



Givers Feel the Heat, Too: Experience of Burning out under Fire of Psychological Distress among Healthcare Workers during COVID-19 Pandemic

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Burnout is considered a condition of great public concern due to its biopsychosocial consequences which include poor quality of life. Healthcare providers have been described as high-risk population for experiencing burnout. Psychological distress is also considered a strong predictor of experience of burnout among healthcare workers who are burdened with the demand of the healthcare system. This is particularly so with healthcare workers in sub-Saharan Africa. The period of COVID-19 might have impacted on the burden of burnout experienced by healthcare professionals.

Objective: This study was to determine the burden of burnout and its relationship with psychosocial variables among healthcare workers in a tertiary health care facility.

Methods: The sample for this study was from a population of healthcare workers in a tertiary healthcare facility in southwest Nigeria. The questionnaire comprised three sections: information on socio-demographic work-related characteristics of the respondents; Maslach-Burnout-Inventory (MBI), and Kessler Psychological Distress Scale (K10) used in screening mental distress among the

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respondents. Student t-test and one-way ANOVA were used to compare the means scores of respondents on both the MBI and K-10 scales.

Results: A total of 214 healthcare workers with mean age of 36.49 ± 9.05 participated in the study. Seventy-six (35.5%) of the respondents had high burnout level on MBI. There was statistically significant difference in the mean score emotional exhaustion subscale of burnout experience for gender. The mean score on emotional exhaustion dimension in doctors was significantly higher than the nurses. Emotional exhaustion correlated negatively with respondents' years of experience at work ($r = -0.181$, $p = 0.008$). Thirty-seven (17.3%) of the respondents suffered mild to severe psychological distress as indicated by their scores on the Kessler scale of psychological distress.

Conclusion: The study brought to the fore the relevant correlates of burnout in the high-risk group of essential healthcare providers.

Keywords: Burnout; psychological distress; healthcare workers; COVID-19.

1. INTRODUCTION

Burnout, declared as an "occupational phenomenon" by the World Health Organization (WHO), is a syndrome resulting from chronic work-related stress. The real experience of burnout involves emotional exhaustion [EE], feelings of helplessness, depersonalization [DP], negative attitudes towards work and life, and reduced personal accomplishment [PA] [1]. Burnout is considered a condition of great public concern due to its biopsychosocial consequences which include poor quality of life [2–5]. Studies have found high prevalence of burnout syndrome in both western and developing countries, with society rates range from 2.4% to 72% [6]. Similarly, burnout prevalence range between 4.7% and 75.5% have been reported among healthcare workers by studies in Nigeria [7–9].

A recent Italian study conducted during COVID-19 pandemic revealed caregivers, such as parents, might develop mental health strain leading to adverse psychological impacts and possible psychiatric conditions [10]. Besides, healthcare providers have been described as high risk population for experiencing burnout [11–13]. A pooled prevalence of 11.23% of burnout symptoms among nurses had been reported, globally [14]. Experience of burnout may impact on both personal and professional competence of individual healthcare worker and the healthcare system. Professionals who experience burnout are more likely to report dissatisfaction concerning their jobs or careers, possibly seek to quit their career, or migrate to a high-income region [15]. This is particularly so with healthcare workers in sub-Saharan Africa. When migration occurs, it may result in shortages of healthcare providers in low-income

countries, such as Nigeria, and consequently impact negatively on the healthcare system [16, 17].

Besides the adverse effects of burnout on the quality of healthcare delivery, burnout also impacts negatively on the mental and physical health of health care practitioners [18]. High prevalence of burnout syndrome and associated mental illness have been observed among health workers and some other professional groups [6]. Another Nigerian study who had used the same burnout measure as in this study among professional groups, including healthcare workers, had found that health workers were the most emotionally drained, the highest level of overall occupational burnout compared with a couple of other professional personnel [19]. A recent literature has indicated a significant prevalence of burnout during COVID-19 pandemic among healthcare workers, and had reported a 52.8% of respondents with pandemic-related burnout [20].

This study was a cross-sectional survey carried out during a period of COVID-19 pandemic to determine the burden of burnout and its relationship with psychosocial variables among healthcare workers in a tertiary health care facility in Ekiti State of southwest Nigeria.

