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A comparative study of burnout syndrome among health professionals in a Nigerian teaching hospital

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Summary

Burnout as a measure of stress has generated research interest in the past two decades. However, there is a dearth of research on this interesting and important phenomenon in Nigeria. This study compared burnout and its associated factors in various health professionals working at the University College Hospital, Ibadan, Nigeria. Two hundred and sixty health care providers were sampled from 5 main units: Theatre/Intensive Care Unit (ICU), Accident and Emergency (A & E), Oncology, Dentistry and General Outpatients Department (GOP), among others. Included were 104 nurses (40%), 83 doctors (31.9%), 21 pharmacists/pharmacy technicians (8.0%), 10 medical social workers (3.8%) and 42 nursing assistants (16.1%). Outcome measures included the Maslach Burnout Inventory (MBI), the 30-item General Health Questionnaire (GHQ) and the Spielberger State Trait Anxiety Inventory (STAI). Core findings indicated that nurses consistently reported higher scores on all measures of burnout: exhaustion ($F = 3.60$, $df = 258$, $P < .05$); accomplishment ($F = 3.94$, $df = 258$, $P < .05$) and depersonalization ($F = 4.58$, $df = 258$, $P < .01$) when compared with other health care providers. Significant differences were also noted between nurses and all other care providers in total scores on the General Health Questionnaire ($F = 6.54$, $df = 258$, $P < .01$) and the State Trait Anxiety Inventory ($F = 1.91$, $df = 258$, $P < .05$), respectively. These results are discussed in relation to the existing literature on burnout in Nigeria. Further empirical study is highly suggested in view of dearth of studies on the occupational health of health care providers in Nigeria.

Keywords: Burnout; psychological health; health care provider.

Résumé

L'amaigrissement comme une mesure de la condition du travail a attiré l'intérêt des recherches dans les 2 dernières années. Cependant c'est un manque sans la recherche sur ce phénomène intéressant et important au Nigeria. Cette étude comparait l'amaigrissement et les facteurs associés dans les différents unités professionnels au centre Universitaire Hospitalier (UCH), Ibadan, Nigeria. Deux cent soixante centres de santé étaient choisis dans cinq unités principales : Chirurgie/ Attention intense, Accident/ Urgence, Oncologie, dentaire et admission générale (GOP) parmi les autres. Cent quatre infirmières (40%), 83 médecins (31,9%), 21 pharmaciens/techniciens (8,0%), 3,8% des travailleurs de santé sociale et 42 sage femmes (16,1%). Les mesures résultant inclus un questionnaire par la méthode inventaire de Malach (MBI) et l'inventaire de Spielberger, l'état de trait d'anxiété (STAI). Les principaux données indiquent que les infirmières rapportaient un résultat plus élevé sur tous les professionnels d'autres soins de santé mesures d'amaigrissement, épuisement ($F = 3.60$; $df = 258$ & $P < 0.01$) travail accompli ($F = 3.94$; $df = 258$, $P < 0.05$) et la

dépolarisation ($F = 3.60$, $df = 258$, $P < 0.01$) comparé à d'autres groupes. Les différences significative étaient notées entre les infirmières et d'autres professionnels de santé sur le résultat final du questionnaire générale de santé ($F = 6.54$, $df = 258$, $P < 0.001$) et l'inventaire de l'état de l'anxiété ($F = 1.91$; $df = 258$, $P < 0.05$) respectivement. D'autres études empirique sont grandement suggérées dans ce manque des études sur les soins des personnels de santé dans leur occupation dans les centres de santé au Nigeria.

Introduction

Several reviews by researchers as well as the World Health Organization (WHO) have indicated that a relationship exists between work place attitudes and mental health problems of workers [1-6]. Specific efforts and detailed guidelines for the prevention of various mental and psychosocial disorders in the work place lend credence to this contention [7]. A typical mental health problem, capable of constituting a serious hazard to individual sufferers in the work place, is staff burnout.

Since the pioneering work of Freudenberger [8], who described staff burnout as a syndrome of exhaustion, disillusionment and withdrawal, the concept has aroused considerable interest. Extensively investigated in this regard are 'helping professions', especially those professions related to health care delivery. For example, burnout has been documented to occur in up to 30 - 40% of doctors, at a level sufficient to affect their personal or professional performance [9]. Other health workers may also suffer from high rates of burnout. Wolfgang [10], found that nurses reported the highest levels of stress in relation to workload and meeting patient needs when compared with pharmacists and general practitioners.

