

THE BURDEN OF DELAY: A STUDY ON PSYCHOLOGICAL CHALLENGES AMONG MEDICAL STUDENTS WITH PROLONGED STUDY PERIODS

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Abstract

Pre-eclampsia is an obstetric disorder that affects a tenth of pregnancies worldwide. It has a growing burden in Nigeria with a prevalence ranging from 5-10%. Normal pregnancy is associated with changes in haematological indices. This hospital-based case-control observational study was carried out to determine the clinical characteristics and peripheral blood film picture in pre-eclamptic patients at diagnosis and suitably matched controls. It involved 65 pre-eclamptic women as the test group, and 65 age, trimester and parity matched normotensive, non-proteinuric pregnant women as control group. The test group was classified clinically as having mild or severe pre-eclampsia using the American College of Obstetricians and Gynecologists classification. Clinical information of pregnant women was obtained from their electronic medical records with respective patient's consent. The LB-1270 compound biological trinocular digital microscope with camera and software (5.0MP), LCD and Infinite Optical System was used to visualize peripheral blood films. The result of the study shows that the BMI of pregnant females with pre-eclampsia (25.99 ± 2.3) and normotensive pregnant females (25.21 ± 1.9) were within the reference interval for trimester-matched Body mass index (BMI) and there was no evidence of fetal compromise. Seventeen (13.1%) of the participants were pale at presentation, and 24.6% of pre-eclamptic subjects in the second trimester had features of microangiopathic haemolytic anaemia (MAHA). In conclusion, pre-eclampsia had significant haemolytic changes and altered physiological balance characterized by marked changes in clinical features.

Keywords: Pre-eclampsia, Blood film, normotensive, clinical features

Abstract

An extended duration of study in medical school, often resulting from systemic disruptions such as strikes, can exacerbate psychological distress among students. This cross-sectional study surveyed 45 final-year medical students at the University of Benin, Nigeria, to explore the psychological impacts of prolonged study periods primarily caused by Academic Staff Union of Universities (ASUU) strikes. Descriptive statistics revealed high stress levels (mean = 4.04, SD = 0.99), with 75.6% reporting increased anxiety and 71.1% feeling disconnected from their graduated peers. Financial stress was prevalent (mean = 4.11, SD = 1.10), and 46.7% reported poor or very poor mental health. Odds ratio analyses demonstrated that high financial stress significantly increased the odds of poor mental health (OR = 7.09, 95% CI [1.70, 29.54], $p = 0.005$) and high stress (OR = 13.62, 95% CI [2.95, 62.87], $p = 0.0003$). Social disconnection from graduated peers was also associated with poor mental health (OR = 4.29, 95% CI [0.99, 18.62], $p = 0.04$). Qualitative responses highlighted burnout, selfdoubt, and financial strain, with students suggesting more autonomous

medical school calendars and enhanced mental health support. These findings underscore the need for institutional reforms to mitigate the psychological toll of extended medical training.

Keywords: ASUU strike; Extended Study duration; Medical education; Nigeria; Psychological stress.

Introduction

University education in Nigeria over the last three decades has witnessed numerous disruptions to the school calendar. These have arisen mainly from industrial actions (strikes) by the various academic and non-academic staff unions¹⁻⁵. Since Nigeria's return to democratic governance in 1999, the Academic Staff Union of Universities (ASUU) has embarked on a total of 16 strike actions^{6,7}. These strikes have had the effect of disrupting the school's academic activities¹⁻², prolonging the semesters^{6,7}, postponing examinations^{1,8}, changing resumption dates and ensuring that students invariably have an additional 1-3 calendar years added to their stay in school⁸⁻¹⁰. Many faculties and departments have had to condense their semesters with shorter periods of teaching and instruction. However, this may not be possible in courses at the Medical College that have sacrosanct periods for clinical postings and rotations. These disruptions have a more deleterious effect on professional health courses, with medical students being among the most adversely affected^{11,12}.

Medical education is a rigorous and protracted process, spanning 6 years. In Nigeria, external disruptions, such as ASUU strikes, frequently extend this timeline, placing additional psychological and financial burdens on students. Prolonged study durations have been associated with burnout, anxiety, and reduced academic motivation among medical students worldwide. In resource-constrained settings like Nigeria, where systemic disruptions are common, these challenges may be amplified, yet research on their specific impacts remains limited.

This study addresses critical gaps by providing context-specific data on the psychological effects of prolonged medical training in Nigeria, integrating both quantitative and qualitative insights, and highlighting the underexplored roles of financial stress and social disconnection as key drivers of psychological distress among medical students. It proposes actionable interventions.

Methods Study Design and Participants

A cross-sectional survey was conducted among medical students at the University of Benin, Nigeria, who experienced extended study duration due to ASUU strikes or other disruptions (e.g., student unrest, government-ordered closures). A convenience sample of 45 students in their final year completed an online Google Form between November and December 2024.

Data Collection

The survey collected demographic information (age, sex, level, year of entry, session) and reasons for extended study duration. Psychological outcomes were assessed using:

- Likert-scale questions (1-5) for overall stress and financial stress.

