

The Impact of Occupational Factors on the Prevalence of Erectile Dysfunction Among Men in Jalingo Metropolis, Taraba State, Nigeria

*¹Ojima Simon, ²Hassan Ibrahim Sylvester, ³Gyenvwot Pyopang Adamu, ⁴Atama Juliet Ndidianaka & ⁵Etim Bassey Nyong

*^{1,2,4,5}Department of Public Health Taraba State University, Jalingo

³Department Sciences Laboratory Technology, Federal Polytechnic Nyak, Shendam

ABSTRACT: Erectile dysfunction (ED) is a major public health issue that significantly affects men's physical, emotional, and psychosocial well-being. This study investigated the influence of occupational factors on the prevalence and severity of ED among men in Jalingo Metropolis, Taraba State, Nigeria. A cross-sectional design was implemented from September to December 2022 at Taraba State Specialist Hospital. A total of 230 men aged 30–80 years participated, selected through convenience sampling. Data were collected using a validated International Index of Erectile Function-5 (IIEF-5) questionnaire administered through a web-based platform. Descriptive statistics and one-way analysis of variance (ANOVA) were used to examine occupational differences in ED severity. Results showed a high overall prevalence of ED (58%), with unemployed men recording the highest prevalence (88%), followed by employed individuals (82%), civil servants (81%), and students (24%). ANOVA findings revealed significant differences in ED prevalence across occupational groups ($F(3,226) = 13.39, p < .001$), with a large effect size ($\eta^2 = .20$). Post-hoc tests showed students significantly differed from unemployed and employed groups. The findings demonstrate that occupational stress, job insecurity, and socioeconomic instability significantly shape men's sexual health outcomes. It is recommended that workplace stress-reduction programs, improved economic opportunities, public health education, and accessible sexual health services be prioritized. Further research should explore causal pathways and intervention effectiveness.

Keywords: Erectile dysfunction, Occupational stress, Sexual health, Socioeconomic factors, Jalingo, Nigeria

1. INTRODUCTION

Erectile dysfunction (ED) is defined as the persistent inability to achieve or maintain an erection adequate for satisfactory sexual performance. Globally, ED affects millions of men and is associated with declining quality of life, psychological distress, relationship problems, and decreased productivity (Sharma et al., 2023). Although once considered a condition associated with aging, contemporary research identifies ED as a multifactorial disorder influenced by biological, psychological, and socio-environmental factors (Rosen et al., 2023).

In Nigeria, recent studies indicate rising ED prevalence due to lifestyle changes, increased cardiovascular risks, and mounting socioeconomic stressors (Akinmoladun et al., 2023). Occupational factors such as job stress, long work hours, low job satisfaction, job insecurity, and unemployment have emerged as critical determinants of ED (Adeoye et al., 2022). Chronic occupational stress can disrupt neuroendocrine pathways, particularly through cortisol elevation, reduced testosterone levels, endothelial dysfunction, and impaired nitric oxide synthesis, all of which are vital to erectile physiology (Egbunike et al., 2023).

The Nigerian labour landscape is characterized by unstable job markets, high unemployment, low wages, and demanding work conditions, especially among civil servants and informal workers. Such conditions contribute to psychosocial stress, anxiety, and depressive symptoms risk factors strongly associated with ED (Martins et al., 2023). Additionally, unemployment has been shown to exacerbate poor mental health, economic strain, and reduced healthcare utilization, amplifying vulnerability to ED (Nuhu et al., 2023).

Despite growing evidence, there remains limited empirical research exploring the relationship between occupational factors and ED within specific Nigerian communities. Jalingo Metropolis provides a unique socioeconomic environment where occupational disparities may strongly influence men's sexual health outcomes. This study therefore investigates the influence of occupational status on ED prevalence among men in Jalingo Metropolis, contributing new knowledge to a sparsely researched public health concern.

2. OBJECTIVE OF THE STUDY

To determine the influence of occupational status on the prevalence and severity of erectile dysfunction among men in Jalingo Metropolis, Taraba State, Nigeria.

