

Occupational Stress and Job Satisfaction among Health Workers In Tertiary Hospitals In Rivers State.

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Abstract:

Background: Occupational stress and job dissatisfaction are considered risk factors that can lead to poor psychological wellbeing of health care workers. These factors have also been found to affect the organization in term of absenteeism and turnover. This study aims to establish the relationship between occupational stress and job satisfaction among health workers in tertiary hospitals in Rivers State. **Materials and Methods:** A cross sectional research design with the aid of survey research was used for data collection from the two tertiary hospitals in Rivers State. The research instrument which was a self administered questionnaire was distributed to 371 health workers which included Doctors, Nurses, Laboratory Scientist, Pharmacist, Administrative staff and others ranging from 18 years and above. **Results:** The correlation matrix below revealed that there is significant ($p < 0.05$) relationship between job satisfaction and occupational stress. Occupational stress is associated with job satisfaction with a weak correlation coefficient of 0.146. Occupational stress has a direct relationship with job satisfaction. In other words, higher stress levels will lead to higher job satisfaction.

Conclusion: occupational stress has a direct relationship with Job satisfaction and is predicted by certain demographic factors.

Keywords: occupational stress, job satisfaction, Health workers, Tertiary hospitals.

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I. Introduction

Due to the peculiar nature of their jobs, health professionals which includes but not limited to nurses, physicians, laboratory scientists and pharmacists have been recognized as workers prone to be exposed to high levels of distress as a result of the degree of responsibility placed on them towards the care of other people and the high emotional burden associated with their jobs (Piko 2006). Health workers make important contributions and are critical in the smooth running of most health systems (Ghosh, 2013).

The setting in which health workers operate has been established as a highly hazardous environment (International Council of Nurses ICN, 2006) and across several developing countries, the national health system has been functioning sub optimally due to recurring challenges within and external to the health sector (Singh & Sachs, 2015). In recent past, more attention has been on the noticeable shortage of health workers in countries with the poorest health indicators including Nigeria, and the likely impact of this on the countries' ability to fight diseases and improve the health of her citizens.

Psychosocial hazards such as occupational stress have emerged lately as a public health challenge to occupational health research field. it can be said that stress is a basis of life that is experienced by everybody however stress has a cost for individual in terms of health, wellbeing and job dissatisfaction and for organizations in terms of absenteeism and turnover which mat impact on the quality of patient care (Konstantinos & Christina 2008). A mild to moderate stress may stimulate and motivate individuals towards laudable achievements however extreme exposure to stress can advance to be more dangerous and damaging arising from the harmful psychological and behavioural effect it may have on the victims (Adegoke, 2011). A study that took place in the United Kingdom, Sweden, Germany, Japan, Singapore, USA, Nigeria, South Africa, Brazil and Egypt showed that the top workplace stressors are time pressure, meeting up with deadlines, unconducive working conditions, excessive workload, long working hours, conflicts, good/bad interpersonal relationships and poor administration (Cooper et al, 2002). Work-related stress can have a negative effect on the health worker's personal and family life by decreasing their overall quality of life hence job satisfaction is imperative as it stimulates productivity as well as increases the quality of work and life (Srivastava, 2017).

Job satisfaction in workers is a very important factor that influences productivity and the quality of work within an organization. This intricate phenomenon can be described as an individual's attitude towards his/her job that has an impact not only on the personnel's motivation, but also on career, health and relationships with co-workers (Bresic, et al, 2007). Among health workers, job satisfaction has great impact on work quality

and efficiency. Studies have also shown that gender, level of education, work experience, salary, working condition influences the level of satisfaction a health worker gets from his/her job. Stress, exhaustion and other factors that cause stress on the job also influences job satisfaction.

Questionnaire distributed to 168 health care professionals in Italy shows that no significant difference was observed when job satisfaction was compared to the socio demographic factors of the respondents except for the number of years of employment. Italian health care professional workers with low job satisfaction reported significantly higher risk of work related stress than the group with low job satisfaction. However, workers with low job satisfaction show higher level of ambition as compared to satisfied workers (Fiabane, et al 2012).

