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Research Article

Comparative Assessment of Job Stress among Junior Doctors in Tertiary and Secondary Health Facilities in Benin City

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Abstract

Background: The prevalence and predication for the development of stress in the medical profession, has been explored to some extent with obvious evidence of enormous stress amongst junior doctors. Due to the inherent demand of their profession, junior doctors are at a risk of burnout caused by job stress. Stress experience by junior doctors while working can really take its toll on their physical, social, and psychological wellbeing. The aim of the study was to assessed job stress amongst junior doctors in both health institutions. **Methodology:** The study was carried out amongst 222 and 55 junior doctors in a tertiary and state-owned hospital respectively in Benin City. Data was collected using an interviewer administered questionnaire on job stress and satisfaction and was analyzed using SPSS version 20 software p- value less than 0.05 was taken as statistically significant. **Results:** A higher proportion of respondents were aged between 31-40 years in UBTH, 113 (51.5%) and 21-30 years in Central, 26 (47.3%). There was a total of 150 (67.6%) male and 72 (32.4%) female doctors in UBTH while in Central there were 35 (63.6%) male and 20 (36.4%) female doctors. A higher proportion of doctors in both institutions reported being severely stressed 80 (36.0%) in UBTH and 21 (37.5%) in Central. More respondents were 'satisfied' in UBTH (23.0%) than in Central (7.3%). There was an inverse association between the level in training and Job stress, and a direct association between the level in training and Job satisfaction in UBTH. In the two institutions, there was a direct association between the level of Job stress and Job satisfaction. In both hospital, respondents in O & G experienced a higher level of job satisfaction 43.3% in UBTH and 27.3% in Central. **Conclusion:** There was a higher level of job stress in the tertiary hospital.

Introduction

Overview

The prevalence and predication for the development of stress in the medical profession, has been explored to some extent with obvious evidence of enormous stress amongst junior doctors. Due to the inherent demand of their profession, junior doctors are at a risk of burnout caused by job stress [1]. In a study done in German-speaking part of Switzerland to examine the prevalence of burnout among junior doctors which related workplace experiences of junior doctors in their first year of residency, and the impact of these experiences on their physical and psychological well-being, one third of junior doctors' experience stress at work, caused by an effort-reward imbalance [2]. This had a negative impact on their health and job satisfaction with life.

Stress experience by junior doctors while working can really take its toll on their physical, social, and psychological wellbeing, which has necessitated the invention of various coping strategies to mitigate the drudgery of their day-to-day practice. Investigators claimed that the younger age group reported higher stress levels and used more positive coping strategies than the older age groups with female doctors more likely to get stress. Aspects of the job experienced as most stressful include on-call duties and dealing with difficult and hostile relatives [3]. There is also a direct link between work overload, organizational structure, and climate with stress [4].

It is probable that the changing pattern of the health system with greater emphasis on community care, has imposed greater stresses on junior doctors, with main stresses in junior doctors being overwork, relationship problems with other staff, performance-

related stress, organizational problems, inadequate resources, lack of planning and threat to self-esteem.

Statement of Problem

Junior doctors experience specific pressure related to their professional stage and development and can be at risk of poor health [1,2]. Compared to most professionals at similar stage, junior doctors can be expected to work longer hours without adequate recovery time [4].

It can be difficult to balance training and educational commitments with a heavy workload. Unpredictable work schedules can prevent junior doctors from committing to regular social activities or meeting family and other commitments. A perceived lack of control over work-life balance has the potential to lead to exhaustion and job burnout [1].

There is evidence that doctors are at greater risk of mental illness and stress-related problems and more susceptible to substance abuse according to a survey done to assess stress in Psychiatrists working in Wessex region. It was found that frequent use of alcohol, rate of tiredness was 42%, anxiety 29%, depression 23% [45].

A proportion of doctors and students have obsessional traits, which can predispose them to stress [4]. Junior physicians who experience role overload seem to be more emotionally drained and seem to experience greater conflict between work and family roles [6]. Thus, the experience of work-family conflict among professionals including physicians have been reported by researchers [7-9].