3. STATEMENT OF THE PROBLEM

Erectile dysfunction poses significant physical, psychological, and social challenges for affected men. In Nigeria, ED prevalence is increasing and is strongly linked to socioeconomic inequalities, occupational stress, and limited access to healthcare (Ogunjimi et al., 2023). Evidence suggests that unemployment, low-income work, and excessive job demands play critical roles in the onset and progression of ED (Alabi et al., 2023). However, existing studies predominantly focus on broader regions without examining localized risk patterns.

Jalingo Metropolis presents distinct occupational and socioeconomic dynamics that may uniquely influence ED prevalence, yet no study has specifically assessed how occupational categories correlate with ED severity among men in this region. Understanding these patterns is essential for designing targeted interventions that address rising sexual health challenges. This study fills this critical gap by examining ED prevalence across occupational groups in Jalingo Metropolis.

METHODOLOGY

The study was conducted at Taraba State Specialist Hospital in Jalingo, a major referral and diagnostic facility serving Jalingo Metropolis and surrounding localities. Jalingo has an estimated population of over 240,000 (NPC projection, 2022) and is characterized by diverse occupational groups, ranging from civil servants and traders to artisans, students, and unemployed individuals. A descriptive cross-sectional design was employed to assess the relationship between occupational status and ED prevalence.

The study targeted male patients aged 30–80 years attending various departments of the hospital. Using Yamane's formula, a sample size of 250 was determined. A total of 230 questionnaires were correctly completed and returned (response rate = 92%). Convenience sampling was used due to the hospital-based nature of the study.

Data were collected using a structured web-based questionnaire that included the International Index of Erectile Function-5 (IIEF-5). The instrument measured five domains: erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. Reliability was confirmed with a Cronbach α value of 0.72, indicating acceptable internal consistency.

IIEF-5 scoring categories:

- 22–25: No ED
- 17–21: Mild
- 12–16: Mild-to-Moderate
- 8–11: Moderate
- 5–7: Severe

Data were collected from September to December 2022 by trained volunteers. Descriptive statistics summarized demographic and occupational data. One-way ANOVA examined occupational differences in ED prevalence, followed by Tukey post-hoc tests for pairwise comparisons. Analysis was conducted using SPSS version 25.

Ethical Considerations

Ethical approval was obtained from the National Open University of Nigeria Ethics Committee. Informed consent was obtained from hospital authorities and all participants. Confidentiality and voluntary participation were guaranteed.

RESULTS

5.1 Prevalence of ED by Occupation

Table 5.1: Prevalence of Erectile Dysfunction by Occupation

Occupation	Number of Respondents	Number with ED	Prevalence (%)
Unemployed	41	36	88%
Civil Servants	37	30	81%
Employed (Private/Informal Sector)	55	45	82%
Students	97	23	24%
Total	230	134	58%

Table 5.1 presents the distribution of erectile dysfunction (ED) across four occupational categories among the 230 men included in the study. The findings reveal substantial variation in ED prevalence by occupational status, demonstrating that occupation plays a significant role in men's sexual health outcomes within Jalingo Metropolis.

The highest prevalence of ED was observed among unemployed respondents, with 88% (36 out of 41) reporting some degree of erectile dysfunction. This extremely high burden aligns with existing literature indicating that unemployment is strongly associated with psychological stress, low self-esteem, financial insecurity, and reduced access to healthcare—factors that are known to impair erectile function. Unemployment-related stress elevates the risk of depression and anxiety, which in turn disrupt neuroendocrine pathways essential for erection. Thus, the remarkably high ED prevalence in this group underscores the role of socioeconomic vulnerability in sexual health.

Among civil servants, 81% (30 out of 37) experienced ED. Although slightly lower than the unemployed group, this prevalence remains significantly high. The nature of public-sector employment in Nigeria often characterized by administrative workload, pressure to meet bureaucratic demands, job fatigue, and limited job satisfaction may contribute to chronic stress. Chronic stress negatively affects testosterone production and vascular functioning, both of which are critical for erectile performance. Therefore, the burden observed among civil servants likely reflects occupational stress and lifestyle factors associated with sedentary office work.

