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Prevalence and correlates of burnout among pharmacists in varying areas of practice in South East Nigeria

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ABSTRACT

Background: Burnout has received a lot of attention in high-income countries with awareness and intervention programs designed to cope with burnout symptoms, however, it has not received the needed attention in low-income settings such as Nigeria. The current study aims to assess the prevalence and correlates of burn out among pharmacists in varying practice in South-East Nigeria.

Methods: A cross-sectional descriptive survey was carried out among pharmacists in academic, community pharmacy, and hospital settings in Enugu State, Nigeria. The abbreviated Maslach Burnout Inventory (aMBI) tool was used to assess burnout. Descriptive statistics, Spearman's correlation, and independent sample t-tests were carried out.

Results: The overall response rate was 55.95% (n = 235). Low scores of Emotional exhaustions (Academic- 4.81 ± 3.94, community- 5.45 ± 3.96, hospital -7.19 ±4.83), Depersonalizations (Academic- 1.28 ± 2.52, community- 1.17 ± 2.03, hospital -1.36 ± 2.68) and high scores of PA (Academic- 13.74 ± 3.91, community-15.64 ± 3.07, hospital -14.25 ± 4.11). For academic pharmacists, Satisfaction with renumeration (r = -0.453, p= 0.001) was associated with burnout. Marital status (r = -0.321, p = 0.008) was associated with burnout for community pharmacists while, age (r = - 0.276, p = 0.003) was associated with burnout for Hospital pharmacists.

Conclusion: The prevalence of burnout among Pharmacists in the academic setting, community and hospital settings was low. Age, marital status, and satisfaction with remuneration were common factors associated with burn out among pharmacists. Culturally sensitive strategies to proactively develop and implement interventions to minimize pharmacist burnout are needed.

Introduction

The World Health Organization has referred to burnout as an occupational phenomenon linked to chronic workplace stress that has not been successfully managed [1]. Burnout is a syndrome characterized by emotional exhaustion, depersonalization, and a feeling of a low level of accomplishment [2]. Burnout syndrome manifests as a reduced working capacity and chronic fatigue, thus increasing the risk of adverse events [3]. The first signs are diminished job performances such as errors in assignments, fatigue, ailments, persistent lethargy, and minor accidents on the job. Also, behavioural and physical responses follow which include irritations, anxiety, and negative attitudes toward people and work. Consequences of burnout have been studied and found out to be associated with decreased productivity,[4] job dissatisfaction, [5] and reported cases of wanting to leave a job other than retirement [6]. It eventually results in detachment from both family and work. The most significant destructive personal long-term outcomes from burnout are ruined careers and family lives. A potential outcome of the last stage of burnout is suicide [7].

Professionals most susceptible to burnout include policemen, firemen, teachers, psychologists, nurses, physicians, and other health-care workers [8-10]. A study by Pindar *et al*. revealed that burnout was almost twice as prevalent in clinical groups compared to non-clinical groups [11]. Physician burnout has received increased global attention in recent years [10]. Prevalence rates of burnout within the ranges of 23.6% to 51.7% have been documented in Nigerian studies of physicians with young age being a strong predictor of burnout [12]. Among hospital nurses in Nigeria (N = 270), 39.1% had burnout on the emotional exhaustion subscale of the MBI, 29.2% on the depersonalization subscale, and 40.0% on the reduced personal accomplishment subscale [13]. In the only study where pharmacists were included in a general assessment of burn out among healthcare providers in a Nigerian tertiary hospital, pharmacists and pharmacy technicians were categorized as one and were the least represented health care providers in the study [14]. Burnout among health care professionals is a serious concern as it adversely affects the performance, and productivity of work, as well as affects patient care quality [15.] Higher levels of burnout have been associated with major medical errors. Self-perceived medical errors were found to be associated with burnout, depressive system, and a decrease in quality of life, suggesting a bidirectional association of medical error and distress [16]. Burnout among academic pharmacists can lead to falsification of data, plagiarism in research, engaging in non-professional or unethical conduct, nonchalant attitudes to work, difficulty in handling teaching activities [17].