There is also evidence from previous studies that physicians experience emotional exhaustion which refers to feeling of being emotionally overextended and depleted of one's emotional resources [13]. Research findings support the notion that workload is a significant stressor associated with a variety of deleterious psychological reactions, including emotional exhaustion in different samples [14-16].

Justification for the Study

Stress is the psychological and physical state that results when the resources of the individual are not sufficient to cope with the demands and pressure of the situation [20]. The level of job satisfaction and stress can affect both individuals and organization; whereas, at the individual level, low level of job satisfaction and high level of job stress are threat to mental and physical health, quality of life, goal achievement and personal development, for the workplace, these conditions lead to increased absenteeism, conflict and turnover, and reduced quality and quantity of work [21]. Thus, identification of factors responsible for stress and its management at its primary level has long term benefits both for employee and employer. Job stress is a recognized problem in health care workers [22] and doctors are at particular risk of stress and stress related psychosocial problems. Doctors have higher degree of psychological morbidity [23-25], Suicidal tendencies [26] and alcohol dependence [27], than controls of comparable social class. Findings from this study will enable us raise awareness on the effect of job stress on junior doctors, which will go a long way to encourage the provision of a stress-free working environment for junior doctors. There is no preceding study to this research work to our knowledge in the two-target health facility or in Benin City. This therefore will help in providing baseline information that will aid in policy making geared towards the provision of stress-free practice for junior doctors. Also, future research related to this subject will benefit tremendously from the information that would be provided at the end of this research.

Aim and Objectives

General Objective

To describe job stress amongst junior doctors in a tertiary and secondary health facilities in Benin City and to compare their job satisfaction levels.

Specific Objectives

1. To describe job stress amongst junior doctors in both health institutions.
2. To identify the major source of job stress among junior doctors in both institutions.
3. To assess the job satisfaction level of junior doctors in both institutions.
4. To assess the effect of job stress on job satisfaction among junior doctors in both health institutions.

Literature Review

The effect of job stress on junior doctors cannot be over emphasized as it affects their job satisfaction, physical, social, and mental wellbeing.

Job Stress amongst Junior Doctors

A study done in Greece, to investigate occupational stress, Job satisfaction and health state in male and female junior hospital doctors. The study assessed the occupational stress amongst 355 male and female Greek Junior Hospital Doctors (JHDs) working in the Greater Athens area. JHDs presented significantly higher levels of sources of pressure [47]. A total of 109 preregistration house officers in Northeast London anonymously completed a lifestyles questionnaire designed to measure self-rated psychological stress, state anxiety, job satisfaction, and personality characteristics. Results showed that 37.5% of women and 24% of men suffered from possible psychological stress [48].

Major Sources of Job Stress among Junior Doctors

A survey of stress in psychiatrists working in the Wessex Region, aimed at exploring Job-stress experienced by psychiatrists, its effect on their lives and the coping mechanisms used. The response rate was 62%. The younger group reported higher stress levels and used more positive coping strategies than the older groups. Female doctors were more likely to report being stressed. Aspects of Job experienced as most stressful include on-call duties and dealing with difficult and hostile relatives [45].

In September 2006, 1494, young doctors were asked to participate in a postal questionnaire study featuring the Recovery Stress Questionnaire (RESTQ) and additional questions on job specific risk factors. Using hierarchical linear regression analyses the answers of 637 participants with less than 1.5 & 14; years' work experience in patient care were analyzed. Results revealed that overtime work, as well as lack of performance related feedback from supervisors, were consistently related to increased levels of strain among junior doctors [49].

Junior doctors in Australia are experiencing high levels of stress affecting their physical and mental health and ultimately placing patients at much greater risk than previously Sources of stress for junior doctors involve interplay of external pressures in the workplace and personal coping mechanisms [50].

