0.8
Area of study		
MPH	70	56.9
Health management system	14	11.4
Environmental health	12	9.8
Occupational health	12	9.8
Epidemiology	15	12.2
Duration of course		
Less than 6 months	7	5.7
Within 6 – 12 months	49	39.8
Within 12 – 18 months	44	35.8
More than 18 months	23	18.7
Mean	14.3	

Table 1b shows the distribution of the respondents according to the area of study before the post-graduate program, their current employment, and the current area of study. Slightly above a third (35.8% and

39.8%) of the respondents had been in the masters' program for 6 to 12 months and 12 to 18 months respectively. Only 5.7% had been in the program for less than 6 months and 18.7% for more than 18 months.

Table 2a: Responses to burnout subscale questions for emotional exhaustion

Variable	Every day n(%)	Every week n(%)	A few times a week n(%)	A few times in a month n(%)	Once in a month n(%)	A few times in a year n(%)	Never n(%)
I feel emotionally drained from my studies	10(8.1)	31(25.2)	36(29.3)	31(25.2)	5(4.1)	11(8.9)	8(6.5)
I feel used up at the end of the day in the university	23(18.7)	18(14.6)	40(32.5)	28(22.8)	2 (1.6)	8(6.5)	4(3.3)
I feel tired when I get up in the morning and I have to face another day at the university	25(20.3)	19(15.4)	36(29.3)	29(23.6)	5 (4.1)	8(6.5)	1(0.8)
Studying or attending a class is really a strain for me	25(20.3)	11(8.9)	34(27.6)	32(26.0)	8(6.5)	8(6.5)	5(4.1)
I feel burnt out from my studies	19(15.4)	17(13.8)	40(32.5)	34(27.6)	2 (1.6)	6(4.9)	5(4.1)
I have become less interested in my studies since my enrolment in the university	16(13.0)	6(4.9)	29(23.6)	19(15.4)	4 (3.3)	17(13.8)	32(26.0)
Studying or attending classes puts a strain on you?	24(19.5)	19(15.4)	34(27.6)	30(24.4)	4(3.3)	10(8.1)	2(1.6)

Table 2a above shows the responses to various questions under the emotional exhaustion subscale. One-fifth of the respondents (20.3%, n=25) felt tired every

day on waking up in the morning and almost none of the respondents (1.6%, n= 2) felt like studying or attending classes was putting a strain on them.

Table 2b: Responses to burnout subscale questions for Depersonalization

Variable	Every day n(%)	Every week n(%)	A few times a week n(%)	A few times in a month n(%)	Once in a month n(%)	A few times in a year n(%)	Never n(%)
I worry that school is hardening me emotionally	8(6.5)	7(5.7)	8(6.5)	10(8.1)	8(6.5)	10(8.1)	72(58.5)
I don't really care what happens to my student colleagues	3(2.4)	19(0.8)	3(2.4)	10(8.1)	3(2.4)	17(13.8)	86(69.9)
I feel like I treat my fellow students as if they were impersonal objects	1(0.8)	3(2.4)	2(1.6)	4(3.3)	3(2.4)	7(5.7)	103(83.7)
I have become more callous towards people	100(81.3)	2(1.6)	8(6.5)	7(5.7)	0 (0.0)	1(0.8)	5(4.1)

The table above shows the responses to various questions under the depersonalization subscale. More than half (58.5%, n=72) of the respondents were never worried that school would harden them

emotionally. Most of the respondents (83.7%, n=103) never felt like they would treat their fellow students as if they were impersonal objects

Table 2c: Responses to burnout subscale questions for Lack of Personal Accomplishment

Variable	Every day n(%)	Every week n(%)	A few times a week n(%)	A few times in a month n(%)	Once in a month n(%)	A few times in a year n(%)	Never n(%)
I feel as though I have not accomplished worthwhile things	3(2.4)	8(6.5)	9(7.3)	38(30.9)	15(12.2)	27(22.0)	23(18.7)
I do not feel stimulated when I achieve my study goals	66(53.7)	6(4.9)	9(7.3)	17(13.8)	0.0)	15(12.2)	10 (8.1)
I do not feel like I have learned so many interesting things during the course of my studies	2(1.6)	5(4.1)	7(5.7)	30(24.4)	11(8.9)	24(19.5)	44(35.8)
I do not feel very energetic	4(3.3)	12(9.8)	27(22.0)	35(28.5)	8(6.5)	21(17.1)	16(13.0)
I do not believe I make effective contributions to the classes I attend	8(6.5)	13(10.6)	19(15.4)	30(24.4)	12(9.8)	22(17.4)	19(15.4)