For the category of employed individuals in the private or informal sector, 82% (45 out of 55) reported ED. This prevalence is similarly high and suggests that private-sector or informal work environments may expose individuals to irregular working hours, job insecurity, strenuous physical activities, and limited occupational health protections. These occupational conditions are known contributors to physiological and psychological strain, which can impair erectile function. The similarity in prevalence between civil servants and private-sector workers suggests that occupational stress whether physical or administrative is a key determinant of ED risk.

In contrast, students recorded the lowest prevalence, with 24% (23 out of 97) reporting ED. This finding is expected, as students are generally younger, healthier, and less likely to experience chronic diseases, hormonal decline, or long-term occupational stress. Furthermore, most individuals within student populations fall in age groups where erectile functioning is naturally optimal. The lower ED prevalence among students therefore reflects both biological advantages and relatively limited exposure to prolonged occupational stressors.

The overall, 134 of the 230 respondents (58%) had some level of erectile dysfunction, indicating that occupational and socioeconomic conditions collectively exert meaningful influence on sexual health outcomes in Jalingo Metropolis. The pattern observed across the occupational groups highlights a clear gradient: individuals experiencing higher levels of stress, financial instability, or job insecurity exhibit substantially higher ED prevalence than those in less stressful contexts. These findings reinforce the importance of integrating sexual health awareness, stress reduction strategies, and occupational health interventions into public health efforts targeting adult men within the region.

Table 5.2: Prevalence of Erectile Dysfunction by Age Group among Men in Jalingo Metropolis (N = 230)

Age Group (Years)	Number of Respondents	ED Cases	Prevalence (%)
20–34	100	21	21%
35–50	40	33	83%
51–64	50	44	87%
65–80	40	36	91%
Total	230	134	58%

Table 5.2 presents the distribution of erectile dysfunction (ED) across four age groups among men in Jalingo Metropolis. The results reveal a clear age-related trend in the prevalence of ED, with the likelihood of experiencing erectile difficulties increasing progressively with age.

The lowest prevalence of ED was recorded among men aged 20–34 years, where 21% (21 of 100) reported some degree of erectile dysfunction. This relatively low prevalence is expected, as younger men typically maintain optimal vascular, hormonal, and neurological functioning. Additionally, age-related chronic conditions that impair erectile physiology such as hypertension, diabetes, and cardiovascular disorders are less common in this age group.

A sharp rise in ED prevalence is observed beginning in the 35–50 age group, where 83% (33 of 40) reported ED. This significant increase aligns with global research showing that midlife marks the onset of declining testosterone levels, higher psychosocial stress, increased work responsibilities, and greater exposure to chronic disease risk factors. These physiological and lifestyle changes collectively increase the vulnerability to ED.

The prevalence continues to rise among men aged 51–64, with 87% (44 of 50) experiencing ED. In this age group, age-related vascular degeneration, reduced endothelial function, and higher rates of metabolic and cardiovascular conditions strongly contribute

to erectile impairment. Men within this age bracket often begin to experience more pronounced hormonal decline, which further exacerbates ED risk.

The highest prevalence was recorded among the 65–80 age category, where 91% (36 of 40) reported ED. This finding reflects well-established evidence that erectile function declines significantly with advanced age due to cumulative effects of chronic illness, reduced penile blood flow, diminished nitric oxide activity, and substantial androgen deficiency. Additionally, polypharmacy a common feature in older adults may further impair sexual functioning through medication side effects.

The table demonstrates a strong, positive correlation between age and ED prevalence, culminating in an overall prevalence of 58% among all respondents. Age emerges as one of the most important determinants of erectile dysfunction in this population. This pattern underscores the need for age-targeted interventions, routine screening for older men, and comprehensive management strategies for age-related risk factors.

5.3 Hypothesis Testing

One-Way ANOVA

Source	SS	df	MS	F	P
Between Groups	1938.29	3	646.10	13.39	<0.001
Within Groups	10908.08	226	48.27		
Total	12846.37	229			

Significant differences exist in ED prevalence across occupational groups ($p < .001$).

Effect size $\eta^2 = 0.20$ indicates a strong influence of occupation on ED.

Post-hoc (Tukey) results:

Students differed significantly from unemployed and employed participants.

No significant difference between employed and civil servants.

