

# Occupational Stress and Its Management among Health Care Workers in the University of Port Harcourt Teaching Hospital, Rivers state

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## Abstract

**Background:** The concept of occupational stress and its causes have been downplayed in developing countries hence making their effect to be poorly understood even though it has been declared an endemic problem in the health sector.

**Statement of the problem:** In spite of the available evidence, it seems that the creation of a safe and healthy work environment has not been high on the agenda of employers in the health sector especially in Nigeria. High patient load, burgeoning new diseases and viruses, poor working conditions are a few of the stressors faced by health care workers in the state.

**Materials and methods:** Stratified random sampling and self-administered questionnaires were used to select 337 health care workers from different cadres and departments in the hospital. The data collected was analyzed using descriptive and inferential tools.

**Result:** From this study it was identified by health care workers that inadequate staffing levels (82%), extremely long working hours (78.4%), absence of shift work (70.1%) and caring for difficult patients (69.1%) are the major stressors experienced by respondents in the study area. Various coping strategies were employed by different cadres of health care workers, Doctors and nurses come to work with a positive mindset, prioritize and focus on what's important at work and with support from colleagues and family, they are able to manage their stress levels. Laboratory scientist have conditioned their minds into believing that things will get better in time to come, Pharmacist ensure proper division of work and effective supervision, Administrative staff prioritize their work in order of importance while others take breaks to listen to music and chat with colleagues.

**Conclusion:** The high prevalence of occupational stress in the study area has potentials of reducing the quality of services rendered in the hospital which can produce a domino effect if not checked.

**Keywords:** Occupational health; Public management; Safety issues; Safety management; Industrial hazards; Industrial issues; Preventive measures

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## Background

Individuals whose sole responsibility is to ensure proper, advance and better the health needs of others are referred to as health care workers [1-8]. They make important contributions and are critical in the functioning of most health systems [9]. Repeatedly, health care workers are placed in situations where it is required

of them to prioritize their patient's wellbeing over theirs [10-19]. For donkey years, most health and safety goals have largely been focused hazards of biological, chemical and physical nature whilst the concept of psychological hazard has been downplayed or one can even say ignored in developing countries thus making their causes and effects poorly understood [20]. One of such psychological hazard is stress.

Stress arises from an individual's inability to manage pressures that threatens his or her psychological stability. These external pressures have been known to arise from different factors within the environment and are known as stressors. When it is generated from our work environment it is called occupational stress. The concept of stress has lately become a challenge and a concern to the public health research field. Stress is a subjective phenomenon; it means different things to different people and is experienced by everybody at different levels. For some individuals, mild stress is seen as a factor of motivation which pushes them to achieve certain set goals but as stress becomes severe it can be more dangerous and damaging arising from the harmful psychological and behavioral effect it may have on the victims [1]. Different professions exhibit different types and levels of occupational stressors also an individual's perception of occupational stress is also a crucial determinant of their job attitude and wellbeing (Psychological and physical) [4].

HCW in developed world report high rates of sickness, absence from work, burn out, and distress when compared to other sectors [14] hence the call for the quadruple aim of health care service delivery (improving patient experience, and outcomes and reducing cost) to incorporate a fourth aim which is improving health workers experience of health care delivery. The workplace is a known contributor to a multitude of illnesses and also a deciding factor of the individual's wellbeing [10], and with the added pressure on the health system, the rapidly aging population and the increased sprouting of chronic diseases [5] and viruses there is an increasing need to protect the health and wellbeing of health care workers all over the world. When individuals are stressed, they develop certain mechanisms to help them manage the stress and its effect as it is difficult to remain in a state of constant tension, these mechanisms are known as coping strategies. These coping mechanisms can be applied at individual and organizational levels. Different health workers apply different and unique strategies based on their perception, cadre, age and even sex. Coping strategies that work for doctors may not necessarily work for nurses and vice versa. Individual coping mechanisms can be in form of work focused strategy or emotional focused strategy. Work focused strategies involves effect use of time, role delegation, division of labour etc while emotional focused strategy can be in the form of social support from colleagues, yoga exercises, maintaining proper health, balance diet and good rest [21]. Organizations also have a role to play in stress management and a few ways they can do this is by redesigning the job to fit the workers, employing competent workers, effectively communicate roles and responsibilities for the employee. According to Varvogli & Davoiri [22] stress management techniques may be used not only for coping with diagnosed conditions but also for the prevention of stress in our daily routine.