Job satisfaction among public health workers is important to retain the existing as well as the new recruitment (Jathana et al, 2011) Many studies found that work stress has a negative association with job satisfaction (Piko, 2006) which is an important factor influencing both workers mental health in terms of absenteeism, intention to leave and even burnout (Sili, et al, 2010).

A model that has been widely used in different professional settings that addresses relevant aspect of stressful work environment was proposed by Siegrist in 1996 termed the effort – reward imbalance. According to the model, stress at work gives rise to a mismatch between high effort spent at work and low rewards received in return, where rewards can be job security, career opportunity etc. This model was applied by Voltmer et al in 2012 to compare job stress and job satisfaction of private practice physician in Germany and Norwegian. Private physicians too are confronted with numerous regulations and administrative duties that limit or even threaten their professional autonomy and financial security. This condition can add to a physician’s level of stress (Siegrist, et al, 2010). The relationship between job stress and job satisfaction was established in Uganda using the Pearson’s correlation coefficient and nurses in the public hospital reported higher levels of occupational stress and lower levels of job satisfaction and performance. Tobergte & Curtis (2013). A descriptive study was carried out among nurses in the university of Port Harcourt teaching hospital to assess the level of job satisfaction and it was observed from the questionnaire that 51% of the nurses in UPTH were satisfied with their jobs, however the dissatisfaction they experience can be ameliorated through an increase in the salaries and an improvement in the working condition of the hospital (Asuquo et al, 2017). Satisfied workers tend to be more productive, creative, and committed. Therefore, a highly satisfied and stress free health worker will eventually be effective in rendering a quality care to patients. Employees can directly influence patient satisfaction because their involvement and interaction with patients plays a significant role in quality perception (Shinde & Durgawale,2014).

II. Objectives

- To assess the correlation between occupational stress and job satisfaction among health workers in tertiary hospitals in Rivers State.
- To establish the influence of socio demographic factors on occupational stress among health workers in tertiary hospitals in Rivers State.
- To establish the influence of socio demographic factors on job satisfaction among health workers in tertiary hospitals in Rivers State.

III. Materials And Method

A descriptive cross sectional study of health care workers in the University of Port Harcourt Teaching Hospital (UPTH) and Rivers State University Teaching Hospital (RSUTH) from February 2019 to January 2021. A total 371 health workers in UPTH and RSUTH which included Doctors, Nurses, pharmacists, laboratory scientists, Administrative staff and casual workers from various departments, males and females in the hospital were randomly selected.

Study Location: this was a tertiary care teaching hospital based study done in the two tertiary hospitals in Rivers State Nigeria.

Sample Size: 371 Health workers.

Sample Size Calculation: Sample size calculation employed the formula for cross-sectional studies. (Kirkwood and Sterne, (2003)

$$n = \frac{(Z)^2 p (1-p)}{e^2}$$

n = minimum sample size

Z = standard normal deviate of 95% significant level; corresponds to a value of 1.96.

p = estimated prevalence of occupational stress among healthcare workers from a study Benin Nigeria by Adeolu et al (2016) was 32% (0.32)

e = level of precision of 0.05

$$n = (1.96)^2 (0.32) (1 - 0.32) = 0.836$$

$(0.05)^2 = 0.0025$
 $n = 0.836 / 0.0025$
 $= 334.3$
Approximate Minimum sample size of **334** HCWs
Adjustment for non-response of 10%

Adjusted sample size = $\frac{n}{1 - (\text{non-response})}$

where n=minimum sample size (334); Non-response=10% (0.1)

Therefore, adjusted sample size = $\frac{334}{1 - (0.1)} = 371.1$

Subject & Selection method: Determination of sample population was done in two stages

- i. Stratified random sampling of HCWs via proportionate allocation in each of the professional cadres.
- ii. Simple random sampling to determine which health worker would participate in the research.