In a survey conducted in 1,176 employees of all occupational groups within one large U.K health facility, health workers reported significantly greater pressure at work than a comparison group of workers from a non-health care sector [11]. Deckard, Hicks and Hammony [12], found in a sample of 1,840 physicians in the United States that 43% scored high on emotional exhaustion while 40.3% scored high on depersonalization. Further, in a study of 966 general practitioners, [13] one-third reported significant levels of job stress, which varied according to age and sex as well as attitudes to general practice. Huscott and Connop [14] documented high rates of occupational burnout in a sample of mental health care professionals ($n = 123$) (psychiatric nurses, nursing assistants, social workers, occupational therapist and psychologist), with nursing assistant exhibiting the highest, degree of burnout.

In Nigeria, there are a dearth of studies on burnout, especially in health professionals. Systematic investigation of the extent and magnitude of burnout among Nigerians of various professional groupings is sorely needed. Specific studies on job related stresses among dentists have been documented [15] Ayasi [16] and Ezeh [17] documented burnout syndrome among medical doctors and nurses respectively. They concluded that staff burnout was on the increase in Nigeria and might be a function of increasing age, increasing length of service and specific work-environmental factors.

The mental health policy in Nigeria recognizes that there exists a lack of nationally coordinated studies aimed at

solving Nigeria's mental health needs. Of significance in this regard are psychosocial studies directed at health-care providers for the purpose of preventing possible work related mental health problems. This study compares burnout syndrome in a sample of health care providers at a Nigerian health facility, in the hope of contributing to knowledge of this phenomenon in Nigeria. The author hypothesized that the degree of burnout would be a function of different occupational group within the health sector and that certain psychosocial factors would moderate this effect.

Method

Setting

The University College Hospital, Ibadan, the setting for the study, was established in 1956 as a tertiary health facility and medical educational institution. The hospital comprises a College of Medicine and Dentistry, 8 Schools covering various paramedical disciplines within the health sector, a Virus Research Laboratory, a Postgraduate Institute of Medical Research, a W.H.O. Collaborating Centre in Immunology and many out-patient facilities for appropriate community-based programs and training of health professionals in aspects of primary health care. The hospital has 45 Specialty and Sub-Specialty disciplines and runs 75 consultative clinics per week. The hospital at the time of study has a staff composition of 500 medical practitioners comprising 160 honorary consultants and 340 resident doctors on various residency training programs. There are 1000 staff nurses, 322 ward assistants and 600 ward orderlies. There are 70 pharmacists and 10 professional medical social workers.

Subjects

260 health care providers were sampled from 5 units: (1) Theatre/Intensive Care Unit (ICU), (2) Accident and Emergency (A & E) (3) Oncology (4) Dentistry (5) General Outpatient Department (GOP). In addition, pharmacy and medical social workers participated. Included among subjects were 104 nurses (40%), 83 doctors (31.9%), 21 pharmacists/pharmacy technicians (8.0%), 10 medical social workers (3.8%) and 42 nursing assistants (16.1%).

Measures

4 main instruments were used: the Maslach Burnout Inventory (MBI) [19], the General Health Questionnaire (GHQ 12) [20], the State-Trait Anxiety Inventory (STAI) [21], and a socio-demographic questionnaire.

Maslach Burnout Inventory (MBI)

The Maslach Burnout Inventory is a 22 item, three factor measure of emotional exhaustion, depersonalization and reduced sense of personal accomplishment experienced within the occupational context [19]. Emotional exhaustion is defined as a state of excessive psychological and emotional demand made on people helping people. Depersonalization refers to treating people like objects and is often reflected in the use of object labels (e.g. the kidney in room 609) rather than the use of personal names when referring to clients. Feelings of low personal accomplishment refer to a state of helplessness and demotivation that one may experience in the workplace. Items 1 – 8 measure emotional exhaustion, items 9 – 13 measure depersonalization, while items 14 – 22 measure sense of personal accomplishment. Specific subscale scores as well as an overall burnout score can be obtained from the MBI. For the purpose of this study, subscale scores were employed.