Burnout among Community and Hospital Pharmacists in Nigeria may be aggravated by the struggle to establish clinical identities, as many non-Pharmacy stakeholders are reported to view the pharmacist role to be mainly supply based [18]. While Burnout has received a great deal of attention in high-income countries with awareness and intervention programs designed to cope with burnout symptoms [19], it has not received the needed attention in low-income settings such as Nigeria. There is a dearth of evidence on the prevalence of burn out among Pharmacists in the Sub- Saharan region. The current study aimed to address this knowledge gap by assessing the prevalence and correlates of burn out among pharmacists in a Nigerian state. The study also compared burn out among pharmacists in three different areas of practice.

2. Methods

2.1 Study design

This study was a cross-sectional descriptive survey carried out among pharmacists in Enugu State, Nigeria with a latitude of 6.44132 and longitude of 7.49883. Enugu State is one of the five South Eastern states in Nigeria. All pharmacists practicing in Enugu State are registered with the Enugu state division of the Pharmacists' Council of Nigeria.

2.2 Study participants

The hospital pharmacists were recruited from three government-owned tertiary hospitals which had the largest population of hospital pharmacists in the state; The University of Nigeria Teaching Hospital, The Enugu State University Teaching Hospital, and the National Orthopedic Hospital. The academic pharmacists were recruited from the largest school of Pharmacy with the highest population of pharmacist lecturers in Nigeria, the University of Nigeria Nsukka. The community pharmacists were recruited during the 1st bi-monthly meeting of the Association of Community Pharmacists of Nigeria (ACPN), Enugu Branch. All consenting pharmacists in the various areas of practice were invited to participate in the survey. Ethical approval for this study was obtained from the Ethics Review Board of the University of Nigeria Teaching Hospital (UNTH), Ituku-Ozalla Enugu State (NHREC/05/01/2008B-FWA00002458-IRB00002323).

2.3 Sample size calculation

The Raosoft Online Sample Size Calculator was used to calculate the minimum sample size for the study. $X = Z_{\alpha/2}^{2} * p * (1-p) / MOE^{2}$, and $Z_{\alpha/2}$ is the critical value of the Normal distribution at $\alpha/2$ (e.g. for a confidence level of 95%, α is 0.05 and the critical value is 1.96), MOE is the margin of error, p is the sample proportion, and N is the population size. The minimum sample size was calculated to be 201 given that the total number of registered pharmacists at the time of the study was 479, with a 95% confidence interval and a 5% error margin. However, all available and willing pharmacists in the areas of practice of interest were recruited.

2.4 Study instrument

The Maslach Burnout Inventory is a psychometric measure regarded as the "Gold Standard" and the most popular instrument to assess burnout [20.] The MBI contains a total of twenty-two (22) items and it is categorized into three subscales: (1) emotional exhaustion (9 items) (i.e., the draining of emotional resource); (2) depersonalization (5 items) (i.e., negative, cynical attitudes towards one's recipients); and (3) personal accomplishment (8 items)

(i.e., the tendency to evaluate oneself positively, particularly with regards to one's work to recipients). The scoring ranged from 0 "never" to 6 "every day". High levels of emotional exhaustion and depersonalization and a low level of personal accomplishments are characteristics of burnout [21].

The abbreviated version of the Maslach Burnout Inventory was used in this study (aMBI). The words in the questionnaire were changed to suit the field of practice. The Client's title was referred to as "Student" and "Patient" for the academic setting and the community/hospital settings respectively. A total of nine questions were asked, with three questions each cutting across the three subscales, the first three questions covered for emotional exhaustion, the second three covered for depersonalization, and the last three covered for personal accomplishment. Responses were gathered on a 7 Likert - type scale. For each item, responses ranged from "Never" (0) to "Everyday" (6); with the first indicating respondent's lower level of burnout, while the latter represented the respondent's highest level of burnout. The categorization of scores for each of the burnout domains is as follows; Emotional Exhaustion domain scores: High: ≥27, Moderate: 19-26, and Low: 0-18. Depersonalization domain scores: Moderate: 6-9, and Low: 0-5. Personal Achievement domain scores: High: 0-33, Moderate: 34-39, and Low: ≥40. Respondents who had at least moderate scores in two or more domains were classified as having burnout. The validity and reliability of aMBI have already been established [22] internal consistency of each subscale of aMBI was calculated using Cronbach's alpha coefficient. For emotional exhaustion $\alpha = 0.89$, for depersonalization $\alpha = 0.76$, for personal accomplishment $\alpha = 0.72$, and for overall burnout $\alpha = 0.81$. The second section of the questionnaire contained questions about respondents' socio-demographic characteristics and satisfaction with their remuneration.