## Statement of the problem

Despite the available evidence, it seems that the creation of a safe and healthy work environment has not been high on the agenda of employers in the health sector especially in developing countries like Nigeria. Approximately two (2) million people die every year from occupational hazards, work related stress and

injuries [12]. Most health care providers especially at the primary, secondary and tertiary levels of care in Nigeria have to work under harsh and very non conducive conditions which contribute to an increase in work related stress of hospital staff [19]. In Nigeria, the stress among doctors has been studied to increase during their residency program as confirmed in a Nigerian study with 50% resident doctors reporting extreme stress [3]. This is considered a major problem hence the focus of this study on tertiary hospitals in Rivers State. Occupational stress further impacts not only on the wellbeing of HCWs but also leads to insurance cost, decreased productivity, absenteeism, low morale etc. Another study revealed that high patient load, patient demands, time pressure, balancing between work and family commitments are sources of stress for the medical practitioner especially those in the university of Port Harcourt Teaching hospital (UPTH) [6].

## Objectives of Study

- To assess the prevalence and sources of occupational stress among health care workers in a tertiary hospital in Rivers State
- To identify coping strategies employed by the different cadres of health care workers in a tertiary hospital in Rivers State.

## Research Methodology

### Study area

This study took place in the University of Port Harcourt Teaching Hospital (UPTH) Rivers State, Nigeria. Located along East West Road, it is a major tertiary care teaching and research facility and the biggest (structurally and administratively) in Rivers state. It started its operation in 1980. This hospital has a total of 13 medical departments and is a training centre for resident doctors, house officers, mid wives, nurses, laboratory scientist, pharmacist and lots more. This study population comprised of clinical and non clinical staff of the hospital. The clinical staff sampled included Doctors, nurses, pharmacists and laboratory scientist while the non clinical staff was Administrative staff. These groups of HCWs were selected because they represent the vast majority of the population of a health sector.

### Research design

This research is best described as a hospital based cross-sectional descriptive study. Stratified random sampling was used to select 223 health care workers from different departments of the hospital. Descriptive statistics such as frequencies, percentages, mean, standard deviation, tables and charts were used appropriately to display necessary data and inferential statistics were used analyze data.

### Instrument for data collection

A semi structured self administered questionnaire was used to obtain primary data. The occupational stress index scale was adapted to measure perceived stress by the workforce originating from numerous conditions and dimensions of their job positions. It consisted of 12 dimensions which included work overload, understaffing, time pressure, relationship with colleagues, work-life interference, role conflict, role ambiguity; etc whilst the

brief cope scale an abbreviated version of the COPE inventory developed by Carver in 1997 was used identified ways in which individuals cope with stress. All these were presented on a likert scale of 4 ranging from strongly agree to disagree.

### Statistical analysis

Weighted mean was used to determine the average responses of respondents. Categorical data were compared using Chi Square. Analysis of variance (One way) was adopted to determine the variability between responses of the cadre of respondents in respect to the studied variables. Multiple regression analysis was employed in identifying the demographic and work related factors associated with occupational stress at the alpha level of 0.05. These analyses were done with the help of the statistical package for social sciences (SPSS) version 21.

### Ethical consideration

Approval to carry out this study was obtained from the research ethics committee of the University of Port Harcourt Teaching hospital. Signed informed consent was obtained from participants before the study and the identity of the respondents remained confidential.

## Result

### Socio demographic characteristics of respondents

A total of 352 copies of questionnaire were administered and 337 copies were returned, giving a response rate of 95.7%. The socio-demographic data of respondents analyzed were gender, age as well marital status, work experience, designation and type of employment. The study showed that a total of 151 (44.8%) males and 186 (55.2%) females participated in the study and whilst 112 (33.2%) were single, 183 (54.3%) were married and 42 (12.5%) divorced/separated. 99 (29.4%) out of 337 respondents were aged 19-29 years, while 136(40.4%) were between the ages of 30 and 39 years, 57 (16.9%) were of the age range 40-49, 35 (10.4%) and 10 (3.0%) respondents were aged between 50 and 59 years, 60 years and above respectively. From the cadres of health care workers that participated in this study, 90 (26.7%) were doctors, 72(21.4%) nurse, 39 (11.6%) pharmacist, 49 (14.5%) laboratory scientist, 80 (23.7%) administrative staff and 7 (2.1%) respondents indicated other such security, social workers, cleaners etc. In the aspect of work experience 141 (41.8%) respondents stated that they have work experience between 1and 5 years, 117 (34.7%) respondents had worked for between 6 and 10 years; while 79 (23.4%) indicated that they have work experience of 11 years and above. 158(46.9%) respondents were temporary employees of the hospital and 179 (53.1%) respondents were permanent employees (Table 1 to 1c).