Assessment of the Level Job Satisfaction of Junior Doctors

According to an EU co-funded project, one in two emergency care doctors will suffer a burnout during their career. The observation is based on the sample of 3000 doctors who participated to the online assessing their working conditions, job satisfaction, health, and well-being [37]. In new research by the BMA, it was found out that job satisfaction among junior doctors is higher than among other groups of doctors apart from consultants. The average level of job satisfaction among junior doctors is rated as 3.6 out of 5 (where 1 is very dissatisfied and 5 very satisfied [38]).

Most junior doctors feel that their high administrative workload places restrictions on their work. The vast amount of non-medical work that doctors are required to perform is one of the main reasons why they decide to leave the medical profession [39]. This comparative study is very incisive, and it dovetail with our own study.

A research work on burnout and stress reaction among psychiatrist working in Lagos, Nigeria, it was shown that psychiatrists have a stressful life. They are reported to encounter work stress and are prone to burnout [44].

Effect of Job Stress on Job Satisfaction among Junior Doctors

In a nationwide prospective cohort study done in Norway on the impact of job stress and working conditions on mental health problems among junior house officers, Mental health problems (needing treatment) during internship were reported by 11% with no gender difference. The job stress factor of emotional pressure/ demand from patient was most important [1].

Results of longitudinal study in Switzerland on work stress, health, satisfaction of life in young doctors, one third of doctors experienced stress at work, cause by an effort-reward imbalance. This had a negative impact on their health and satisfaction with life [2].

The study done at work in junior residents, to investigate the workplace experience of junior physicians in their first year of residency, and the impact of this experience on their physical and psychological wellbeing. Both men and women residence reported significantly worst physical and psychology wellbeing as well as life satisfaction after their first year of residency (T2) compared to the time directly before their graduation from medical school (T1). The junior physician's life satisfaction score is significantly lower than that of the general population [3].

Research on the relationship between occupational stress and job satisfaction: an empirical study in Malaysia, showed two important findings: first, physiological stress significantly correlated with job satisfaction. Second, psychological stress insignificantly correlated with job satisfaction. The result demonstrates that level of physiological stress has increased job satisfaction, and level of psychological stress had not decreased job satisfaction. Further, the study confirms that occupational stress does act as a partial determinant of job satisfaction in the stress models of the organizational sector sample [7].

In another study of job stress on job satisfaction among university staff in Malaysia: Empirical study, the relationship between job stress and job satisfaction was established. The determinants of job stress that have been examined under this study include, management role, relationship with others. Workload pressure, homework interface, role ambiguity and performance pressure. The sample consists of a public university academician from Klang valley area in Malaysia. The results show there is a significant relationship between four of constructs tested. The results also show that there is significant negative relationship between job stress and job satisfaction [8].

Research on occupational stress and psycho-physiologic disorder in Nigeria with a sample size of 100 who were randomly selected organizational workers in southwestern Nigeria, ranging between the ages of 25 and 55 years. The result from the ANOVA test to find out the difference between Bank workers, police officers, Health personnel, Academic persons and civil servants showed there is no difference in their stress levels. It was established that there is relationship between occupational stress and health and occupational stress and job satisfaction. It is pertinent to note that occupational stress and ill health plays a significant role in making

workers in organization to be dissatisfied with their work [25].

Materials and Methods

Study Area

The study was carried out in the University of Benin Teaching Hospital (UBTH) and Central Hospital both in Benin City.

Study Design

A descriptive cross-sectional study design was utilized for this study.

Duration of Study

The study was carried out from September 2012 to August 2013.

Study Population

The study was carried out amongst doctors below the level of consultant in both UBTH and specialist hospital, Benin City.

Selection Criteria

Inclusion Criteria: Doctors who were yet to become consultants, in both UBTH and central hospital, Benin City. i.e., House officers, medical officers, Residents. Also, doctors who gave informed consent.

Exclusion Criteria: Doctors who were not available during the period of study, either on leave or posting outside both hospitals. Doctors who had not worked for at least 3 months.