In each study centre, the health care workers were stratified according to the professional cadre comprising of doctors, nurses, pharmacists, laboratory scientists, and administrative staff. Stratified sampling via proportionate allocation was used to determine the number of health care workers to be selected from each stratum (professional cadre). Random sampling was done using a sampling frame consisting of the list of workers in each stratum.

Inclusion Criteria:

- i. Health workers who have worked in the facilities for a period of one year and above
- ii. Permanent and Temporary employees of the hospitals

Exclusion Criteria:

- i. HCWs who are absent/on leave or retired and working on contract basis

Method of data collection: After written informed consent and ethical clearance were obtained, a well designed, self administered questionnaire was used to obtain primary data from respondents. The questionnaire was sectioned into three parts for ease of filling and to get data on socio demographic variables, occupational stress and job satisfaction of respondents. The first part contained questions aimed at collecting socio demographic information such as age, sex, cadre, rank, marital status, years of experience, income, type of employment.

The occupational stress index scale was used as a tool to obtain information on occupational stressors present in the hospitals. This scale contained 20 items that analyzed occupational stress under the following subscales – work overload, relationship with colleagues, work life interference, presence of shift work, working environment and social support. These factors were presented on a modified likert scale of four (Strongly Agree to Disagree). The theoretical development of the OSI and its validity is well documented and demonstrated also for use with healthcare personnel hence making it a choice tool for this research. The job satisfaction scale was used to obtain information on the level of satisfaction of health workers in the stud area. Developed by Warr, Cook and Wall (1979). Its simplicity, precision and overall measurement of intrinsic as well as extrinsic factors of job satisfaction has made it a choice in clinical researches.

Statistical analysis: Both descriptive and inferential statistics were employed in the analysis of data. Descriptive statistics such as frequencies, percentages, mean, standard deviation, tables and charts were used to display socio demographic data. Correlation between occupational stress and job satisfaction was determined using the Pearson's Product moment correlation. 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.

IV. Result:

Socio-Demographic Data

The socio demographic data from table 1 reveals that a majority of our respondents were females (55.2%) and also a greater percentage of respondents were aged between 30-39years (40.4%). This result might be due to the fact that the hospital is a place where patients are nursed and cared for hence the greater number of female professionals especially in the nursing profession in relation to other professional cadre. The female dominance in the nursing profession has been established by (Faremi et al, 2019). Also, findings from the study show that a majority of the respondents had one degree or the other with the highest (25.8%) as B.sc holders. A reason for this might be due to the fact that the medical profession (medicine, nursing, pharmacy, lab science) requires a minimum of a degree in order to practice in their various professional fields. The percentage

years of experience is seen to diminish as the years increase in that those with years of experience between 1-5 years (41.8%) make up the majority of health workers and those with years of experience greater than 11 years (23.4%) are the least. This can be because those with experiences 1-5 years after a while begin to migrate to other western countries or have left their jobs as a result of dissatisfaction.

Table 1:

	Frequency (n=337)	Percentage (%)
Age (Years)		
19-29	99	29.4
30-39	136	40.4
40-49	57	16.9
50-59	35	10.4
≥60	10	3.0
Sex		
Male	151	44.8
Female	186	55.2
Marital Status		
Single	112	33.2
Married	183	54.3
Divorced	42	12.5
Educational Level		
WAEC	6	1.8
OND/HND	31	9.2
Diploma	45	13.4
BSc	87	25.8
MSc	72	21.4
MBBS	78	23.1
PhD	18	5.3
Designation		
Doctor	90	26.7
Nurse	72	21.4
Pharmacist	39	11.6
Lab. Scientist	49	14.5
Administrative Staff	80	23.7
Other (Security, Social Workers, Cleaners etc.)	7	2.1
Years of Experience		
1-5	141	41.8
6-10	117	34.7
≥11	79	23.4
Income		
<100,000	146	43.3
100,000-500,000	157	46.6
≥500,000	34	10.1
Type of Employment		
Temporary	158	46.9
Permanent	179	53.1

correlation between occupational stress and job satisfaction among health workers in tertiary hospitals in Rivers State.