- Binary (Yes/No/Maybe) or frequency-based questions (Never/Rarely/Sometimes/Often/Always) for anxiety, self-doubt, social comparison, exhaustion, and interest in medicine.
- Categorical responses for mental health diagnoses and overall mental health (Excellent/Good/Fair/Poor/Very Poor). Open-ended questions captured specific challenges, coping strategies, and suggestions for institutional reforms.

Data Analysis

Descriptive statistics (means, standard deviations [SD], frequencies, percentages) were computed for continuous and categorical variables. For odds ratio (OR) analyses, two binary outcomes were defined:

- **Poor mental health:** Poor or Very Poor vs. Excellent, Good, or Fair.
- **High stress:** Stress score ≥ 4 vs. < 4 . Exposure variables included:
 - Extended study duration: > 1 year vs. ≤ 1 year (median split).
 - Sex: Female vs. Male.
 - Age: ≤ 24 years vs. > 24 years.
 - Reason for delay: ASUU strikes vs. others.
 - Financial stress: High (score ≥ 4) vs. Low/Moderate (score < 4).
 - Social disconnection from graduated peers: Disconnected (Somewhat or Very Disconnected) vs. Connected (Very Connected, Somewhat Connected, or Neutral). Unadjusted ORs with 95% confidence intervals (CIs) were calculated using 2x2 contingency tables. Chi-square tests were used to assess statistical significance ($p < 0.05$). Pearson's correlation coefficient was used to explore relationships between continuous variables (e.g., financial stress and overall stress). Open-ended responses were thematically analyzed to identify common themes. Analyses were performed using Microsoft Excel and Python (NumPy, SciPy) for calculating odds ratios (ORs) and confidence intervals (CIs).

Results Demographic Characteristics

The sample comprised 45 medical students (60.0% male, 40.0% female). Most respondents (64.4%) were aged 21-24 years, followed by those aged 25-29 years (28.9%) and those aged 30 years or older (6.7%). The mean extended study duration was 2.02 years (SD = 1.15), with 82.2% attributing delays to ASUU strikes, 11.1% to student unrest, 4.4% to government-ordered closures, and 2.2% to other reasons.

Descriptive Statistics

- **Stress Levels:** The mean overall stress level was 4.04 (SD = 0.99), with 25 students (55.6%) reporting high stress (score ≥ 4). Financial stress was similarly high (mean = 4.11, SD = 1.10), with 29 (64.4%) reporting scores of 4 or higher.
- **Mental Health:** Overall mental health was rated as Poor or Very Poor by 21 (46.7%), Fair by 14 (31.1%), Good by 8 (17.8%), and Excellent by 2 (4.4%). Only 5 (11.1%) reported a diagnosed mental health condition (e.g., OCD, depression).

- **Anxiety and Self-Doubt:** Increased anxiety due to falling behind peers was reported by 75.6% (Yes: 55.6%, Maybe: 20.0%). Self-doubt was frequent, with 31.1% reporting it as “Often” or “Always.” Social comparison with on-time peers was standard (64.4% “Often” or “Always”).
- **Exhaustion and Motivation:** Emotional and physical exhaustion was prevalent (73.3% Yes, 17.8% Maybe). Decreased interest in studying medicine was reported by 48.9% (Yes: 37.8%, Maybe: 11.1%).
- **Social Isolation:** Disconnection from graduated peers was reported by 32 (71.1%), with 44.4% feeling disconnected from current peers.
- **Financial and Career Concerns:** Concern about the financial future was noted by 71.1%, and 82.2% were worried about job market competitiveness. Academic setbacks (e.g., failed exams) were reported by 68.9% of participants, with moderate confidence in overcoming them (mean = 2.47, SD = 1.29, scale 1-5).

Odds Ratio Analyses

Unadjusted odds ratios (ORs) were calculated to assess factors associated with poor mental health and high stress (Table 1).

Table 1. Odds Ratios for Poor Mental Health and High Stress Levels

Exposure	Poor Mental Health	High Stress
Extended Duration (> 1 vs. ≤ 1 year)	OR = 1.43 (95% CI: 0.42-4.84), p = 0.53	OR = 1.19 (95% CI: 0.35-4.02), p = 0.77
Sex (Female vs. Male)	OR = 1.82 (95% CI: 0.52-6.38), p = 0.31	OR = 2.15 (95% CI: 0.60-7.71), p = 0.22
Age (> 24 vs. ≤ 24 years)	OR = 1.50 (95% CI: 0.44-5.14), p = 0.51	OR = 1.33 (95% CI: 0.39-4.55), p = 0.65
Reason for Delay (ASUU vs. Other)	OR = 1.25 (95% CI: 0.29-5.43), p = 0.76	OR = 1.67 (95% CI: 0.38-7.27), p = 0.49
Financial Stress (High vs. Low/Moderate)	OR = 7.09 (95% CI: 1.70-29.54), p = 0.005	OR = 13.62 (95% CI: 2.95-62.87), p = 0.0003
Social Disconnection (Disconnected vs. Connected)	OR = 4.29 (95% CI: 0.99-18.62), p = 0.04	OR = 2.67 (95% CI: 0.72-9.88), p = 0.13

- **Financial Stress:** High financial stress was strongly associated with poor mental health (OR = 7.09, p = 0.005) and high stress (OR = 13.62, p = 0.0003), indicating a significant economic burden.
- **Social Disconnection:** Disconnection from graduated peers increased the odds of poor mental health (OR = 4.29, p = 0.04) and showed a moderate, non-significant association with high stress (OR = 2.67, p = 0.13).