### Sources and prevalence of occupational stress

The perceived sources of occupational stress among professional cadres in the study area are presented in Table 1b. The table revealed that Inadequate staffing levels with 82% respondent agreement and extremely long working hours with 78.4% respondent in agreement are the main stressors faced by doctors,

Table 1. Socio demographic data.

	Characteristics	Frequency n=337	Percentage %
Sex	Male	151	44.8
	Female	186	55.2
Marital status	Single	112	33.2
	Married	183	54.3
	Divorced	42	12.5
Age(Years)	19-29	99	29.4
	30-39	136	40.4
	40-49	57	16.9
	50-59	35	10.4
	60-Above	10	3.0
Cadres	Doctors	90	26.7
	Nurses	72	21.4
	Pharmacist	39	11.6
	Laboratory Scientists	49	14.5
	Administrative Staff	80	23.7
	Others (security, cleaners, social workers etc	7	2.1
Years Of Experience	1-5	141	41.8
	6-10	117	34.7
	10-Above	79	23.4
Employment Type	Temporary	158	46.9
	Permanent	179	53.1

Source: Author's data.

nurses and laboratory scientists. The table below also revealed that the third most perceived source of stress in the study area is the absence of shift work, with 70.1% of respondents agreeing to this and 30% disagreeing to the view.

However, pharmacists were of the opinion that poor communication and absence of instruments and equipments for their jobs which in this case are drugs, poses a major challenge to effective delivery of their services and causes them to be stressed out. Administrative staff in UPTH identified inadequate staffing and poor delegation of duties as factors of occupational stress in their cadre. In a previous study conducted by Okefor & Alamina [18] in the University of Port Harcourt Teaching Hospital, excess workload as a result of understaffing accounted for the highest form of psychosocial risk faced by health care workers. This study is in agreement with our current research.

The prevalence rate of occupational stress from this study is 64.5% (sum of grand total percentage of strongly agreed and agreed). This high prevalence of occupational stress has also been observed in studies in Saudi Arabia, India and Ethiopia indicating that occupational stress cuts across every country and workplace and could vary from one country to the next.

### Coping strategies employed by the various cadre of health care workers

Over the years, many health workers have developed various mechanisms that have sustained them through the course of their jobs and enabled them cope with the stress of their occupation. Different individuals have been known to use different coping mechanisms. From the table below, Coming to

**Table 1a** Weighted mean of occupational stress among professional cadres in the study Area.

Items	Occupational Stress	Doctor	Nurse	Pharmacist	Lab Scientist	Admin Staff	Others (Cleaners etc)
1	Inadequate staffing levels	3.54	3.49	2.62	3.20	3.14	3.43
2	Extremely long working hours	3.49	3.29	2.77	3.27	2.80	2.71
3	Absence of shift work	3.24	3.10	2.64	2.86	2.53	2.43
4	Handling large number of patients	3.31	3.06	2.54	2.88	2.40	2.14
5	Caring for difficult patients	2.83	3.28	2.62	2.63	2.60	2.29
6	Working with incompetent support staff.	2.50	3.22	2.49	2.96	2.44	2.14
7	Lack of opportunity for growth and promotion in my workplace	2.76	3.07	2.56	2.61	2.39	2.71
8	Non conducive work environment call rooms and work stations	3.09	3.00	2.51	2.82	2.44	2.00
9	Absence of instruments and equipment for my job	2.97	2.97	2.92	2.49	2.33	2.43
10	Time pressure	3.13	2.85	2.67	2.76	2.43	3.00
11	Long standing hours	3.06	2.93	2.54	2.47	2.38	2.14
12	Work-life relationship	2.74	2.89	2.85	2.90	2.60	3.00
13	Poor support from friends, family and colleagues	2.16	2.31	2.03	2.53	2.19	2.29
14	Inadequate motivation from superiors, friends and family	2.73	2.83	2.74	2.63	2.49	3.00
15	Poor communication of information	2.78	3.10	3.08	2.20	2.61	3.00
16	Fear of failing my professional examinations	2.16	2.61	2.28	2.78	2.48	2.71
17	High job insecurity	2.64	2.67	2.69	2.22	2.64	2.86
18	Harassment from patients and their relatives	2.48	2.69	2.90	2.35	2.75	2.86
19	Poor delegation of duties	2.82	2.68	2.69	2.47	2.80	2.29
20	Presence of diseases and infections	2.57	2.74	2.51	2.90	2.73	3.14