The correlation matrix below revealed that there is significant ($p < 0.05$) relationship between job satisfaction and occupational stress. Occupational stress is associated with job satisfaction with a weak correlation coefficient of 0.146. Occupational stress has a direct relationship with job satisfaction. In other words, higher stress levels will lead to higher job satisfaction.

Table 2: correlation table of occupational stress and job satisfaction

		Occupational Stress	Job Satisfaction
Occupational Stress	Pearson Correlation	1	0.146**
	Sig. (2-tailed)		0.007
	N	337	337
Job Satisfaction	Pearson Correlation	0.146**	1
	Sig. (2-tailed)	0.007	
	N	337	337

Socio demographic factors and occupational stress among health workers in tertiary hospitals in Rivers State.

Table 3a below reveals that there is significant relationship between socio demographic factors and occupational stress of HCW with an F-statistics of 4.282 at p-value (0.00) that is statistically significant at 0.05 significance levels. This implies that socio demographic predictors of occupational stress are professional cadres and level of education with an inverse relationship, although with weak correlation coefficient of 0.308 (Appendix 2). This simply means as professional cadre and level of education increases, the occupational stress decreases with 9.5% coefficient of determination. The observation that occupational stress is associated with educational level has also been confirmed in studies done by Selam & Zeleke (2017) and Solarin & Abikoye (2018) also cadre was also seen to be associated with occupational stress in a study by Martinez et al (2015). An increase in educational level can be seen to reduce occupational stress in HCW's because the more knowledge you acquire the more exposed you become to better understand the negative consequences of occupational stress and can put up preventive measures for yourself although in an Iranian study, nurses with M.sc had higher mean occupational stress than nurses with B.sc degrees and this was because more responsibilities were placed on nurses with higher degrees (Faraji & Karimi, et al 2017). A large US survey suggested that education could mask the effects of work related stress perhaps in a gender specific way (Qui & Bures et al, 2012).

In some other studies like that of Sharafi et al (2018), Yim et al (2017), Tekeletsadik et al (2017) and our present study, socio demographic variables like age and sex were not risk factors for occupational stress.

Table 3a: Model Summary of socio demographic factors and occupational stress of HCWs.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.308 ^a	.095	.072	.455784	.095	4.282	8	328	.000

a. Predictors: (Constant), Type of Employment, Sex, Income, Marital Status, Education, Professional Cadre, Age, Experience

3b: ANOVA^a socio demographic factors and occupational stress of HCWs

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.116	8	.889	4.282	.000 ^b
	Residual	68.138	328	.208		
	Total	75.254	336			

a. Dependent Variable: Occupational Stress

b. Predictors: (Constant), Type of Employment, Sex, Income, Marital Status, Education, Professional Cadre, Age, Experience

Socio demographic factors and job satisfaction among health workers in tertiary hospitals in Rivers State.

The ANOVA summary table below shows that there is significant relationship between job satisfaction, experience and type of employment with an F-statistic of 2.69 (0.007) that is significant at 5% significance levels. The other socio demographic factors like professional cadres, sex, age, marital status, education and income were not significant predictors of job satisfaction at 0.05 significance levels in this study.

The model also shows that job satisfaction increases with job experience and decreases with type of employment (Appendix 3). Duration of service was also found to be positively correlated and significant with job satisfaction in a teaching hospital in India (Agarwal & Sharma 2011), in both private and public health sector (Srivastava 2017) and in a Saudi study by Salam et al (2014). All these support findings from our study that work experience is positively associated with job satisfaction in HCWs. According to the Salam et al (2014), the older you are on the job in terms of number of years put in and not necessarily your age, the greater your job satisfaction.