Sample Size Determination: The formula used for the determination of the sample size was

$$N = n_1 + n_2 = \frac{4(Z\alpha + Z_{1-\beta})\,[((P_1+P_2)/2)\,(1-(P_1+P_2)/2)}{(d = P_1-P_2)^2}$$

Where

n_1: Desired minimum sample size for study population 1

n_2: Desired minimum sample size for study population 2

$Z\alpha$: Standard normal deviate (1.96) at 95% confidence level

$Z_{1-\beta}$: Desired statistical power = 80% =0.8= 0.842

P_1: proportion in a target population (which in this study is set at 67% from previous study [2]).

P_2: proportion in a target population (which in this study is set at 49% from previous study [60]).

d: P_1-P_2

$$N = n_1 + n_2 = \frac{4(1.96 + 0.842)^2\,[(0.67+0.49)/2)\,(1-(0.67+0.49)/2)]}{(d = 0.67-0.49)^2}$$

$N = n_1 + n_2 = 235$; Attrition = 10% of n = 24

Total number of respondents in both institutions 235+24 = 259

Therefore, each institution will contribute 259/2 = 130. However, total population size (55) was used for Central Hospital and 222 respondents in tertiary health facility, making a total of 277 respondents.

Sampling Technique

Stratified random sampling method was used for the tertiary institution while total population was used for the secondary health facility (Central Hospital). For the tertiary institution (UBTH), the various departments were stratified based on the number of junior doctors present.

Data Management

Data Collection: Collection of data was done using the self-administered structured questionnaire designed to center on the aim and specific objectives of the study. Our scoring system for job satisfaction ranged from Very Dissatisfied= 1, Dissatisfied= 2, Indifferent= 3, Satisfied= 4, Very Satisfied= 5. The maximum score was 200 (40×5). Five-point Likert scale was used for scoring job stress and job satisfaction [49].Those with stress score between 0-25 were considered 'not stressed', those between 26-40 as 'mildly stressed', 41-55 as 'moderately stressed' and those between 56-100 as 'severely stressed'. Questionnaire was designed using standardized templates.

Pretesting: Thirty questionnaires were pretested among junior doctors in Uselu psychiatric hospital, Benin City.

Data Analysis: The data collected was analyzed using the statistical package for scientific solution (SPSS version 20) software. Student t test was used in data analysis, to test for association and p-value less than 0.05 was accepted as statistically significant.

Ethical Consideration

- Permission was obtained from the employer before the administration of the questionnaires
- Informed consent was duly sought from the study participants (Junior doctors).
- Confidentiality of relevant information gotten from each respondent will be assured.
- The privacy of the respondents will be respected.

Limitation of Study

The stated parameters were self-reported, and validation was not possible hence may be subject to some errors including recall bias.

Results

A total of 222 junior doctors in the University of Benin Teaching Hospital (UBTH) and 55 junior doctors from the Central Hospital, Benin-City, Edo State, participated in the study: as shown below (Table 1).