2.5 Data analysis

Completed questionnaires were coded and entered into Microsoft excel. Data were cleaned and exported to the IBM SPSS Statistics version 20 (Armonk, NY). Data were analyzed and presented as frequencies and percentages. Mean and standard deviation (SD) were calculated for continuous variables. To obtain an aggregate burnout score, emotional exhaustion and depersonalization scores were summed. Spearman correlation was carried out to determine the association between socio-demographic variables and burnout among pharmacists in the three areas of practice. Statistical significance was set at $p<0.05$ for all statistical tests.

2.6 Ethical Considerations

Ethical approval for the study was obtained from the University of Nigeria Teaching Hospital (UNTH), Ethical Committee Board. Verbal informed consent was obtained from the participants before the commencement of the study. All information collected was treated confidentially.

3. Results

A total of 115 out of 232 registered hospital pharmacists participated in the survey (49.6% participation rate), all the 66 community pharmacists present at the meeting participated out of a total of 121 community pharmacists registered (54.5% participation rate) while 54 academic pharmacists out of the 78 academic pharmacists in the institution participated in the survey (80.6% participation rate). One hospital pharmacist refused to participate in the study and didn't give any reason for the refusal

3.1 Socio-demographic characteristics of Respondent Pharmacists

More than half of the respondent academic pharmacists were males (53.7%, n = 29), married (72.2%, n = 39), had a PhD qualification (48.1%, n = 26), and had an average working hour of 40-50 hours (51.9%, n = 28). None of the academic pharmacists surveyed were completely satisfied with their remuneration. For the Community pharmacists, more than half of the respondents were also male (54.5%, n = 36,) and married (72.7%, n = 48), aged between 31 to 40 years old, and mostly had the B.Pharm as their highest professional qualification (69.7%, n = 46). More than one-tenth of the respondent community pharmacists were not at all satisfied with their remuneration (16.7%, n = 11). The respondent hospital pharmacists were mostly female (62.6%, n = 72), aged between 18 to 30 years old (54.8%, n = 63) and mostly had a B.Pharm degree as their highest professional qualification(65.2%, n = 75). Almost one-third of the hospital pharmacists were not at all satisfied with their remuneration (27.8%, n = 32). (Table 1)

3.2 aMBI scores and their Percentiles for respondent Pharmacists

After the scoring using the aMBI, all the respondent Pharmacists in all areas of practice had low Emotional Exhaustion. All the respondent pharmacists in all the areas of practice had a high Personal Achievement. Depersonalization on the other hand varied with academic pharmacists having the highest prevalence of low

depersonalization (94.4%, n = 51). (Table 2)

3.3 Prevalence of Burnout in various areas of Practice

Based on the aMBI criteria for burnout of Moderate risk in 2 or more subscales, none of the pharmacists in all the three areas of practice had burnout.

3.4 Association between aggregate burn out score and pharmacists' socio-demographic characteristics

Among Community pharmacists, there was a significant negative correlation between gender and aggregate burnout scores. For pharmacists in academic and hospital settings, an increasing age was significantly inversely associated with aggregate burnout scores. Marital status was significantly inversely associated with burnout among community and hospital pharmacists. Satisfaction with renumeration among academic and community pharmacists was significantly inversely associated with burnout. (Table 3)