The table above shows the responses to various questions under the personal achievement subscale. Slightly more than half of the respondents (53.7%, n=66) do not feel stimulated when they achieve their study goals every day. More than a third of the

respondents (35.8%, n=44) never feel like they have not learned interesting things during their course of study. Very few of the respondents (2.4%, n=3) feel like they have not accomplished worthwhile things every day.

Table 2d: Summary of the Maslach Burnout Inventory results according to the subscales

Subscales	Frequency (percent)
Emotional exhaustion	
Low score (0 – 21)	42 (34.1)
Moderate score (22 - 29)	33 (26.8)
High score (>30)	48 (39.0)
Mean ± SD	25.59 ± 8.81
Median	27.00
Depersonalization	
Low/moderate score (0 – 3)	78 (63.4)
High score (>3)	45 (36.6)
Mean ± SD	3.00+4.45
Median	1.00
Personal achievement	
Low score (0 – 7)	42 (34.1)
Moderate score (8 – 13)	39 (31.7)
High score (>13)	42 (34.1)
Mean ± SD	10.38 ± 6.16
Median	10.000

Table 2d shows that using the Maslach burnout inventory at the level of the 66th percentile for high score and 33rd percentile for low score, just above a third (39.0%) of the respondents experience emotional

exhaustion. Also, around the same number of people (36.6%) experience a high score in the MBI level for depersonalization. 34.1% of the respondents also have a low score for personal achievement.

Table 3: Prevalence of burnout using the different subscales

Overall burnout	Frequency (percent)
No burnout	21 (17.1)
Burnout in at least one 1 subscale (either high EE, high DP or low PA)	71 (57.7)
Burnout in any 2 subscales (any two of high EE, high DP or low PA)	30 (24.4)
Burnout in all 3 subscales (combination of high EE, high DP, and low PA, i.e. high burnout)	1 (0.8)
Total	123 (100.0)

Criteria for identifying burnout in this study included the presence of high level of burnout in at least two of the three subscales of burnout.

The table above shows that when all indices from the MBI subscales were computed, less than one-fifth (17.1%) of the subjects did not experience any form of burnout. More than half (57.7%) experienced burnout in at least

one subscale. About one-quarter (24.4%) of the respondents experienced burnout in at least 2 subscales, whereas only 1 (0.8%) respondent had complete burnout.

According to the criteria for burnout diagnosis for this study, slightly above one-quarter (25.2%) of the respondents have burnout.

Table 4: Relationship between socio-demographic data and overall burnout

Socio-demographic data	Chi square	Df	P value
Age	12.840	6	0.046*
Gender	3.090	2	0.213
Marital status	3.759	16	0.709

Df: degree of freedom

**: statistical significance*

Table 4 shows the test of significance of the aforementioned sociodemographic factors against burnout. The results showed that only age was significant with a P value of 0.046.

Gender and marital status were however not significant in this study as the p values (0.213 and 0.709 respectively) were above the alpha value which was set at 0.05.

DISCUSSION

This study showed a significant level of burnout. However, the prevalence is low compared to that reported of undergraduate accounting students in Kwara State University.⁶ The study conducted there revealed that more than half of the students had burnout.⁶ A higher level of burnout was seen in the South East among postgraduate Chemistry students in the University of Nigeria, Nsukka, which exceeded both the study findings in this study and that of Kwara State.⁷ A higher rate was also seen among Paramedic students in Pretoria, South Africa although it was lower than findings in Kwara and Nsukka. The prevalence may be due to personal, financial, or family-related complications. The duration of the programme may also play a role.

This study found low to moderate levels of burnout among postgraduate students in public health in the dimension of emotional exhaustion. This is somewhat comparable to the findings in the study done in Kwara State University, Nigeria which showed high levels of emotional exhaustion.³² However, a significant increase was noticed with a study of undergraduate students in the University of Nigeria, Nsukka.³¹ Another study done among

undergraduate students in South Africa showed similar results with relatively low levels of emotional exhaustion.²⁹ Also, a study in Brazil showed higher rates of emotional exhaustion among undergraduate medical students.²⁸ This aspect of burnout is much lower than burnout values obtained from a study in postgraduates in Indian dental schools/Shetty memorial institute of dental sciences. Emotional exhaustion is the main characteristic used for investigating burnout. The differences in the values may be attributed to the variation in the learning pattern and workload in other tertiary institutions in Nigeria.