Convergent and discriminant validity for the MBI have been documented [19]. Convergent validity evidence includes significant correlations between employees' MBI scores and (a) co-workers' descriptions of employees' reactions to clients, (b) spouses' descriptions of employees' behaviors at home, (c) caseload sizes, and (d) amount of time spent in direct contact with patients. Discriminant validity evidence includes low correlations between MBI scores and job dissatisfaction as well as non-significant correlations with social desirability scores. Reported internal consistency reliabilities for the three MBI scores ranged from .75 to .90. The MBI was validated in a previous study of medical doctors in Nigeria [16]. It yielded a Cronbach alpha of .72. In the present study a Cronbach alpha of 0.84 was recorded for emotional exhaustion, 0.86 for depersonalization and 0.70 for reduced sense of personal accomplishment. For the overall scale, a Cronbach alpha of 0.75 was obtained.

General Health Questionnaire – 12 (GHQ)

Since the purpose of the study was to assess the general state of health of respondents a shorter version of GHQ, the GHQ-12 was used. The GHQ is a self-administered 12-item questionnaire designed for use in consulting settings and aimed at detecting an individual's present state of functioning [20]. The GHQ 12 yields an overall score plus four subscales of anxiety, depression, somatic and social functions. It has a split half reliability of 0.83 and a test-retest reliability of 0.73. Further, it has a specificity of 78.5% and sensitivity of 93.5%, respectively [20]. The GHQ 12 has been documented to be highly valid and reliable among Nigerians [22]. In an earlier study, (23) it was found to have a 10.7% overall misclassification rate in Nigeria, as compared with 8.5 percent [20] in a British sample for whom the inventory was developed. This overall misclassification rate provides an indirect measure of validity.

The State Trait Anxiety Inventory (STAI):

The form x – 2 of the STAI, which measures anxiety as a trait was used. The scale is a 20-item self-evaluation questionnaire with a Likert-type response format. As regards its validity in Nigerians, [24], a convergent validity of .79 ($P < .001$) with the Maudsley Personality Inventory and a validity coefficient of .29 ($P < .001$) with systolic blood pressure have been reported. (25) However, for the present study the STAI yielded a split half reliability of .82 ($P < .001$) and Cronbach Alpha of .85 ($P < .001$).

Socio-Demographic Questionnaire:

This comprised biographic data relating to gender specification, age, years of experience on the job and years of formal education.

Procedure

Data for this study formed part of a larger epidemiological survey of burnout among different professional groups in Nigeria. Our initial intention was to study all major health care providers at the hospital but due to logistic problems this could not be done. Thus, subjects were sampled from the population of doctors, nurses and nursing assistants routinely posted at various units within the University Hospital complex. These units comprised: Theatre/Intensive Care Unit (ICU); Accident and Emergency (A & E); Oncology; Dentistry and General Outpatients Department (GOP). After obtaining consent from the relevant hospital authorities and various heads of units, physicians and

nurses were approached. The purpose of the study was explained and consent was obtained. They were then handed questionnaires for completion. A locked-up box for filled questionnaires was provided in each of the units where physicians and nurses were sampled. The same procedure was adopted with the pharmacy department and the medical social workers department. In the medical social workers department, all social workers completed questionnaire. In the other units, only health workers who agreed to participate were given questionnaires for completion. Data collection was strenuous and cumbersome due to the busy schedules of the health care providers. The researcher had to make several trips to collect completed questionnaires. Of 400 questionnaires administered, 260 were duly and correctly filled for analysis, giving an attrition rate of 35%. The remaining 140 questionnaires were either incorrectly filled out or were not returned for analysis.

Statistical Analysis

Different types of analyses were employed: First, descriptive analysis of all the demographic data was done. Second, bivariate analysis of clinical variables (burnout and other health aspects) using Pearson's correlation coefficient was done for each occupational group of the health care providers. Third, a multivariate (one-way analysis of variance) was done comparing means for the groups on measures of burnout and psychological health. Statistical analysis was done using SPSS (Statistical Package for the Social Sciences).

Results

Descriptive Analysis

Ninety-six participants (36.9%) were male while 164 (63.1%) were female. Mean age was 35.3 years (SD = 7.5 years, range = 23–55). The mean number of years of formal education was 17.4 (SD = 6.0 years, range = 14–25). For resident doctors, the mean number of years of experience was 4.5 (SD = 1.4 years), for nurses it was 16.8 years (SD = 4.0 years), for nursing assistants it was 15.1 years (SD = 3.4 years), for pharmacists/pharmacy assistants it was 9.4 years (SD = 2.5 years) and for medical social workers it was 13.4 years (SD = 3.0 years). (56.9%) of these subjects were married, 76 (29.2%) were single, while 36 (13.8%) were either divorced or separated.