2. METHODOLOGY

This is a descriptive cross-sectional study of a proportionate stratified random sample from a population of healthcare workers from a tertiary health facility in Ekiti State of southwest Nigeria. The sample frame comprised list of health workers in each of the units that are directly involved in the care of patients in the health facility. Study duration was 4 weeks between

May, 2020 and June, 2020. The study recruited only healthcare workers, including doctors, nurses, pharmacists, and laboratory scientists, and nurses' assistants, who were directly involved in the care of, and in contact with patients at the study center. Some health workers were excluded from the study: health workers age above 60 years for all categories of the workers, except doctors. A limit of 70 years was set for doctors because some of the doctors who worked in the study facility were also in academics have statutory retirement age of 70 years. Health workers who had not spent up to 12 months in employment of the hospital were also excluded. The study respondents were implored to respond to a self-report questionnaire independently, and without exchange of ideas or influence by colleagues.

2.1 Data Collection

The self-report questionnaire used in this study comprised three sections. The first section gathered information on socio-demographic work-related characteristics of the respondents. The second section of the questionnaire, using the Maslach-Burnout -Inventory (MBI), explored the experience of burnout among the respondents in the past 12 months. In addition, the 10 item Kessler questionnaire on burnout was also used assessment of burnout experience in the respondents. The MBI is a widely used 22 symptom items psychological instrument used in measuring the three dimensions of burnout which include emotional exhaustion, depersonalization and personal accomplishment. The Maslach-Burnout-Inventory has been found to be a reliable valid measure of an individual's experience of burnout. The MBI has [21] psychometric properties: Cronbach alpha of 0.86 and split-half of 0.57 and a convergent validity of 0.01-0.036. The 22 items are scored on a 7- point Likert frequency rating from: "never" (0), "a few times a year" (1), "once a year or less" (2), "once a month or less" (3), "a few times a month" (4), "once a week" (5), "a few times a week or daily" (6). Interpretation of burnout score on MBI was as follows:

Emotional Exhaustion scale: total score of 17 or less indicated low-level burnout; score 18-29 indicated moderate burnout; and score of 30 and above indicated high-level burnout.

Depersonalization scale: total score of 5 or less indicated low-level burnout; score 6-11 indicated

Moderate burnout Total of 12 and greater: High-level burnout.

Achievement scale: total score of 33 or less was recorded as high-level burnout; total score between 34 and 39 inclusive indicated moderate burnout; score of 40 and above was recorded as low-level burnout.

The Kessler Psychological Distress Scale (K10) was used in third part of the questionnaire in this study. This was used to as a brief screen measuring the level of mental distress among the respondents. The K10 is a 10-item questionnaire with each item having a five-level response scale. Each item scored from 1 "none of the time" to (5) "all of the time" with a minimum score of 10 and a maximum score of 50. For the purpose of this study, the respondents' psychological distress scores on K-10 were recorded as follows: score under 20 were likely to be well; 20-24 were likely to have a mild mental disorder; 25-29 were likely to have moderate mental disorder, and respondents who scored 30 and above were likely to have a severe mental disorder.

Demographic characteristics were presented in frequency table, and student t-test was used to compare mean scores on both the MBI and K-10 scales for the respondents' socio-demographic characteristics. One-way Analysis of Variance (one-way ANOVA) was also used to compare means of some other demographic characteristics of the participants. For the purpose of this study, confidence interval was 95%, and p- values less than 0.05% were considered significant.

3. RESULTS

A total of 223 healthcare workers participated in this study; however, data for 9 respondents were excluded for reason of inadequate information needed for analysis. Thus, a total of 214 respondents' data were analyzable. The response rate by the respondents was 89.5%. The prevalence of burnt-out and psychological distress among this population was 35.5% and 17.3% respectively with 8.4%, 7.0% and 1.9% experiencing mild, moderate and severe psychological distress respectively.

The age ranged 19 to 70 years with a mean age of 36.49±9.05. One hundred and sixty-one (75.2%) of the respondents were married. Table 1 shows the demographic characteristics of the respondents.