Table 4a: Model Summary socio demographic factors and job satisfaction of HCWs.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.248 ^a	.062	.039	.670805	.062	2.690	8	328	.007

a. Predictors: (Constant), Type of Employment, Sex, Income, Marital Status, Education, Professional Cadre, Age, Experience

4b: ANOVA^a socio demographic factors and job satisfaction of HCWs

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.683	8	1.210	2.690	.007 ^b
	Residual	147.593	328	.450		
	Total	157.276	336			

a. Dependent Variable: Job Satisfaction

b. Predictors: (Constant), Type of Employment, Sex, Income, Marital Status, Education, Professional Cadre, Age, Experience

V. Discussion

The first objective of this paper was to establish a relationship between occupational stress and job satisfaction among health workers in tertiary hospitals in Rivers State. The study showed a relationship between occupational stress and job satisfaction among respondents in the study area unlike an Indian study by Shinde (2014) that showed no correlations between the two variables. The relationship between OS and JS has been established as a direct relationship meaning an increase in occupational stress will yield more satisfied health care workers. This result has been supported by a Saudi Arabian study that established that despite the high stress among Saudi Arabian HCWs, a high level of job satisfaction was also observed (Salam et al, 2014). The reason for this result was attributed to the high tax free salaries, free accommodation and free annual tickets given to health workers in Saudi Arabia and in our study was attributed to a sense of pride health workers get from their jobs. Contrary to our study, a negative correlation was also observed in a Ghanaian study by Rita (2013). This study also explored the relationship between socio-demographic characteristics and occupational stress. Findings indicated that socio demographic factors predict occupational stress to an extent. This result is in line with existing literatures (Godifay et al., 2018, Torre et al., 2017, Marinaccio et al. 2013). Investigating each variable, professional cadre and educational status significantly contributed to occupational stress. This was also found similar to another study by Adeolu et al.,(2016) where the cadre/rank contributed significantly to occupational stress and this may be due to the unique peculiarity of their designation and the specificity of their job. The current study revealed that occupational stress was associated with educational status of HCWs which was similar to a study by (Gebeyehu & Zeleke, 2017) but contradictory to studies done in Saudi Arabia and Ethiopia by Salam et al. (2014) and Godifay et al. (2018) respectively. In a study by Pyror et al.,(2011) educational status was seen to influence occupational stress among nurses which was similar to our own study however it is not clear the reason why educational status influences stress but one plausible explanation could be that the more educated you are, the better you understand the effects of stress on the human body and another reason could be role conflict (when demands greater than the individuals capability are placed on him or her) and role ambiguity (when individuals do not clearly understand what is required of them). However, age of respondents, gender, and marital status were not significant predictors of occupational stress, this was similar to a study in Ibadan.

Investigating the influence of socio demographic variables on job satisfaction, it was observed only years of experience and type of employment predicted job satisfaction. This study is in agreement with Tobergte & Curtis (2013) and Fiabane et al., (2012) where years of experience significantly influenced job satisfaction as nurses with 1-5years of experience reported highest level of satisfaction while those from 11-15 years reported least job satisfaction. Type of employment also predicted job satisfaction in this study, one hypothetical reason for this could be that as permanent staff there is some level of stability that the job gives you. One is not afraid of being laid off spontaneously as is the case with temporary employment; however in a study by Fiabane et

al.,(2012) type of employment did not influence health workers satisfaction and in another study by Hombergh et al, (2009), socio demographic factors had no influence on job satisfaction.

VI. Conclusion:

In conclusion, occupational stress has a direct relationship with Job satisfaction and is predicted by certain demographic factors. Socio demographic variables like age of respondents, gender and marital status did not predict occupational stress while years of experience on the job and type of employment predicted job satisfaction as respondents who had worked for longer number of years were observed to be more satisfied than younger employees.

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APPENDIX 1

OCCUPATIONAL STRESS AND JOB SATISFACTION OF HEALTH WORKERS IN TERTIARY HOSPITALS IN RIVERS STATE.

Dear Respondent,

Please be informed that your answers remain anonymous and the information you provide therein will be combined with the responses of others and used strictly for statistical summaries pertaining this research topic. Do not put your name on any of the forms provided.