Bivariate Analysis

Specific comparisons on measures of burnout and psychological health were performed for each group. As shown in table 1,

Table 1: Inter-correlation matrix of study variables for doctors (N = 83)

Variables	1	2	3	4	5	6	7
GHQ ¹	1.00	.74***	.48***	.67***	.61***	-.28***	.10n.s
STAI ²		1.00	.41***	.54***	.46***	-.35***	-.15*
Emo. exhaustion ³			1.00	.58***	.41***	-.26**	-.18*
Accomplishment ⁴				1.00	.38***	-.24**	-.20*
Depersonalization ⁵					1.00	-.18*	-.17*
Years of education ⁶						1.00	.60***
Job experience ⁷							1.00

*** = $P < .001$

** = $P < .01$

* = $P < .05$

increasing number of years of education of doctors was significantly correlated with all the dimensions of burnout: emotional exhaustion ($r = .26$, $P < .05$), accomplishment ($r = .24$, $P < .05$)

and depersonalization ($r = .18$, $P < .05$). However, increasing job experience of doctors was inversely correlated with emotional exhaustion ($r = -.18$, $P < .05$), accomplishment ($r = -.20$, $P < .05$) and depersonalization ($r = -.17$, $P < .05$). For psychological health, the increasing numbers of years of education of doctors was correlated with GHQ scores ($r = .28$, $P < .05$) and STAI scores ($r = .35$, $P < .05$), respectively. The number of years of experience on the job was, however, not significantly correlated with GHQ scores but was significantly correlated with STAI scores ($r = .15$, $P < .05$).

Table 2: Inter-correlation matrix of study variables for Nurses (N = 104)

Variables	1	2	3	4	5	6	7
GHQ ¹	1.00	.61***	.46***	.60***	.54***	.35***	-.19**
STAI ²		1.00	.35***	.52***	.56***	.37***	-.20*
Emo. exhaustion ³			1.00	.36***	.41***	.31**	-.11*
Accomplishment ⁴				1.00	.36***	.29**	-.18*
Depersonalization ⁵					1.00	.30**	-.25*
Years of education ⁶						1.00	.51***
Job experience ⁷							1.00

*** = $P < .001$

** = $P < .01$

* = $P < .05$

As shown in table 2, increasing number of years of education of nurses was significantly correlated with burnout: emotional exhaustion ($r = .31$, $P < .05$), accomplishment ($r = .29$, $P < .05$), depersonalization ($r = .30$, $P < .05$). For number of years spent on the job for nurses, a low to moderate correlation was found among the three measures of burnout: emotional exhaustion ($r = .11$, $P < .05$), accomplishment ($r = .18$, $P < .05$) and de-personalization ($r = .25$, $P < .05$). For psychological health measures, increasing years of education was significantly correlated with GHQ scores ($r = .19$, $P < .05$) and STAI scores ($r = .20$, $P < .05$), respectively.

Table 3: Inter-correlation matrix of study variables for Medical Social Worker (N = 10)

Variables	1	2	3	4	5	6	7
GHQ ¹	1.00	.81***	.70***	.61***	.58***	.65***	.61***
STAI ²		1.00	.67***	.56***	.41***	.46***	.50***
Emo. exhaustion ³			1.00	.61***	.47***	.40**	.53***
Accomplishment ⁴				1.00	.50***	.56***	.49***
Depersonalization ⁵					1.00	.46***	.41***
Years of education ⁶						1.00	.61***
Job experience ⁷							1.00

*** = $P < .001$

** = $P < .01$

As shown in table 3, a significant correlation was found between all measures of burnout: emotional exhaustion ($r = .40$, $P < .01$), accomplishment ($r = .56$, $P < .001$) and depersonalization ($r = .46$, $P < .001$), and number of years of education for medical social workers. Similarly, number of years on the job was positively correlated with emotional exhaustion ($r = .53$, $P < .001$), accomplishment ($r = .49$, $P < .001$) and depersonalization ($r = .41$, $P < .001$). Years of education also correlated positively with GHQ scores ($r = .61$, $P < .001$) and STAI scores ($r = .50$, $P < .001$), respectively.