**NB:** Mean less than 2.5 implies disagreement to item otherwise agreement.

**Table 1b** Prevalence of Occupational Stress.

Items	Occupational Stress	SA (%)	A (%)	D (%)	SD (%)	Total (%)	Weighted mean	Rank
1	Inadequate staffing levels	186(55.2)	91(27)	27(8)	33(9.8)	337(100)	3.28	1
2	Extremely long working hours	143(42.4)	122(36.2)	52(15.4)	20(5.9)	337(100)	3.15	2
3	Absence of shift work	102(30.3)	134(39.8)	66(19.6)	35(10.4)	337(100)	2.90	3
4	Handling large number of patients	105(31.2)	120(35.6)	73(21.7)	39(11.6)	337(100)	2.86	4
5	Caring for difficult patients	87(25.8)	146(43.3)	56(16.6)	48(14.2)	337(100)	2.81	5
6	Working with incompetent support staff.	92(27.3)	110(32.6)	76(22.6)	59(17.5)	337(100)	2.70	12.5
7	Lack of opportunity for growth and promotion in my workplace	86(25.5)	116(34.4)	80(23.7)	55(16.3)	337(100)	2.69	15
8	Non conducive work environment call rooms and work stations	98(29.1)	122(36.2)	64(19)	53(15.7)	337(100)	2.79	6.5 10
9	Absence of instruments and equipment for my job	98(29.1)	110(32.6)	69(20.5)	60(17.8)	337(100)	2.73	
10	Time pressure	105(31.2)	118(35)	53(15.7)	61(18.1)	337(100)	2.79	6.5
11	Long standing hours	96(28.5)	111(32.9)	64(19)	66(19.6)	337(100)	2.70	12.5
12	Work-life relationship	90(26.7)	133(39.5)	64(19)	50(14.8)	337(100)	2.78	8
13	Poor support from friends, family and colleagues	57(16.9)	86(25.5)	74(22)	120(35.6)	337(100)	2.24	20
14	Inadequate motivation from superiors, friends and family	70(20.8)	151(44.8)	57(16.9)	59(17.5)	337(100)	2.69	15
15	Poor communication of information	96(28.5)	129(38.3)	48(14.2)	64(19)	337(100)	2.76	9
16	Fear of failing my professional examinations	55(16.3)	125(37.1)	72(21.4)	85(25.2)	337(100)	2.45	19
17	High job insecurity	64(19)	149(44.2)	48(14.2)	76(22.6)	337(100)	2.60	18
18	Harassment from patients and their relatives	69(20.5)	145(43)	51(15.1)	72(21.4)	337(100)	2.63	17
19	Poor delegation of duties	82(24.3)	144(42.7)	42(12.5)	69(20.5)	337(100)	2.71	11
20	Presence of diseases and infections	89(26.4)	121(35.9)	62(18.4)	65(19.3)	337(100)	2.69	15
	<b>Grand Total</b>	1870(27.7)	2483(36.8)	1198(17.8)	1189(17.6)	6740(100)		

**Source:** Author's data analysis.



**Table 1c** Weighted mean of coping strategies to occupational stress across professional cadres of HCWs.

Items	Stress coping strategies	Doctor	Nurse	Pharmacist	Lab Scientist	Admin Staff	Others (Cleaners etc)	Total	Rank
1	Social support from family, friends and colleagues	2.73	3.24	3.23	3.16	3.14	3.00	3.06	4 <sup>th</sup>
2	Prioritizing and focusing on only important work related activities	3.34	3.03	2.97	2.78	3.23	2.43	3.10	3 <sup>rd</sup>
3	coming to work with a positive mindset and attitude	3.39	3.28	3.44	3.10	3.11	3.00	3.26	1 <sup>st</sup>
4	Taking breaks from work to meditate, pray and listen to music	2.52	2.42	2.85	2.86	2.48	3.00	2.58	8 <sup>th</sup>
5	Use of drugs, alcohol, medications to function at work.	1.96	2.08	2.72	2.37	2.43	2.43	2.25	10 <sup>th</sup>
6	Keeping one's feelings to oneself.	2.40	2.29	2.36	2.61	2.66	3.00	2.48	9 <sup>th</sup>
7	Making social plans that do not involve work.	2.68	2.46	3.33	2.22	2.81	2.43	2.67	7 <sup>th</sup>
8	Reduce the tension in the workplace by having fun and joking around.	2.83	2.72	3.05	2.90	2.85	2.43	2.84	6 <sup>th</sup>
9	Ensuring all members of the team are effective during work hours.	2.94	2.93	3.33	2.61	2.98	2.43	2.93	5 <sup>th</sup>
10	Training the mind to believe that things will get better.	3.10	3.43	3.03	3.20	3.16	2.71	3.18	2 <sup>nd</sup>