Kindly tick the options as they apply to you

Gender

Male Female

Age

19-29 years 30-39 years 40-49 years 50-59 years 60 and above

Marital status

Single Married Divorced

Level of education

WAEC OND/HND Diploma Bsc Msc Phd

Rank

Doctor Nurse Pharmacist Lab scientist Administrative staff Others, specify

Years of experience

1-5 years 6-10 years, 10 years and above

Income

Less than 100,000 100000-500000 500,000 and above

Type of Employment

Temporary permanent

SECTION II: THE FOLLOWING HAVE BEEN IDENTIFIED AS SOURCES OF OCCUPATIONAL STRESS. PLEASE TICK THE DEGREE TO WHICH YOU AGREE OR DISAGREE

SA=STRONGLY AGREE, A= AGREE, SD= STRONGLY DISAGREE, D= DISAGREE, U= UNDECIDED

S/N	SOURCES OF OCCUPATIONAL STRESS	SA (4)	A (3)	SD (2)	D (1)
1	Inadequate staffing levels				
2	Extremely long working hours				
3	Absence of shift work				
4	Handling large number of patients				
5	Caring for difficult patients				
6	Working with incompetent support staff.				
7	Lack of opportunity for growth and promotion in my workplace				
8	Non conducive work environment call rooms and work stations				
9	Absence of instruments and equipments for my job				
10	Time pressure				
11	Long standing hours				
12	Work-life relationship				
13	Poor support from friends, family and colleagues				
14	Inadequate motivation from superiors, friends and family				
15	Poor communication of information				
16	Fear of failing my professional examinations				
17	High job insecurity				
18	Harassment from patients and their relatives				
19	Poor delegation of duties				
20	Presence of diseases and infections				

SECTION III: JOB SATISFACTION

S/N	ITEMS	SA (4)	A (3)	SD (2)	D (1)
1	Those who do well on the job stand a fair chance of being promoted				
2	When I do a good job, I receive the deserved recognition for it				
3	I have to work harder at my job because of the incompetence of people I work with.				
4	I have too much to do at work.				
5	Many of our rules and procedures make doing our jobs difficult				
6	There is poor communication within our organization				
7	Job requirements and expectations are not fully explained				
8	My efforts to do a good job are often met with red tapes				
9	I have a poor working relationship with my colleagues				
10	Superiors show little/ no interest in the feelings of their subordinates.				
11	There is no bickering and fighting in my office				
12	I feel I am being paid a fair amount for the work I do.				
13	The benefit package we have is equitable.				
14	I feel a sense of pride in doing my job.				
15	If given another opportunity, I'll pick this profession				

APPENDIX 2

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.267	.172		18.956	.000
Professional Cadre	-.093	.018	-.314	-5.113	.000
Sex	-.013	.052	-.014	-.257	.797
Age	-.011	.030	-.024	-.349	.727
1 Marital Status	.017	.049	.023	.346	.730
Education	-.045	.020	-.136	-2.237	.026
Experience	.036	.042	.060	.844	.399
Income	-.002	.041	-.003	-.059	.953
Type of Employment	-.063	.054	-.066	-1.160	.247

a. Dependent Variable: Occupational Stress

APPENDIX 3

Model	Coefficients ^a			T	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	2.613	.254		10.300	.000
Professional Cadre	.038	.027	.090	1.440	.151
Sex	.045	.076	.032	.588	.557
Age	-.032	.044	-.049	-.714	.476
1 Marital Status	.005	.072	.004	.064	.949
Education	-.055	.029	-.115	-1.859	.064
Experience	.155	.062	.178	2.487	.013
Income	.030	.060	.029	.498	.619
Type of Employment	-.182	.079	-.133	-2.291	.023

a. Dependent Variable: Job Satisfaction

Ogba Amaka A, et. al. "Occupational Stress and Job Satisfaction among Health Workers In Tertiary Hospitals In Rivers State." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 20(04), 2021, pp. 31-40.