Depersonalization had a relatively high prevalence in comparison with another study done in the North-Western part of Nigeria where slightly over a tenth of undergraduate students were found to have high levels of depersonalization.³² The higher prevalence may be because of stress from various factors including relationships, financial or work-related problems. High prevalence in depersonalization among postgraduate chemistry education students in South-East Nigeria was also noted in a study in the University of Nigeria, Nsukka.³¹ Compared to studies done on burnout among students in Ethiopia, South Africa, and Brazil, our study prevalence for depersonalization is comparably low.^{28,29,32}

Our study showed a relatively higher prevalence of lack of accomplishment than a study done in Kwara State among undergraduate students. However, in comparison to studies done in Southern Nigeria, Ethiopia, South Africa, and

Brazil, the prevalence of lack of personal accomplishment was significantly lower.

The high prevalence of depersonalization and lack of accomplishment may be attributed to the variations in societal norms and beliefs in the different regions, resulting in different coping mechanisms and approaches in dealing with chronic exposure to work or academic stress.

When analysing the sociodemographic factors, age was seen to be statistically significant. This does not correlate with the study done in Ondo State³⁷ which showed that there is no relationship between the two variables. However, a similar finding was seen in a study done in South Africa³⁶ when two universities were compared. The findings were also similar to the results from surveys done in Brazil³⁵ and another in Korea³⁴ among adolescents.

The relationship between age and academic burnout can be explained by the increase in the level of responsibility as well as expectations from society. High scores in emotional exhaustion, depersonalization, and lack of personal accomplishment may also be related to the aforementioned factors. Other studies however insist that in a case where any significant difference is found, other factors should also be explored before linking the two variables.

The study findings showed no significant relationship between burnout and gender differences. This agrees with the studies in Ife (South West)⁴² and the South East⁴³ where the relationship between gender and burnout is still debatable. The same findings were also be found in Cameroon.⁴¹ However, in the United States, there were contradictory findings. A study in Ohio⁴⁰ showed a significant correlation with the males 1.5 times more likely to experience lack of personal accomplishment and depersonalization than females. However, a study in Arizona⁴⁰ reported otherwise.

For marital status, the study shows no statistically significant difference between burnout and marital status in emotional exhaustion, depersonalization, and personal accomplishment. Findings from the studies done in North Central Nigeria (Benue),⁴⁶ Cameroon,⁴⁵ and Brazil⁴⁴ report otherwise and reveal a higher prevalence of burnout in the married population.

This indicates that the marital status of the respondents did not significantly affect their burnout rates and therefore cannot be used to predict burnout in this population. Marital status might have been considered a predictor in other studies due to the added responsibilities it comes with as well as the rapidly increasing rates of failed marriages and struggling couples in the world today.

CONCLUSION AND RECOMMENDATIONS

Burnout syndrome affects a significant number of postgraduate students in the Department of Public Health in University of Port Harcourt especially in the dimension of emotional exhaustion which is the best measure for burnout in students. A significant association is seen with age, but not marital status or gender.

Early identification of burnout pointers such as exhaustion, irritability, and isolation is required for the best management and outcome. Schools should make their academic calendars as flexible as possible as most of the students are already employed and may find it difficult to combine this with their numerous responsibilities. Schools should also organise health seminars to educate the students on the ways to recognize stressors and burnout pointers. Students should make personal decisions to take breaks in order to unwind often and return to the schoolwork refreshed. Also, they are advised to avoid extremely tasking jobs while undergoing the programme

unless necessary. These measures will reduce the morbidity associated with burnout and other mental health problems. Prevention of burnout is essential and should reflect in policymaking.

Study Limitation

There are several limitations in the current work that should be considered. Firstly, the sample selected for the study was specifically students who were pursuing a Masters degree in public health. The results obtained from this study may not be applicable to students outside this discipline. Secondly, the study was cross-sectional in nature and only assessed burnout in the students at that particular period in time.

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