Table 1. Sociodemographic characteristics of respondents

Characteristics	N=214n (%)
Age range (years)	
≤ 35	116 (54.2)
≥ 35	98 (45.8)
Gender	
Male	89 (41.6)
Female	125 (58.4)
Marital status	
Single	161 (75.2)
Married	53 (24.8)
Profession	
Doctor	39 (18.2)
Nurse	70 (32.7)
Others	105 (49.1)
Work unit	
Medical	76 (35.5)
Surgical	102 (47.7)
Others	36 (16.8)
Experience in years	
1-5	84 (39.3)
6-10	74 (34.6)
11-15	24 (11.2)
16-20	13 (6.1)
Above 20	19 (8.9)
Work shift	
Yes	100 (46.7)
No	114 (53.3)
Chronic illness	
Yes	4 (1.9)
No	210 (98.1)

Considering the three subscales of the Maslach-Burnout-Inventory as shown in Table 2 below, seventy-six (35.5%) of the respondents had high burnout level.

3.1 Emotional Exhaustion

As shown in Table 3, males significantly scored higher on emotional exhaustion (p=0.001) as well as depersonalization (0.001) subscales of burnout experience and were more likely to

experience psychological distress (p=0.010) more than their female counterparts. Those with work experience below 10 years were like to score higher on exhaustion and depersonalization scale and significantly higher on psychological distress (p=0.001) while those with work experience greater than 10 significantly higher on personal achievement. There were no statistically significant differences in the mean scores among the respondents on the emotional exhaustion subscale for the other demographic characteristics. However, doctors were more likely to experience exhaustion more than other health workers (p=0.003). Existence of chronic illness in respondents also reflected a statistically insignificant difference in their scores on the emotional exhaustion dimension of burnout.

Other relationship between burnout subscales, psychological distress and socio-demographic characteristics are as shown in Tables 3.

4. DISCUSSION

This is a study that endeavoured to explore a phenomenon related to occupational experience and its attendant effects on the psychological well-being of a group of people who are often saddled with both the physical care and psychosocial well-being of people in the society. More so, this study was carried out while the period of anxiety-related with the dirge of corona virus disease (COVID-19) pandemic. The period of the study was, no doubt, both physically and emotionally overwhelming for healthcare workers who are frontline workers.

This study on the experience of burnout and psychological distress was done using a widely used tool (MBI) to determine the levels of burnout and (K10) psychological distress, respectively. A high level of burnout on all the three dimensions of burnout simultaneously was found in 35.5% of the respondents.

Table 2. Descriptive statistics of burnout dimensions and psychological distress in respondents

Burnout dimension	N=214		n (%)		
	Mean	SD	High	Moderate	Low
Emotional exhaustion	11.14	8.81	5 (2.3)	52 (24.3)	157 (73.4)
Depersonalization	5.71	7.13	32 (15.0)	45 (21.0)	137 (64.0)
Personal achievement	39.60	11.15	39 (18.2)	30 (14.0)	145 (67.8)
Psychological distress	Mean	SD	Mild	Moderate	Severe
	15.73	5.13	18 (8.4)	15 (7.0)	4 (1.9)

Table 3. Mean difference in burnout and psychological distress in relation to participants socio-demographic characteristics

Characteristics	N=214	Emotional		Depersonalization		Personal Achievement		Psychological Distress	
		Mean±SD	p	Mean±SD	p	Mean±SD	p	Mean±SD	p
Gender									
male	89	13.80±8.16	0.001	7.94±8.46	0.001	38.82±9.57	0.387	17.57±5.72	0.010
female	125	9.26±8.80		4.11±5.52		40.16±12.15		14.42±4.23	
Age(yrs)									
≤35	116	11.74±9.10	0.282	6.17±7.07	0.299	38.59±11.39	0.147	16.16±4.93	0.183
>35	98	10.44±8.45		5.15±7.20		40.81±10.79		15.22±5.34	
Marital status									
single	53	12.94±8.45	0.087	7.74±7.36	0.017	38.34±8.89	0.343	17.75±5.21	0.001
married	161	10.55±8.87		5.04±6.95		40.02±11.79		15.06±4.94	
Experience in yrs									
1-10	158	11.64±9.15	0.169	6.15±7.57	0.130	38.44±12.22	0.010	16.22±5.40	0.021
>10	56	9.75±7.69		4.46±5.59		42.86±6.31		14.38±4.04	
Work shift									
yes	100	10.25±8.63	0.165	5.85±7.59	0.782	40.59±10.30	0.226	15.63±4.88	0.783
no	114	11.93±8.93		5.58±6.74		38.74±11.82		15.82±5.36	
Chronic illness									
yes	4	14.75±8.24	0.410	7.25±8.10	0.663	40.75±7.63	0.836	15.70±5.10	0.429
no	210	11.08±8.85		5.68±7.13		39.58±11.21		17.75±7.41	
Profession*									
doctors		13.82±8.64	0.003	5.21±5.04	0.039	39.72±8.53	0.035	15.69±4.59	0.015
nurses	39	8.43±8.64		4.17±5.64		42.24±8.63		14.37±3.58	
others	70	11.96±8.58		6.91±8.41		39.80±13.05		16.66±5.85	
	105	F (2,211) =4.293							
Work unit*									
medical	76	10.14±7.48	0.158	6.29±7.72	0.150	40.62±8.96	0.215	16.14±5.55	0.018
surgical	102	12.35±9.71		6.01±7.52		38.23±13.42		16.21±5.29	
others	36	9.83±8.50		3.61±3.62		41.36±8.96		13.53±2.76	
		F (2,211) =4.115							