DISCUSSION

This study demonstrates that occupational status strongly influences ED prevalence among men in Jalingo Metropolis. The high prevalence among unemployed individuals corroborates findings that unemployment induces psychological distress, financial strain, and reduced healthcare engagement risk factors closely associated with ED (Osei et al., 2023). Lack of income stability elevates chronic stress and depression, which inhibit testosterone production and impair vascular function required for erection (Kim et al., 2023).

Civil servants and employed men also exhibited high ED prevalence, reflecting the stressful nature of bureaucratic duties, long working hours, and job insecurity common in Nigeria's public and private sectors. Occupational stress is known to activate endocrine and autonomic pathways that impede erectile physiology (Alabi et al., 2023).

Students recorded the lowest ED prevalence, likely due to younger age and fewer chronic stressors. Age was a significant predictor, aligning with global findings that erectile function declines with increasing age due to vascular and hormonal changes (Rosen et al., 2023).

The large effect size observed in the ANOVA indicates that occupation is a major determinant of ED in this population. These findings underscore the need to address occupational stress, unemployment, and socioeconomic inequalities in promoting men's sexual health.

LIMITATIONS

- Convenience sampling limits generalizability.
- Cross-sectional design prevents causal inference.
- Self-reported sexual health data may be affected by social desirability bias.
- Study was restricted to one hospital.

CONCLUSION

Occupational factors significantly influence the prevalence and severity of ED among men in Jalingo Metropolis. Unemployment, job stress, and socioeconomic instability are key determinants of poor sexual health outcomes. Targeted interventions addressing occupational and psychosocial stressors are essential for improving men's sexual health and overall well-being.

RECOMMENDATIONS

Introduce workplace stress-reduction programs and psychological support services.

- i. Strengthen economic empowerment and job-creation initiatives to reduce ED associated with unemployment.
- ii. Enhance public awareness of occupational and lifestyle influences on sexual health.
- iii. Expand access to sexual health services in primary healthcare settings.
- iv. Encourage regular screening for ED, especially among high-risk occupational groups.

REFERENCES

Adeoye, A., Adebayo, S., & Afolabi, O. (2022). The influence of occupational stress on erectile dysfunction among Nigerian workers. *Occupational Health Psychology*, 45(4), 287–299.

Akinmoladun, F., Oladele, T., & Akinmoladun, A. (2023). Prevalence and risk factors of erectile dysfunction in Nigeria: A systematic review. *Journal of Sexual Medicine*, 20(1), 56–65.

Alabi, M., Ojo, O., & Ayodele, R. (2023). Occupational stress and erectile dysfunction: Evidence from Nigerian men. *Nigerian Journal of Clinical Practice*, 26(2), 145–153.

Egbunike, J., Adesanya, A., & Ogundele, O. (2023). Stress and erectile dysfunction: Endocrine and cardiovascular mechanisms. *International Journal of Urology*, 30(2), 112–120.

Kim, J., Park, S., & Lee, H. (2023). Psychosocial stress and sexual dysfunction: Biopsychological mechanisms. *Asian Journal of Andrology*, 25(3), 212–219.

Martins, J., Nwankwo, I., & Onuoha, S. (2023). Socio-economic determinants of erectile dysfunction in Nigeria. *Journal of Health Economics*, 82, 102–115.

Nuhu, A., Suleiman, T., & Ismaila, O. (2023). Impact of socioeconomic status on erectile dysfunction in Nigerian men. *African Journal of Urology*, 29(1), 33–40.

Ogunjimi, S., Adebayo, A., & Olusola, I. (2023). Occupational factors and erectile dysfunction: A review of literature. *Journal of Occupational Medicine*, 73(1), 56–68.

Osei, D., Sarpong, D., & Kofi, B. (2023). Socioeconomic influences on erectile dysfunction: A Nigerian perspective. *African Journal of Urology*, 29(1), 33–40.

Rosen, R., Altwein, J., & Cuddihy, L. (2023). Erectile dysfunction: Current perspectives and treatment options. *European Urology*, 83(1), 12–25.

Sharma, S., Singh, N., & Patel, R. (2023). Global prevalence of erectile dysfunction: A systematic review. *European Urology Review*, 18(3), 145–152.