Table 1: Socio-demographic characteristics of respondent pharmacists

	Academic Pharmacist (N=78)	Community Pharmacists (N=66)	Hospital Pharmacist (N=115)
Variable	**N (%)**	**N (%)**	**N (%)**
Gender			
Male	29(53.7)	36 (54.5)	43 (37.4)
Female	25(46.3)	30 (45.5)	72 (62.6)
Age			
18-30	5 (9.3)	16 (24.2)	63 (54.8)
31-40	19 (35.2)	25 (37.2)	18 (15.7)
41-50	20 (37.0)	17 (25.2)	24 (20.9)
51-60	6 (11.1)	3 (4.5)	8 (7.0)
60 and above	4 (7.4)	5 (7.6)	2 (1.7)
Marital Status			
Single	13 (24.1)	15 (22.7)	57 (49.6)
Married	39 (72.2)	48 (72.7)	57 (49.6)
Widowed	2 (3.7)	3 (4.5)	1 (0.9)
Highest Professional Qualification			
B.Pharm	4 (7.4)	46 (69.7)	75 (65.2)
Pharm.D	2 (3.7)	7 (10.6)	4 (3.5)
M.Pharm	22 (40.7)	11 (16.7)	6 (5.2)
WAPCP	-	2 (3.0)	27 (23.5)
PhD	26 (48.1)	0 (0.0)	3 (2.6)
Current Rank/Title			
Assistant lecturer	12 (22.2)	-	-
Lecturer II	9 (16.7)	-	-
Lecturer I	8 (14.8)	-	-
Senior lecturer	14 (25.9)	-	-
Reader	1 (1.9)	-	-
Professor	10 (18.5)	-	-
Intern	-	5 (7.6)	61 (53.0)
Locum	-	4 (6.1)	2 (1.7)
Superintendent	-	34 (51.5)	1 (0.9)
Pharmacist I	-	7 (10.6)	4 (3.5)
Pharmacist II	-	2 (3.0)	12 (10.4)
CEO/HOD	-	13 (19.5)	2 (1.7)
Chief Pharmacist	-	-	3 (2.6)
Principal Pharmacist	-	-	6 (5.2)
ADPS	-	1 (1.5)	15 (13.0)
DDPS	-	-	4 (3.5)
DPS	-	-	5 (4.3)

Pharmacist II	-	2 (3.0)	12 (10.4)
CEO/HOD	-	13 (19.5)	2 (1.7)
Chief Pharmacist	-	-	3 (2.6)
Principal Pharmacist	-	-	6 (5.2)
ADPS	-	1 (1.5)	15 (13.0)
DDPS	-	-	4 (3.5)
DPS	-	-	5 (4.3)
Duration of Work			
<1 year	1-1 (20.4)	13 (19.7)	66 (57.4)
1-5 years	16 (29.6)	20 (30.3)	11 (9.6)
6-10 years	8 (14.8)	23 (34.8)	15 (13.0)
>10 years	19 (35.2)	10 (15.2)	23 (20.0)
Average working hours			
<40 hours	8 (14.8)	10 (15.2)	37 (32.2)
40-50 hours	28 (1.9)	30 (45.5)	53 (46.1)
51-60 hours	12 (22.2)	14 (21.2)	17 (14.8)
>60 hours	6 (11.1)	12 (18.2)	8 (7.0)
Satisfaction Level			
Not at all satisfied	25 (46.3)	11 (16.7)	32 (27.8)
Slightly satisfied	15 (27.8)	18 (27.3)	32 (27.8)
Moderately satisfied	11 (20.4)	23 (34.8)	43 (37.4)
Very satisfied	3 (5.6)	13 (19.7)	7 (6.1)
Completely satisfied	0 (0.0)	1 (1.5)	1 (0.9)

WAPCP: West African Postgraduate College of Pharmacy; ADPS: Assistant Director of Pharmacy; DDPS: Deputy Director of Pharmacy; DPS: Director of Pharmacy