Age group (Years)	Frequency (%)		Total (%)
	UBTH (n=222)	Central (n=55)	
21-30	100 (44.8)	26 (47.3)	126 (45.5)
31-40	113 (51.5)	22 (40.0)	135 (48.7)
41-50	9 (4.0)	5 (9.1)	14 (5.1)
51-60	0 (0.0)	2 (3.6)	2 (0.7)
Sex			
Male	150 (67.6)	35 (63.6)	185 (66.8)
Female	72 (32.4)	20 (36.4)	92 (33.2)
Religion			
Christianity	216 (97.3)	52 (94.5)	268 (96.7)
Islam	5 (2.3)	3 (5.5)	8 (28.9)
African Traditional Religion	1 (0.5)	0 (0.0)	1(0.4)
Marital status			
Single	90 (40.5)	28 (50.9)	118 (42.6)
Married	132 (59.5)	27 (49.1)	159 (57.4)
Tribe			
Afemai	3 (1.4)	0 (0.0)	3 (1.1)
Bini	45 (20.3)	18 (32.7)	63 (22.7)
Esan	40 (18.0)	8 (14.5)	48 (17.3)
Etsako	9 (4.1)	4 (7.3)	13 (4.7)
Igbo	50 (22.5)	8 (14.5)	58 (20.9)
Ika	4 (2.0)	0 (0.0)	4 (1.4)
Isoko	4 (1.8)	0 (0.0)	4 (1.4)
Itsekiri	4 (2.0)	0 (0.0)	4 (1.4)
Owan	10 (4.5)	1 (1.8)	11 (4.0)
Ukwanni	4 (1.8)	1 (1.8)	5 (1.8)
Urhobo	14 (6.3)	5 (9.1)	19 (6.9)
Yoruba	22 (9.9)	8 (14.5)	30 (10.8)
*Others	7 (3.2)	2 (3.6)	9 (3.3)
*Others (Chamba, Efik, Hausa, Igbanke, Ijaw, Ikwerre, Uneme-Erhurun			

Table 1: Sociodemographic Characteristics of Respondents.

A higher proportion of respondents were aged between 31-40 years in UBTH, 113 (51.5%) and 21-30 years in Central, 26 (47.3%). The greatest proportion 50 (22.5%) of the UBTH respondents were Igbo while in Central the major tribe was Bini 18 (32.7%) (Table 2).

Frequency (%)			
Level of job stress	**UBTH**	**Central**	**Total**
Not stressed	21 (9.5)	1 (1.8)	22 (7.9)
Mildly stressed	61(27.5)	22 (39.3)	83 (30.0)
Moderately stressed	60 (27.0)	11(19.6)	71 (25.6)
Severely stressed	80 (36.0)	21 (37.5)	101 (36.5)
Total	222 (100.0)	55 (100.0)	277 (100.0)
χ^2=6.452, df=3, p=0.092			

Table 2: Level of Job Stress of Respondents in Both Institution.

A higher proportion of doctors in both institutions reported being severely stressed 80 (36.0%) in UBTH and 21(37.5%) in Central. Only few 21 (9.5%) in UBTH and 1 (1.8%) in Central were "not stressed". The proportion of doctors who were stressed regardless of the degree was slightly higher in Central Hospital, but this was not statistically significant. p= 0.092 (Table 3).

	Level of job stress frequency (%)				
Department	**Not stressed**	**Mildly stressed**	**Moderately stressed**	**Severely stress**	**Total (%)**
***UBTH**					
Anesthesia	0(0.0)	8 (72.7)	3 (27.3)	0 (0.0)	11 (100.0)
Chem Path	2 (66.7)	0 (0.0)	0 (0.0)	1 (33.3)	3 (100.0)
Comm Health	1 (11.1)	3 (33.3)	3(33.3)	2 (22.2)	9 (100.0)
Family Med	1 (10.0)	2 (20.0)	5 (50.0)	2 (20.0)	10 (100.0)
Hematology	0 (0.0)	1 (20.0)	2 (40.0)	2 (40.0)	5 (100.0)
Medicine	6 (20.0)	6 (20.0)	7 (23.3)	11 (36.7)	30 (100.0)
Mental health	0 (0.0)	0 (0.0)	2 (66.7)	1 (33.3)	3 (100.0)
MMB	0 (0.0)	1 (33.3)	1 (33.3)	1 (33.3)	3 (100.0)
Morbid Ana	0 (0.0)	3 (42.9)	2 (28.6)	2 (28.6)	7 (100.0)
O & G	5 (16.7)	9 (30.0)	3 (10.0)	13 (43.3)	30 (100.0)
Ophthalmology	0 (0.0)	1 (14.3)	4 (57.1)	2 (28.6)	7 (100.0)
Pediatrics	1 (4.5)	7 (31.8)	5 (22.7)	9 (40.9)	22 (100.0)
Radiology	1 (11.1)	3 (33.3)	2 (22.2)	3 (33.3)	9 (100.0)
Surgery	4 (5.5)	17 (23.3)	21 (28.8)	31 (42.5)	73 (100.0)
Total	21 (9.5)	61 (27.5)	60 (27.0)	80 (36.0)	222 (100.0)
****Central Hospital**					
Department					
Emergency	0(0.0)	1 (50.0)	1 (50.0)	0 (0.0)	2 (100.0)
Family Med	1 (5.0)	10 (50.0)	1 (5.0)	8 (40.0)	20 (100.0)
Medicine	0 (0.0)	1 (20.0)	3 (60.0)	1 (20.0)	5 (100.0)

