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# Work Related Stress and Its Determinants Among Practicing Medical Doctors in the Public Health Sector Rivers State, Nigeria

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***Abstract*—** *Work-related stress refers to the adverse reactions' employees experience due to excessive pressure in the workplace. This research examined the occurrence and factors influencing work-related stress among physicians in the Nigerian public health sector, with an emphasis on Rivers State. Using a cross-sectional design, 236 doctors from primary and secondary health centers participated in a questionnaire-based survey. Stress levels were assessed using the Cohen Perceived Stress Scale (PSS-10). Results showed that 76.7% of participants experienced high stress, with no significant association with age, gender, marital status, facility type, or work status ($p > 0.05$). However, stress levels significantly correlated with participants' specialty or department ($p < 0.05$), with excessive workload identified as the most significant stressor ($p < 0.05$, $n = 84$). Other stressors included poor work-life balance, difficult patients, low wages, and inadequate infrastructure. The findings highlight the high prevalence of stress among public sector doctors, emphasizing the need for interventions targeting workload management and workplace conditions. Improved welfare policies and support systems are recommended to alleviate stress and enhance job satisfaction*.

***Keywords*—** *Public health doctors: Rivers state: Work related stress,*

## I. INTRODUCTION

Work-related stress is a growing concern in the global healthcare sector, with profound implications for employee well-being and the quality of care delivered to patients. Among healthcare professionals, doctors are particularly vulnerable due to the high demands of their profession, including long working hours, emotional labor, and the need for precision in decision-making. Stress in healthcare settings often arises from excessive workload, inadequate support, and the complex nature of patient care, contributing to burnout, reduced job satisfaction, and compromised patient outcomes (West et al., 2018; Cooper et al., 2018).

In Nigeria, the prevalence of work-related stress among doctors mirrors global trends but is exacerbated by unique challenges within the healthcare system. Poor infrastructure, understaffing, inadequate compensation, and systemic inefficiencies further burden medical practitioners, particularly in public health settings (Onyiri et al., 2022; Nwobodo et al., 2023). In Rivers State, Nigeria, studies highlight occupational stress as a significant issue, with healthcare workers reporting stress from excessive workload, challenging patient interactions, and resource constraints (Ogba, 2020; Ozumba & Alabere, 2019).

Physician burnout represents a significant outcome of extended stress, marked by emotional fatigue, depersonalization, and diminished personal achievement (West et al., 2018). This phenomenon has been documented across various Nigerian healthcare institutions, with findings pointing to predictors such as high patient load, insufficient rest, and inadequate support systems (Akhigbe & Issa, 2021; Kadiri-Eneh et al., 2018). Despite these challenges, research on stress management and prevention in Nigerian healthcare remains sparse, with few studies addressing interventions tailored to local contexts (Odonkor & Adams, 2021; Ogolodom et al., 2022).

This study seeks to bridge this gap by examining the prevalence and determinants of work-related stress among doctors in the Nigerian public health sector. Focusing on Rivers State, it investigates the relationships between stress levels, socio-demographic factors, and workplace conditions. Understanding these dynamics is critical to developing targeted strategies for mitigating stress and enhancing the well-being of healthcare professionals.

## II. MATERIALS AND METHODOLOGY

### *Study Design and Population*

This study utilized a cross-sectional design to assess work-related stress among doctors practicing in the public health sector of Rivers State, Nigeria. The study targeted doctors working in primary and secondary health centers, including general practitioners (GPs), specialists, and resident doctors. A total of 236 doctors participated in the study, selected through a multistage sampling method.

### *Sampling Method*

The primary health centres in Rivers State were divided into four groups, with one group randomly selected for inclusion. Doctors from these centres, including GPs and consultants, were included in the study. For secondary health centres, doctors were grouped according to specialty, with eight specialties (including family medicine, paediatrics, surgery, obstetrics, and gynaecology) randomly selected for participation.

### *Data Collection*

Data were collected using a self-administered questionnaire, which included sections on demographic



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characteristics, work-related factors, and stress levels. The Cohen Perceived Stress Scale (PSS-10) was used to measure perceived stress, with scores ranging from 0 to 40, where scores of 20 or above indicated high stress. Participants also provided responses on workplace stressors, such as workload, work-life balance, and job satisfaction.