Table 2: Abbreviated MBI scores and their Percentiles for respondent Pharmacists

aMBI Subscale	aMBI Risk Stratification by Scores	aMBI Results by Respondents (%)	Mean±SD
Academic Pharmacists			
	High: ≥27	0 (0.0)	
	Moderate: 19-26	0 (0.0)	
	Low: 0-18	54 (100.0)	
	High: ≥10	2 (3.7)	1.28±2.521
	Moderate: 6-9	1 (1.9)	
	Low: 0-5	51 (94.4)	
	High: 0-33	54 (100.0)	
	Moderate: 34-39	0 (0.0)	
	Low	0 (0.0)	
Community Pharmacists			
	High: ≥27	0 (0.0)	
	Moderate: 19-26	0 (0.0)	
	Low: 0-18	66 (100.0)	
	High: ≥10	0 (0.0)	
	Moderate: 6-9	6 (9.1)	
	Low: 0-5	60 (90.0)	
	High: 0-33	66 (100.0)	
	Moderate: 34-39	0 (0.0)	
	Low: ≥40	0 (0.0)	
Hospital Pharmacists			
	High: ≥27	0 (0.0)	
	Moderate: 19-26	0 (0.0)	
	Low: 0-18	115 (100.0)	
	High: ≥10	2 (1.7)	
	Moderate: 6-9	12 (10.4)	
	Low: 0-5	101 (87.4)	
	High: 0-33	115 (100.0)	
	Moderate: 34-39	0 (0.0)	
	Low: ≥40	0 (0.0)	

aMBI: Abbreviated Maslach Burnout Inventory

Table 3: Association between aggregate burn out score and pharmacists' socio-demographic characteristics

	Academic Pharmacists	Community Pharmacists	Hospital pharmacists
Characteristics	r_s (p-value)	r_s (p-value)	r_s (p-value)
Gender	0.079 (0.569)	-0.273 (0.026) *	-0.025 (0.790)
Age	-0.315 (0.020) *	-0.198(0.110)	-0.276 (0.003) **
Marital status	-0.167 (0.228)	-0.321 (0.008) **	-0.223 (0.016) *
Highest Professional Qualification	-0.153 (0.269)	0.042 (0.741)	-0.202 (0.030) *
Current Rank	-0.252 (0.067)	-0.115 (0.358)	-0.258 (0.005) **
Duration of work	-0.177 (0.201)	-0.190(0.126)	-0.261 (0.005) **
Average Working hours	0.046 (0.742)	0.176 (0.157)	-0.036 (0.703)
Satisfaction with renumeration	-0.453 (0.001) **	-0.291 (0.018) *	-0.064(0.500)

*Correlation is significant at the 0.05level**Correlation is significant at the 0.01 level

4. Discussion

This study aimed to advance knowledge about the prevalence of burnout and its associated factors among pharmacists in Nigeria. While several studies have been carried out on pharmacists' burn out in other settings, no study has specifically assessed burn out among pharmacists in the Sub-Saharan region.

Emotional exhaustion, which is the main determinant of burnout was low among Pharmacists in all three areas of practice. Depersonalization or cynicism represents the de-personified context dimension of burnout. Individuals with burnout syndromes have reported cases of treating their clients as if they were inanimate objects [23]. Low levels of depersonalization were reported among pharmacists in the three practice settings. Reduced Personal Accomplishment is a self-evaluation dimension of burnout. Pharmacists in all three practice settings had high Personal Accomplishment. While emotional exhaustion rates have been recorded to be high among pharmacists in high-income countries [24], it seems to be low in Low-and-Middle income countries such as in the current study and Turkey [25]. Individual factors such as individual attitudes, demographic characteristics, maladaptive coping styles, and personality characteristics, and/or organizational factors such as management/leadership styles, organizational climate, horizontal and vertical communication that differ across health care facilities, health systems, and between countries may be responsible for this distinction [26]. The variation in the burn out levels in this study compared to previous studies may also be as a result of the aMBI used as a study tool. Although there is a good correlation between the aMBI and the MBI-Health Service Survey (MBI-HSS) subscales scores, the modified subscales cutoffs and diagnostics criteria used by the Abbreviated MBI may have led to an underestimation of burnout in this study [27]. Another explanation could be that Nigerians are reputed to be very optimistic individuals and studies have shown that they generally exhibit uncommon satisfactory tendencies in situations where many others would wear out [28].

None of the academic pharmacists had clinically significant burnout in this study. This finding is in contrast with findings from a study among Pharmacy Practice Faculty in the United States, where more than half of the academic pharmacists had burnout were reported [24]. The prevalence of burn out is also lower than found in a previous study among academic lecturers. They reported emotional exhaustion mean score of 12.24, depersonalization of mean score of 3.84 and personal accomplishment mean score of 22.4 [29]. It has been suggested that lecturers in pharmacy, medicine, and nursing may experience high burn out levels because of their need to balance multiple, high-level responsibilities, including teaching, research, engagement, and committee work, as well as patient care for many [24, 30]. Although pharmacist lecturers in Nigeria are not directly involved with patient care, they are involved with clinical clerkships for Pharmacy students which can be extremely stressful as most approved hospitals for clerkship are usually far away in remote areas.