O & G	0 (0.0)	3 (27.3)	3 (27.3)	5 (45.5)	11 (100.0)
Pediatrics	0 (0.0)	2 (40.0)	2 (40.0)	1 (20.0)	5 (100.0)
Surgery	0 (0.0)	5 (41.7)	1 (8.3)	6 (50.0)	12 (100.0)
Total	1 (1.8)	22 (40.0)	11 (20.0)	21 (38.2)	55 (100.0)
*Fisher's exact=51.44, df=39, p=0.085; **Fisher's exact=17.57, df=15, p=0.28					

Table 3: Level of Job Stress and Department of Respondents in Both Institution.

In UBTH, Respondents in Community Health experienced a higher level of job satisfaction 77.8%, followed by Anesthesia 45.5%, Radiology 44.4%, Ophthalmology 42.9%, Hematology 40.0%, Chemical Pathology& Mental Health 33.3%, Pediatrics 31.8%, Surgery 30.1%, 40.9%, Internal Medicine 30.0%, O & G 23.3%, Family Medicine 20.0%, MMB, & Morbid Anatomy 0.0%. While in Central hospital, the level of job stress was higher in Surgery 50%, followed by O & G 45.5%, Family medicine 40%, Pediatrics and Internal Medicine 20% (Table 4).

Level of job Satisfaction	**Frequency (%)**		
	UBTH	**Central**	**Total (%)**
Dissatisfied	31 (14.0)	15 (27.3)	46 (16.6)
Indifferent	121 (54.5)	30 (54.5)	151 (54.5)
Satisfied	70 (31.5)	10 (18.2)	80 (28.9)
Total	222 (100.0)	55 (100.0)	277 (100.0)
χ^2=7.421, df=2, p=0.024			

Table 4: Level of Job Satisfaction of Respondents in Both Institution.

More than half of the respondents in both institutions recorded being "indifferent" about their job satisfaction 121 (54.5%) and 30 (54.5%) in UBTH and Central respectively. While about one third 70 (31.5%) were "satisfied" with their job in UBTH, only 10 (18.2%) were "satisfied" and over one quarter were "dissatisfied in Central hospital. This was statistically significant (p=0.024) (Table 5).

Level of job Satisfaction frequency (%)				
Department	**Dissatisfied**	**Indifferent**	**Satisfied**	**Total (%)**
***UBTH**				
Chem Path	0 (0.0)	2 (66.7)	1 (33.3)	3 (100.0)
Comm Health	0 (0.0)	2 (22.2)	7 (77.8)	9 (100.0)
Family Med	2 (20.0)	6 (60.0)	2 (20.0)	10 (100.0)
Hematology	0 (0.0)	3 (60.0)	2 (40.0)	5 (100.0)
Medicine	4 (13.3)	17 (56.7)	9 (30.0)	30 (100.0)
Mental health	1 (33.3)	1 (33.3)	1 (33.3)	3 (100.0)
MMB	1 (33.3)	2 (66.7)	0 (0.0)	3 (100.0)
Morbid Ana	1 (14.3)	6 (85.7)	0 (0.0)	7 (100.0)
O & G	6 (20.0)	17 (56.7)	7 (23.3)	30 (100.0)
Ophthalmology	1 (14.3)	3 (42.9)	3 (42.9)	7 (100.0)
Pediatrics	3 (13.6)	12 (54.5)	7 (31.8)	22 (100.0)
Radiology	1 (11.1)	4 (44.4)	4 (44.4)	9 (100.0)
Surgery	10 (13.7)	41 (56.2)	22 (30.1)	73 (100.0)
Total	**31 (14.0)**	**121 (54.5)**	**70 (31.5)**	**222 (100.0)**