*Statistical Analysis*

Information was assessed utilizing the Statistical Package for the Social Sciences (SPSS) version 21. Descriptive statistics were used to summarize demographic characteristics and stress levels. Pearson's Chi-square test was employed to assess associations between stress levels and various factors, such as age, gender, and work environment. A p-value of ≤ 0.05 was considered statistically significant.

## III. Results

*Socio-Demographic Characteristics*

A total of 236 doctors participated in the study, with 82.2% (194) from secondary/tertiary health centers and 17.8% (42) from primary health centers. The majority of participants (50.8%) were aged between 30-40 years. A higher proportion of female doctors (58.5%) were found in the primary health centers, while more males (57.2%) were in the secondary health centers.

Marital status showed that most participants were married (56.4%), followed by singles (37.7%). In terms of professional status, non-resident doctors made up the majority from primary health centers (80.5%), while resident doctors dominated secondary health centers (48.5%). The majority of doctors worked between 6-12 hours per day (66.9%).

TABLE 1: Socio-Demographic Characteristics of Participants

| Characteristic | Primary Health Center | Secondary Health Center | Total |
|---|---|---|---|
| Age Group | | | |
| < 30 years | 28.6% (12) | 24.2% (47) | 25.0% |
| 30 - 40 years | 50.0% (21) | 51.0% (99) | 50.8% |
| 41 - 50 years | 14.3% (6) | 20.6% (40) | 19.5% |
| > 50 years | 7.1% (3) | 4.1% (8) | 4.7% |
| Gender | | | |
| Male | 41.5% (17) | 57.2% (111) | 54.5% |
| Female | 58.5% (24) | 42.8% (83) | 45.5% |
| Marital Status | | | |
| Single | 40.5% (17) | 37.1% (72) | 37.7% |
| Married | 54.8% (23) | 56.7% (110) | 56.4% |
| Widowed | 0.0% (0) | 4.1% (8) | 3.4% |
| Separated/Divorced | 4.8% (2) | 2.1% (4) | 2.5% |

*Stress Levels*

The perceived stress levels, as measured by the Cohen Perceived Stress Scale (PSS-10), showed that 76.7% (181) of participants experienced high stress, while 23.3% (55) experienced lower stress levels.

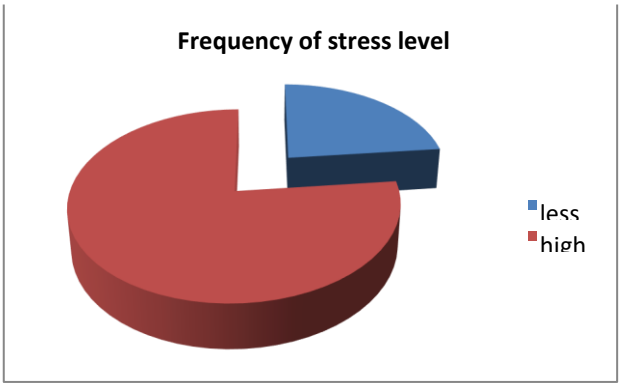


Figure 1: Distribution of Stress Levels Among Participants

Pie chart showing the percentage of participants with high stress (76.7%) vs. low stress (23.3%)

*Associations with Demographic and Work Characteristics*

- Age: Stress levels were high across all age groups, with no significant difference observed (p = 0.723).
- Gender: Both male and female doctors exhibited high stress levels, with no significant difference between the genders (p = 0.643).
- Marital Status: Stress levels were similarly high across marital statuses, with no significant difference (p = 0.187).
- Work Facility: Stress levels did not significantly vary between primary and secondary health centers (p = 0.262).
- Work Status and Cadre: No significant differences in stress levels were found based on work status (p = 0.214) or cadre (p = 0.124).
- There was a significant relationship between specialty and stress level (p = 0.003). For example, doctors in ENT and radiology departments exhibited varied stress levels, with ENT doctors showing an equal distribution of high and low stress. The highest stress was found in surgeons, where 83% reported high stress.