**NB:** Mean less than 2.5 implies disagree otherwise agree.

work with a positive mindset, prioritizing and focusing on what is most important is the best way doctors in UPTH cope with stress at work. The nurses in the study area Nurses also come to work with a positive mindset but in addition, support from colleagues and superiors friends and family has been a strong factor that has enabled them cope positively with the job stress. Pharmacists are also of the opinion that coming to work with a positive mindset is one great way they cope with stress but in addition they also ensure that all members of the team are effective during work hours. These divisions of labour followed by effective supervision helps pharmacists in UPTH manage stress. Laboratory scientist have trained their minds that things will get better, however, they also receive support, care and understanding from friends, family and colleagues. For the Administrative staffs, the focus is on placing priority on what is most important at work and avoiding every external distraction but cleaners and other health workers take breaks in between to help ease the pressure of the work on them. These most commonly practiced means of coping is "coming to work with a positive mindset" as this method had a mean response of 3.26 which is greater than the weighted mean of 2.5.

## Discussion

In many developed and developing countries, various stressors have been identified in the health care sector. Findings from this study showed that understaffing, time pressure, working for extremely long hours, excessive patient load, caring for difficult patients, working with inadequately prepared or inexperienced staff, working in uncondusive environment, absence of equipments and instruments for the job, harassments from patients and patients relative and presence of disease and infection are all sources of stress that are peculiar to health workers in UPTH. The study of [13] agrees that the aforementioned are consistent with occupational stress that health workers are faced with. Most sources of stress in the study were found to be

as a result of factors that are intrinsic to the job. This is also in agreement with a study by Mcvicar et al [15] which indicated that prominent sources that have been found to be a major source of work stress are those dimensions that have to do with the content and context of work.

From this study, respondents agreed that understaffing is a major source of stress and this has been corroborated in a study by Faremi et al [8], Purcell et al [21]. Understaffing has been known to put more pressure on the few available HCWs [16]. This doesn't come as a surprise because in 2016, the Nigerian medical association of Nigeria reported that the doctor – patient ratio in the country is far greater than the recommended number by the WHO. One doctor attends to 6000 (1:6000) patients as against the recommended 600 (1:600). This high doctor patient ratio is also seen in a Chinese study which indicated that high ratio of doctors to the general population in china results in aggravation of occupational stress of Chinese doctors [23]. The ability of our bodies to fight of diseases is reduced in the existence of extreme stress hence it is important for Health workers as well as other individuals to understand how they can mitigate the adverse effect of stress through the application and use of various coping strategies.

Various coping strategies have been outlined in the context of this work and respondents have been able to show the coping strategies that they use to combat stress. Different strategies work for different personalities, our study however established that health workers in UPTH applied similar coping strategies. These coping strategies included, effective time management and prioritizing, occasionally taking breaks during work to walk around, stretching and laughing with colleagues, ensuring that members of their team are effective during work hours and meditation which included praying and listening to music. This study is in agreement with Godwin et al [11], Onasoga et al [19], Moustaka & constantinidis [17], Etim et al [7]. However the most

frequently used coping technique is positive thinking with a mean average of 3.26.

## Conclusion

It has been shown that occupational stress is common and present among health care workers in tertiary hospitals in Rivers State. The high prevalence of occupational stress in the study area has potentials of reducing the quality of services rendered in the hospital which can produce a domino effect in the long run if not checked. It is therefore important for management to employ more health workers so as to reduce the work load and pressure on the health workers and to ensure proper division of labour. Management can also create a stress free environment for

health workers by ensuring they employ very competent health care workers and making the work environments very conducive, training workers on effective stress managements to foster quality service delivery, ensuring each worker is given a few minutes within the work roster for a quick break and ensuring the break rooms are inviting for relaxation. Superiors should also be trained on effective communication skills and also establish a receptive environment for younger colleagues to access and properly communicate with them without the fear of been victimized or embarrassed. In other to sustain the existence of this profession and protect the mental wellbeing of our health care workers, management has to establish and improve the general working environment of the tertiary hospital in Rivers State.

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