*Mean difference calculated using ANOVA

Table 4. Correlations between some respondents' Variables and Psychological Distress

		Psychological distress	Emotional exhaustion	Depersonaliz ation	Personal achievement	Age	No years in Practice
Psychological distress	Correlation	1					
	Significance						
Emotional exhaustion	Correlation	.430**	1				
	Significance	.000					
Depersonalization	Correlation	.600**	.500**	1			
	Significance	.000	.000				
Personal achievement	Correlation	-.124	.018	-.045	1		
	Significance	.069	.789	.510			
Age	Correlation	-.162*	-.120	-.099	.147*	1	
	Significance	.018	.079	.150	.032		
No years in Practice	Correlation	-.235**	-.181**	-.188**	.194**	.807**	1
	Significance	.001	.008	.006	.004	.000	

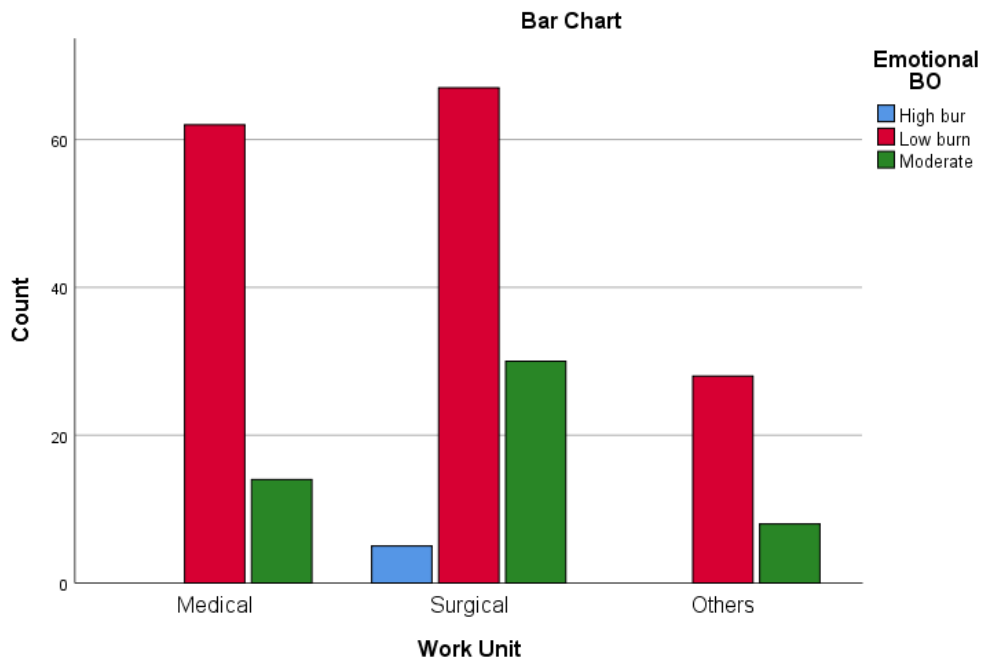


Fig. 1. Frequency of level of burnout among respondents

A prevalence of 35.5%, in this study, for high level of burnout among the health workers was lower than values reported by some other similar Nigerian studies [8, 9]. One of the studies was conducted among nurses only, while the second study excluded other categories of health workers. The prevalence of high degree of burnout in some earlier studies outside Nigeria ranged 2.4%-72%[6]. High emotional exhaustion was the least manifest among the subscales of burnout experience among health workers. This is in contrast to a much higher prevalence of 39.1% high EE, albeit the study was among nurses only [8].