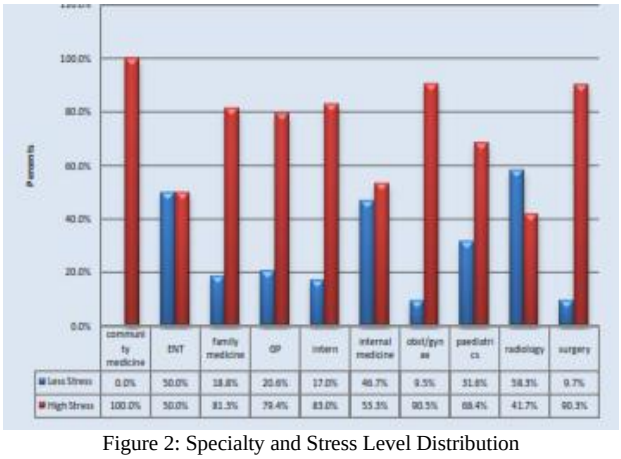

Figure 2: Specialty and Stress Level Distribution

Bar chart illustrating the relationship between specialty and stress level with significant p-value (p = 0.003)

*Key Stressors Identified*



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Excessive workload was the most frequently identified stressor, with 84 doctors attributing stress to this factor ($p < 0.05$). Other significant stressors included poor work-life balance, dealing with difficult patients, and inadequate infrastructure.

TABLE 2: Major Stressors Among Doctors

| Stress Factor | Percentage of Participants Reporting |
|---|---|
| Excessive Workload | 35.6% (84) |
| Work Affecting Family Life | 22.3% (52) |
| Difficult Patients | 18.1% (43) |
| Low Wages | 16.1% (38) |
| Poor Infrastructure | 14.5% (34) |

These findings underscore the significant impact of excessive workload and poor working conditions on the mental health of public health doctors in Rivers State.

## IV. Discussion

This study highlights the high prevalence of work-related stress among public sector doctors in Rivers State, Nigeria, with 76.7% of participants reporting high stress levels. These findings align with previous studies in the region, emphasizing the significant burden of stress among healthcare workers. For instance, Onyiri et al. (2022) identified high stress levels among healthcare workers in Rivers State, attributing this to similar factors such as workload and poor working conditions. Similarly, Ozumba and Alabere (2019) reported burnout among healthcare professionals in Port Harcourt, with excessive workload being a major contributor.

The significant relationship between stress levels and specialties, as observed in this study, corroborates findings by Okechukwu and Oluseye (2020), who noted that specialties with high patient demands, such as surgery and obstetrics, experienced greater stress. The present study also found that factors such as poor work-life balance, inadequate staffing, and long working hours were major stressors, which are consistent with findings from Ogba (2020) on occupational stress in healthcare settings in Port Harcourt.

Interestingly, no significant associations were found between stress levels and demographic characteristics such as age, gender, or marital status. This aligns with Odonkor and Adams (2021), who observed that workplace dynamics and organizational factors are often stronger predictors of stress than personal characteristics.

The implications of these findings are profound. Chronic stress among doctors not only affects their physical and mental well-being but also impacts the quality of patient care. Stress-related conditions, including burnout, can lead to increased absenteeism, reduced productivity, and medical errors (Onyiri et al., 2022). The results underscore the urgent need for interventions targeting workload management, staff welfare, and infrastructural improvements. Strategies such as regular stress management training, provision of adequate resources, and better staffing policies could significantly mitigate stress levels, as suggested by Ogba (2020) and Okechukwu and Oluseye (2020).

## V. Conclusion

This study demonstrates a high prevalence of work-related stress among public health doctors in Rivers State, Nigeria, with excessive workload being the most significant stressor. While stress levels were unrelated to demographic factors, they significantly correlated with participants' specialties. These findings emphasize the need for targeted interventions to address systemic issues, such as understaffing, poor infrastructure, and inadequate support systems. Addressing these factors is essential to improve doctors' well-being, enhance job satisfaction, and ensure the delivery of high-quality patient care. Future research should explore the effectiveness of specific stress-reduction strategies and policies tailored to the unique needs of healthcare workers in Nigeria.

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