For nursing assistants, as shown in table 4, years of education correlated with all measures of burnout: emotional exhaustion ($r = .59$, $P < .001$), accomplishment ($r = .42$, $P < .001$)

Table 4: Inter-correlation matrix of study variables for Nursing Assistant (N = 42)

Variables	1	2	3	4	5	6	7
GHQ ¹	1.00	.45***	.42***	.51***	.48***	.60***	.41***
STAI ²		1.00	.39***	.41***	.40***	.57***	.47***
Emo. exhaustion ³			1.00	.27**	.29**	.59***	.26**
Accomplishment ⁴				1.00	.31***	.42***	.31***
Depersonalization ⁵					1.00	.44***	.38***
Years of education ⁶						1.00	.51***
Job experience ⁷							1.00

*** = $P < .001$ ** = $P < .01$ * = $P < .05$

and depersonalization ($r = .44$, $P < .001$), respectively. Similarly, increasing job experience was significantly associated with all measures of burnout: emotional exhaustion ($r = .26$, $P < .05$), accomplishment ($r = .30$, $P < .05$) and depersonalization ($r = .38$, $P < .001$), respectively. Increasing years of education correlated inversely with GHQ scores ($r = -.60$, $P < .001$) but correlated positively with STAI scores ($r = .57$, $P < .001$). Increasing job experience correlated positively with GHQ scores ($r = .41$, $P < .001$) and STAI scores ($r = .47$, $P < .001$), scores respectively.

Table 5: Inter-correlation matrix of study variables for Pharmacist/Pharmacist Technician (N = 21)

Variables	1	2	3	4	5	6	7
GHQ ¹	1.00	.68***	.51***	.40***	.41***	.37***	.60***
STAI ²		1.00	.46***	.54***	.43***	.35***	.57***
Emo. exhaustion ³			1.00	.37**	.49**	.30***	.46***
Accomplishment ⁴				1.00	.46***	.38***	.31***
Depersonalization ⁵					1.00	.26**	.21**
Years of education ⁶						1.00	.27**
Job experience ⁷							1.00

*** = $P < .001$ ** = $P < .01$ * = $P < .05$

As shown in table 5, years of education correlated positively with measures of burnout: emotional exhaustion ($r = .30$, $P < .001$), accomplishment ($r = .38$, $P < .001$) and depersonalization ($r = .26$, $P < .001$) in pharmacists/pharmacy technicians. In the same vein, increasing job experience was highly correlated with measures of burnout: emotional exhaustion ($r = .46$, $P < .001$), accomplishment ($r = .31$, $P < .001$) and depersonalization ($r = .21$, $P < .001$). Regarding psychological health, increasing years of education correlated with higher GHQ scores ($r = .37$, $P < .001$) and STAI scores ($r = .35$, $P < .001$), respectively. Further, more job experience was significantly correlated with higher GHQ scores ($r = .60$, $P < .001$) and STAI scores ($r = .57$, $P < .001$), respectively.

Multivariate Analysis

As indicated in table 6, a significant difference was found on measures of GHQ ($F = 6.54$, $df 258$, $P < .01$) as well as on the measures of STAI ($F = 1.90$, $df P < .05$) among health care providers. Results showed that nurses consistently reported higher scores on all measures of psychological health compared with other health care providers.

Additionally, a significant difference was found on all the three dimensions of burnout for health care providers: exhaustion ($F = 3.60$, $df 258$, $P < .05$), accomplishment ($F = 3.94$, $df 258$,

$P < .05$) and depersonalization ($F = 4.58$, $df 258$, $P < .01$). Results also showed that the mean scores for nurses on all burnout measures were consistently higher compared with other health care providers.

Discussion

This study sought to advance knowledge concerning the pattern of burnout and its related factors among high-risk health workers in Nigeria. Studies like this in Nigeria are in dearth and only a few studies have addressed the issue of stress among high risk groups of health workers.

One core finding was that nurses as a group of health providers consistently reported higher level of psychological distress as measured on the GHQ ($F = 6.54$, $df 258$, $P < .01$), STAI ($F = 1.90$, $df P < .05$) and on all three dimensions of burnout ($F = 3.60$, $df 258$, $P < .05$), ($F = 3.94$, $df 258$, $P < .05$), ($F = 4.58$, $df 258$, $P < .01$) respectively, when compared with the other groups of health providers. The punishing work routine and toxic environment in which nurses work is legendary, though not specific to nurses alone. Other health workers generally do, from time to time, imbibe such working conditions. Nevertheless, the round-the-clock schedule that characterizes nurses job description may, to some extent, explain this pattern. Wolfgang [10] reported increased workload, a passionate instinct meet to patient needs, and unavoidable on-the-job conflict, as reasons for high level burnout among nurses.