****Central Hospital**				
Emergency	1(50.0)	1 (50.0)	0(0.0)	2 (100.0)
Family Med	2 (10.0)	15 (75.0)	3 (15.0)	20 (100.0)
Medicine	2 (40.0)	2 (40.0)	1 (20.0)	5 (100.0)
O & G	3 (27.3)	5 (45.5)	3 (23.7)	11 (100.0)
Pediatrics	3 (60.0)	2 (40.0)	0 (0.0)	5 (100.0)
Surgery	4 (33.3)	5 (41.7)	3 (25.0)	12 (100.0)
Total	**15 (27.3)**	**30 (54.5)**	**10 (18.2)**	**55 (100.0)**
Fisher's exact=21.29, df=26, p=0.530; Fisher's exact=10.02, df=10, p=0.380				

Table 5: Level of Job Satisfaction and Department of Respondents in Both Institution.

In UBTH, Respondents in O & G experienced a higher level of job satisfaction 43.3%, followed by Surgery 42.2%, Pediatrics 40.9%, Hematology 40.0%, Internal Medicine 36.7%, Chemical Pathology, MMB, Mental Health &Radiology 33.3%, Morbid Anatomy & Ophthalmology 28.6%, Community Health 22.2%, Family Medicine 20.0%, Anesthesia 0.0%. While Respondents in O & G experienced a higher level of job satisfaction 27.3%, followed by Surgery 25.0%, Internal Medicine 20.0%, Family Medicine 15.0%, Peadiatrics0.0% in Central hospital (Table 6).

Level of job Satisfaction frequency (%)				
Level of job stress	**Dissatisfied**	**Indifferent**	**Satisfied**	**Total (%)**
***UBTH**				
Not stressed	1 (4.8)	10 (47.6)	10 (47.6)	21 (100.0)
Mildly stressed	4 (6.6)	27 (44.3)	30 (49.2)	61 (100.0)
Moderately stressed	7 (11.7)	37 (61.7)	16 (26.7)	60 (100)
Severely stressed	19(23.8)	47 (58.8)	14 (17.5)	80 (100.0)
Total	**31 (14.0)**	**121 (27.5)**	**70 (31.5)**	**222 (100.0)**
****Central Hospital**				
Not stressed	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)
Mildly stressed	4 (18.2)	13 (59.1)	5 (22.7)	22 (100.0)
Moderately stressed	2 (18.2)	9 (81.8)	0 (0.0)	11 (100)
Severely stressed	8 (38.1)	8 (38.1)	5 (23.8)	21 (100.0)
Total	**15 (27.3)**	**30 (54.5)**	**10 (18.2)**	**55 (100.0)**
*Fisher's exact=9.81, df=6, p=0.118; **Fisher's exact=23.54, df=6, p=0.000				

Table 6: Level of Job Satisfaction and Level of Job Stress of Respondents in Both Institution.

In both institutions, there was a direct association between the level of Job stress and Job satisfaction, and this was statistically significant in UBTH.

Discussion

The study revealed that majority of doctors were within the age group of 26-30 years in both UBTH and Central hospital meaning it is a young work force. There was gender disparity as majority of our respondents were Males in both Hospitals.

This study revealed that there was a higher proportion of married in the federal hospital and an almost equal proportion of married to single in the State Hospital. One-third of our respondents were in the department of surgery in the federal hospital while a higher proportion of respondents in State Hospital were in family medicine.