The significant findings of experience of higher mean score on emotional exhaustion dimension in males than females was in contrast to a similar Indian study in COVID-19 pandemic era that reported higher prevalence of personal and work-related burnout in female nurses [20]. Men are often saddled with a higher responsibility of providing for their families and protecting family members from the scourge of COVID-19 while other members of the families were at home due to imposed lockdown. The period of this study was associated with isolation and solitariness due to lockdown as a result of covid-19 that increased level of anxiety among those that were single who often seek companionship. This may explain the higher level of burnout among of

single respondents compared to married respondents. Besides, the reality of the singles being solely burdened by for survival, unlike the married group who have the benefits of shared responsibility by other members of the family, particularly as might be shared with their spouses.

Considering the respective categories of healthcare workers, doctors appeared to have experienced significantly higher degree of burnout than their colleagues, including nurses, on emotional exhaustion subscale. This finding agreed with the report by another Nigerian study [9]. However, some other studies found higher degree of burnout in nurses compared to other healthcare workers [22–25].

Concerning emotional exhaustion, PD, and psychological distress, the less experienced workers had higher mean scores; the junior health workers are usually the frontline workers, while the older and more experienced workers are more involved in supervisory work, albeit they may be pressured with greater responsibilities in their supervisory roles [26].

Except for the significant higher mean score by other categories compared to doctors and nurses, this study did not find any significant association between the scores of respondents

on personal achievement dimension and sociodemographic characteristics of the respondents. This was in concord with another study that reported similar findings among a group of healthcare workers in Iran [27]. However, other earlier studies had found some demographic characteristics such as education level, night shifts and male gender to be significantly associated with a high level of burnout among nurses [28, 29].

The dimension of depersonalization in this study describes the motivational interpersonal distancing or detachment as shown by workers toward their responsibility as caregivers. The level of cynicism exhibited by health workers during this study period significantly associated with gender, marital status, and their specific professional callings or roles in providing health care. The younger healthcare workers, in this study, were more cynical than the older ones towards their expected roles in the care of patients. It was possible the older health workers showed more commitment and empathy at their duty post because of their maturity; older workers are said to be loyal, hard-working due to their clinical expertise and caring attitudes [30].

Regarding detached profile, men had significantly higher mean score than women. Females, as revealed by this study, were less detached, compared to their male counterparts, from their clients. However, evolutionary process had been adduced as one of the reasons females display more empathic concern than males [31,32].

Married respondents significantly exhibited less cynicism in their practice. This study also revealed other categories of healthcare workers, aside the doctors and nurses who were more directly involved in the care of patients, were significantly more emotionally detached concerning their roles healthcare workers.

As it might be expected during an epidemic or pandemic several individuals could manifest significant level of psychological distress in form of anxiety-related mental status, less than one-fifth (17.3%) of the respondents in this study had significant psychological distress. While the rate found in this study is similar to a Sri Lank study (21%), higher rates obtained for some other studies with professional groups [26, 33–35]. This variation could be due to shorter duration of this study. It is worthy of note the female respondents had significantly less mean score on

the psychological distress scale than their male counterparts. This is in contrast to report of women experiencing psychological distress more than men do in almost all parts of the world. This study revealed males had higher mean scores in all dimensions of burnout compared to females; and found positive correlation between psychological distress and exhaustion dimension of burnout. It appeared the degree of psychological distress in respondents was closely related to their level of exhaustion.

This study is one of few studies in this environment that provides information on the burden of burnt-out and psychological distress among health workers during covid-19 pandemic, however, it has its own limitations. First, this study was conducted in a single hospital with its own peculiarity and challenges. Again, the relatively small study sample may limit generalizability of the findings. However, similar sample and population had been used in previous studies.

5. CONCLUSION

This study has established a significant level of burnout cum psychological distress among healthcare givers in Nigeria. It has also brought to the fore the relevant correlates of this occupational phenomenon that characterized what have been the bane of a high-risk group of workers. The period of COVID-19 might have impacted on the burden experienced by healthcare professionals. It is pertinent that this potential hazard be attended to adequately with a view to improving the biopsychosocial status of this important group of essential care providers.

CONSENT AND ETHICAL APPROVAL

Ethical approval for the study was obtained from the ethics committee of the hospital. Participation in the study was voluntary and we ensured anonymity. Informed consent was also obtained from the respondents.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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