In Nigeria today, additional professional activities which nurses find themselves doing may be a contributor to this raised pattern of burnout. Other contributory factors include institutional disregard for the needs of patients in favour of administrative and bureaucratic needs, gender bias leadership and supervisory style, obsolete and fractionalized training, unnecessary class consciousness (which often results in intermittent conflicts with other health care providers within the same delivery system), are some of the factors peculiar to Nigerian nurses which may help in elevating distress and burnout in relation to other health workers. Oberlander [14], in his work found that lack of a sense of impact on, and control over, one's job description or situation, inadequate social interaction and support among staff, and caseloads consisting predominantly of extremely difficult patients (such as working with the chronically mentally ill and with AIDS patients), are among the reasons explaining an increase in job burnout among nurses.

Another core finding of the study was the association between higher years of education and longer job experience on all dimensions of burnout and psychological health in all of the occupational groups studied. Among doctors, increasing years of education as well as increasing job experience were inversely related to all dimensions of burnout as well as general health status. This suggests that the longer doctors stay on the job the less burnout and psychological health they may experience. Among nurses, increased job experience was found to be related to all dimensions of burnout and general psychological health, but increased years of education were positively correlated with burnout and general health. This pattern in nurses suggests that more years spent studying is associated with more burnout. In the other health care providers, there were consistent positive relationships between increasing years of education and increasing job experience and all dimensions of burnout and psychological health.

A closer assessment of this pattern shows a relatively low to moderate correlation with these indices for nurses and doctors compared with other groups who exhibit stronger cor

Table 6: Summary of results showing effects of occupational cadre of the health professionals on burnout and psychological health.

Measures	Health professionals	N	Mean	SD	DF	F	P
<i>Psychological health</i>							
GHQ	Doctors	83	6.01	1.48	258	6.54	< .01*
	Nurses	104	16.14	4.95			
	Nurses Assistant	42	10.04	2.28			
	Pharmacist	21	7.16	2.15			
	Social Worker	10	7.09	1.98			
STAI	Doctors	83	11.18	2.41	258	1.91	< .05*
	Nurses	104	14.11	3.08			
	Nurses Assistant	42	11.40	2.69			
	Pharmacist	21	10.16	1.45			
	Social Worker	10	11.08	1.98			
<i>Burnout</i>							
Exhaustion	Doctors	83	1.33	4.16	258	3.60	< .05*
	Nurses	104	14.04	5.09			
	Nurses Assistant	42	10.41	3.94			
	Pharmacist	21	9.18	3.64			
	Social Worker	10	10.56	4.00			
Accomplishment	Doctors	83	7.22	2.08	258	3.94	< .05*
	Nurses	104	11.41	4.08			
	Nurses Assistant	42	8.47	4.73			
	Pharmacist	21	7.41	3.11			
	Social Workers	10	7.19	2.06			
Depersonalization	Doctors	83	11.69	3.26	258	4.58	< .01*
	Nurses	104	18.06	6.41			
	Nurses Assistant	42	9.14	3.14			
	Pharmacist	21	8.16	2.94			
	Social Worker	10	10.15	3.07			

Legend = * - 1 tailed
 ** - 2 tailed

relations between years of education, job experience, burnout and psychological health.

From the aforementioned pattern, it can be hypothesized that both doctors and nurses with more years on the job learn to lower standards and work apathetically (yet comfortably), while junior doctors and nurses who are new on the job and strive for excellence are more vulnerable to burnout.

Furthermore, it can be hypothesized that nurses and doctors with longer service may rise to senior administrative positions, with more authority and control within hospital management. They may, therefore, appraise the hospital setting as challenging rather than as threatening. Although, senior doctors and nurses with long years of experience may burnout and suffer mental fatigue in the work place, leaving a satisfying job may be difficult. Finding an alternative job commensurate with present status may be near impossible, and other family and individual factors may be contributory.

By and large, this present study has extended our understanding of how different occupational groups and length of appointment and educational status may moderate levels of burnout and psychological status in at-risk health care providers in Nigeria. A distinctive finding of this study was that nursing was most susceptible to burnout and other psychological health problems. It is difficult to attribute a specific causal effect in nurses as other workers have equally implicated increasing burnout in other health care providers, especially doctors.

Nevertheless, this study shows that nurses in Nigeria are more vulnerable to occupational burnout and declining mental health status comparable to physicians, pharmacists, medical social workers and nursing assistants.

A limitation of this study was the small sample size as well as the narrowly-defined population used in the study. A more cross-sectional population may increase the generalizability of findings. Thus, other studies are needed to replicate these findings and, in so doing, to further explore the perceived causes of burnout in health care professionals.

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