Junior residents made up a higher proportion of our respondents in Federal hospital, but there was an equal proportion of House officers and medical officers in the State Hospital. Our

study revealed that, a higher proportion of doctors in both hospitals sometimes felt negative, futile, and depressed about their job and experienced physical and emotional depletions due to their job. This proportion was higher in the state hospital. About one-third of the respondents sometimes felt moody, irritable, or impatient over small inconveniences in both hospitals.

Also, approximately half of the doctors in the federal hospital and one-fourth in the state hospital could not decide on when to take a break. Most of the doctors in both hospitals experience demands at work that are hard to combine. This proportion was slightly more in the federal hospital. These are known external stressors [51]. Almost half of the doctors in the federal hospital and above one-fourth in the state hospital were subjected to personal harassment in form of unkind words and behavior from superiors and colleagues. This has been established from other study as a contributor to external source of stress [50].

A greater proportion of respondents in the federal hospital and half in the state hospital had unachievable deadlines. There was a high incidence of frictions and anger among colleagues in both hospitals and this was higher in the federal hospital which constituted half of the respondents. Most of the doctors in both hospitals reported being pressured to work for long hours and this was higher in the federal hospital. From our study, there was an inverse relationship between level of stress and job satisfaction in both hospitals, but this was not statistically significant in State own hospital.

There was no association between level of stress and sex of respondents in the Federal hospital as against the State-owned hospital were females recorded more stress compared to the male respondents. There was an association between marital status and level of stress from our study. For pattern of stress, it was highest in O&G and lowest in anesthesiology in the Federal hospital while surgery recorded the highest and pediatrics with medicine the lowest in the State hospital.

For pattern of satisfaction, it was highest in community health and lowest in medical microbiology with morbid anatomy in the Federal hospital but was highest in O&G and least in pediatrics.

Conclusion

There was a high level of job stress in both hospitals which was slightly higher in the tertiary hospital, although the proportion of doctors who suffer severe stress, were almost of equal proportion constituting over one-third of the respondents in both hospitals. This suggests that immediate steps should be taken for their control and management.

Intrinsic factors such as being moody, irritable or impatience's over small inconveniences were identified sources of job stress. The external factors that contributed to job stress were personal harassment from superiors and colleagues, being pressured to work for long hours, unachievable deadlines, frictions, and anger between colleagues in the same department, tasks that are difficult to combine.

The level of job satisfaction was higher amongst doctors in the tertiary hospital. However, majority of the respondents were indifferent in their level of job satisfaction in both hospitals. The level of job satisfaction of respondents was affected by job stress which was reflected by the decreasing level of satisfaction with increasing job stress. This study invites further research to explore, implement and evaluate intervention strategies for prevention of stress and improvement of job satisfaction among doctors in these two hospitals.

Recommendations

The best approach to management of stress is to eliminate it at its origin. I.e., the stress should be dealt in terms of preventive rather than curative. Recognizing problems and dealing with them positively and proactively, is the cost-effective way forward in the management of stress.

To The Government

Ensure the security of junior doctors i.e., from danger of physical violation at job place by patients, their relatives, and others. There should be adequate number of junior doctors to share the workload and responsibilities. There should be provision of adequate resources and physical working conditions for junior doctors.

To The Hospital Management

Revision of job plan to ensure adequate hours of work by junior doctors. Automation of working process so that the repetitive manual elements are taken over by the machines thus allowing time for rest and leisure. Provision of a work environment that ensures a context congruent with the aspirations and value systems of doctors which will likely increase their satisfaction.

To The Junior Doctors

They should attend stress management training and one- to -one clinical, occupational and health counselling.

Development of spirituality, kinship and perseverance in the face of adversity. Routine application of cognitive- behavioral therapy (CBT) to tackle dysfunctional emotions and maladaptive behaviors. Lifestyle changes like being more outgoing and awareness of the world will improve one's response to stress. Junior doctors should adopt relaxation and other alternative technique in the management of stress such as deep breathing exercises, muscle relaxation, meditation, biofeedback, massage therapy and hypnosis.

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