One core finding in this study is that Hospital pharmacists

had significantly higher aggregate burnout scores than pharmacists in community and academic settings. This is not surprising as burnout has been found to be higher in clinical groups than in non-clinical groups [11.] In this study, age was significantly inversely associated with burnout, meaning that younger hospital pharmacists experienced more burnout compared to older pharmacists. In congruence with this finding, burnout was also significantly inversely associated with professional qualifications, current rank, and duration of work, meaning that Hospital pharmacists with the least qualifications and ranks, who had worked for a shorter time had more burnout

Apart from the stress associated with providing care in clinical settings, hospital pharmacists in Nigeria also have to contend with the seemingly perpetual struggle of establishing their clinical identities. Other factors such as limited clinical education, medical opposition, poor relationship between pharmacists and medical doctors, shortage of pharmacists, and underutilization of pharmacy technicians may lead to job dissatisfaction and consequently, burnout [23].

Although the community pharmacists had less burnout scores compared to hospital pharmacists, they had a higher burnout score than academic pharmacists. Almost one-tenth of the community pharmacists in this study had burnout. This finding is in contrast with the findings of studies among community pharmacists in Serbia, France, and the UK where more than half of the community pharmacists surveyed had burnout [31-32.] Gender, Marital status, and satisfaction with remuneration were significantly inversely associated with burnout among the community pharmacists surveyed. Single people have been shown to experience more burnout compared with those who are married [23.] This may be due to a lack of support to deal with emotional exhaustion and job-related stress. There was a significant negative association between satisfaction with remuneration and burnout among community pharmacists in this study. Studies in the past have shown that individuals with less overall job satisfaction had a significantly higher prevalence of burnout [33]. Dissatisfaction with pay has been shown to be a source of burnout in previous studies [34.]

For Academic pharmacists, age and satisfaction with remuneration were significantly negatively associated with burnout. Being younger and less satisfied with the salary was associated with burnout. Younger lecturers are likely to be less experienced with fewer qualifications and lower ranks. The heavy teaching load lack of experience, and extra duties assigned to these younger lecturers by senior lecturers may lead to burnout [38]. The lack of satisfaction with remuneration among the academic pharmacists in Nigeria may also be connected to the non-payment of professional clinical allowances which lecturers in Medical faculties are being paid [35] This perceived mistreatment has been a major source of job dissatisfaction among academic pharmacists in Nigeria.

There is a dearth of literature on Pharmacist burnout in the Sub -Saharan region. This study has filled this literature gap by assessing the prevalence of burnout among pharmacists in three different areas of practice. The Abbreviated Maslach Burnout Inventory (aMBI) which is a standard tool for assessing burnout was used to assess burn out in this study. However, the study is not without some limitations. The convenience sampling limits the generalizability of the study findings. The aMBI which was used with the intent of reducing respondent fatigue and improving response rates may have led to an underestimation of burn out in this study [27.] The striking result of the study also raises concerns about the suitability of the study instrument among the study population. The survey instrument did not contain open-ended questions to enable respondents express their level of burnout. As with all self-reported surveys, there is a limitation of response bias. Eligible participants who were not available at the time of the survey may have been suffering from burn out. The survey timing may have influenced responses from the academic pharmacists as they were recruited at a time when lecturers in Nigeria were on industrial strike action and were not involved in academic activities.

5. Conclusion

The prevalence of burnout among Pharmacists in the academic setting, community setting, and hospital settings in Enugu State was low. Hospital Pharmacists had significantly higher burnout scores than the community and academic pharmacists. Age, marital status, and satisfaction with remuneration were the most common factors associated with burnout among pharmacists in the three practice settings. There is a need to increase awareness about burnout in Nigeria and other low-income settings. Culturally sensitive strategies to proactively evaluate, develop, and implement interventions to minimize pharmacist burnout are needed.

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Conflict of interest statement

The authors declare no conflicts of interest.

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