- **Other Factors:** Extended study duration, sex, age, and reason for delay showed no significant associations with either outcome, possibly due to limited sample size or universal exposure to delays.

Correlation Analysis

Financial stress and overall stress were strongly correlated (Pearson's $r = 0.62$, $p < 0.001$), indicating that financial strain plays a key role in driving stress.

Thematic Analysis of Open-Ended Responses

- **Challenges:** Students reported financial strain (e.g., reliance on family, inability to pursue income sources), burnout, self-doubt, and social disconnection. Frustrations included prolonged postings (e.g., Introductory Posting) and exam postponements due to strikes.
- **Coping Strategies:** Common strategies included spiritual practices (e.g., prayer), social support (e.g., friends, family), and non-academic activities (e.g., reading fiction, skill acquisition).
- **Suggestions:** Students proposed autonomous medical school calendars, reduced posting durations, dedicated hostels within teaching hospitals, mental health support, and financial aid.

Discussion

This study reveals the profound psychological toll of extended study duration on medical students, driven primarily by ASUU strikes¹¹. The high prevalence of stress (55.6% with scores ≥ 4) and poor mental health (46.7%) aligns with prior research on medical student burnout^{8,10,13,14}. Financial stress emerged as the strongest predictor of adverse outcomes^{13,14}, with students facing high financial stress having 7.09 times the odds of poor mental health and 13.62 times the odds of high stress. This reflects the socioeconomic challenges of prolonged training in post-2020 Nigeria, where rising costs and limited income opportunities exacerbate distress.

Social disconnection from graduated peers, associated with 4.29 times higher odds of poor mental health, underscores the impact of social comparison and isolation, as echoed in qualitative responses about feeling "left behind." These students have the additional burden of participating in a one-year internship before they can become fully licensed as doctors and commence their careers in medicine. There is also the extra one-year burden of a national youth service, which is only exempted for those above 30 years old. Some students may delay major life milestones, including marriage or starting a family, due to extended training. They also find themselves cut off from their peers who did not experience these additional delays, especially as these disruptions disproportionately affect them compared to others. 15, 16 The lack of significant associations with extended study duration (> 1 year) or sex may reflect universal exposure to delays or limited statistical power due to the small sample size ($n = 45$). Similarly, the non-significant effect of the reason for the delay (ASUU strikes vs. others) suggests that duration, rather than the cause, drives psychological distress. 17 The strong correlation between financial and overall stress ($r = 0.62$) further highlights economic pressures as a central issue¹⁹.

Implications

- **Financial Support:** Subsidized accommodation, meal plans, or student loans could alleviate financial stress, a major driver of poor mental health and high stress. The Federal Government of Nigeria has commenced a Student Loan Program²⁰ with some uptake by medical students. Hopefully, this may have some effect in mitigating the strain felt by these students experiencing these delays. There is an opportunity for further research in this area.
- **Social Support:** Peer mentoring or alumni engagement programs may reduce social disconnection, particularly for students comparing themselves to graduated peers²¹. Understanding from parents and guardians may also be helpful.
- **Mental Health Services:** The high prevalence of poor mental health necessitates accessible counselling and stress management workshops. There is a definite need for medical schools to organise workshops and sessions to address these findings^{21,22}.
- **Structural Reforms:** Students' suggestions for autonomous medical school calendars^{1,3,8} and reduced posting durations^{1,2} are feasible interventions to minimize delays without compromising training quality. These would necessitate understanding by all stakeholders in the university to work out.

Limitations

The small sample size limits statistical power, as evidenced by the wide confidence intervals (CIs) in the odds ratio (OR) estimates. Self-reported data may introduce bias, and the crosssectional design precludes the ability to make causal inferences. Unadjusted odds ratios (ORs) do not account for confounders (e.g, academic setbacks, family pressure), which should be explored in future studies using multivariate regression. The predominance of ASUU strikes as the reason for delay (82.2%) restricted variability for some analyses.

Conclusion

Extended study duration due to ASUU strikes significantly impacts medical students' psychological well-being, with financial stress and social disconnection as key drivers of poor mental health and high stress. Institutions must prioritize financial aid, mental health support, and structural reforms, such as autonomous academic calendars, to mitigate these challenges. Policymakers should address systemic disruptions to ensure the timely completion of medical education, safeguarding students' mental health and career prospects.

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