

01. Educational Continuity Among Sudanese Medical Students During Armed Conflict: A Cross-Sectional Study

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Background: Since the outbreak of armed conflict in Sudan in April 2023, higher education institutions have experienced severe disruption, including damage to infrastructure, displacement of students, and interruption of academic activities. Medical education has been particularly affected due to limited access to clinical training and unstable learning environments. Understanding the determinants of educational cessation among medical students is essential to guide interventions aimed at preserving the future healthcare workforce in conflict-affected settings. **Methods:** A descriptive cross-sectional study was conducted among 247 Sudanese medical students from public and private universities during the ongoing conflict in 2024. Participants were selected using disproportionate stratified sampling. Eligibility criteria included enrollment in a Sudanese medical school during the conflict period. Data were collected through a structured self-administered questionnaire assessing educational continuity, socioeconomic status, conflict-related challenges, and adaptive educational strategies. The primary outcome was educational cessation, defined as temporary or permanent interruption of medical studies during the conflict. Statistical analysis was performed using SPSS version 25. Descriptive statistics and multivariate logistic regression were used to identify independent predictors of educational continuity while controlling for confounding variables. Ethical approval and informed consent were obtained prior to data collection. **Results:** Among the 247 participants, 21.9% reported interruption of their medical education, the majority being temporary interruptions. Financial constraints were the most commonly reported barrier to continuity (18.6%), followed by psychological stress (17.1%) and safety concerns related to the conflict (14.7%). To maintain their education, many students transferred to alternative universities (79.8%) or relied on online learning modalities (55.9%). Educational interruption was significantly more common among students enrolled in private universities compared to public institutions ($p = 0.02$). Multivariate logistic regression demonstrated that older age was positively associated with educational continuity (AOR = 1.46, $p < 0.001$), while adequate financial capacity reduced the likelihood of educational cessation (AOR = 0.44, $p = 0.023$). Additionally, 14.6% of participants reported considering changing their field of study because of the prolonged conflict and stress associated with medical training. **Conclusion:** The ongoing armed conflict in Sudan poses a substantial threat to the continuity of medical education. Financial hardship, psychological distress, and insecurity significantly contribute to educational interruption among medical students. Strengthening financial support systems, expanding mental health services, and implementing flexible educational approaches are critical to sustaining medical training during humanitarian crises. Protecting medical education in conflict settings is essential to prevent long-term shortages in the healthcare workforce.

Multivariate Logistic Regression Model: Independent Predictors of Educational Cessation (N=247)

Predictor	β	SE	AOR	95% CI	p-value
Age (years)	0.380	0.093	1.46	1.21 - 1.75	< 0.001
Financial capability (able vs. unable)	-0.831	0.366	0.44	0.21 - 0.89	0.023
War zone exposure (yes vs. no)	1.355	0.773	3.9	0.85 - 17.63	0.08
University type (private vs. government)	0.501	0.388	1.65	0.77 - 3.53	0.196
Gender (male vs. female)	0.169	0.385	1.18	0.56 - 2.52	0.660
Constant	-7.042	1.945	0.001		< 0.001

Note: β = regression coefficient; SE = standard error; AOR = adjusted odds ratio; CI = confidence interval. Bold p-values indicate statistical significance at $\alpha=0.05$. Model fit: Hosmer-Lemeshow $\chi^2=8.82$, $p=0.266$; Nagelkerke $R^2=0.199$. Reference categories: unable to finance, no war zone exposure, government university, female gender.

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