

## 06. Barriers to Medical Research Participation among Undergraduate Medical Students in Ethiopia: A Cross-Sectional Study

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**Introduction:** In 2008, Paul Glasziou advocated that a twenty-first-century physician who cannot search the literature or critically read a research paper is as unprepared as someone who cannot examine the cardiovascular system. Research plays a critical role in advancing evidence-based medicine and developing the skills of future physicians. Undergraduate research enhances critical thinking, independent learning, and scientific contribution. However, despite growing encouragement for medical students to engage in research, participation and publication rates remain significantly lower in developing countries due to barriers such as limited mentorship, inadequate training, and lack of resources. In Africa, and particularly in Ethiopia, there is limited data examining the barriers undergraduate medical students face. This study aims to identify factors hindering their involvement in research activities. **Methods:** An institution-based multicenter cross-sectional study was conducted in Ethiopia from September to November 2025 among undergraduate medical students and interns from selected public and private medical schools. A multistage sampling technique with simple random sampling was used to select 381 participants. Data were collected using a structured self-administered online questionnaire assessing sociodemographic, research knowledge, and perceived barriers. Barrier items were measured using a 5-point Likert scale and summarized into a standardized Barrier Preference Score. **Results:** A total of 381 students from 10 medical schools in Ethiopia participated (mean age  $23.2 \pm 2.03$  years; 49.3% female). Preclinical, clinical, and intern students accounted for 29.4%, 53.4%, and 17.1%, respectively. Overall, 53.8% had participated in at least one research project, and 38.8% reported high research barriers. Multivariable

analysis showed students reporting a moderate (3/ 5) academic workload (AOR = 2.62, 95% CI: 1.08–6.38), being in clinical years (AOR = 15.04; 95% CI: 3.60–63.01), completion of a research course (AOR = 2.95, 95% CI: 1.43–6.10), or attendance at a research conference (AOR = 14.10, 95% CI: 3.56–55.84) increased the likelihood of participation. Difficulty meeting faculty (AOR = 0.23, 95% CI: 0.09–0.59), academic writing challenges (AOR = 0.21–0.32), perceived curriculum inadequacy (AOR = 0.29, 95% CI: 0.13–0.65), and difficulty with journal submission (AOR = 0.34, 95% CI: 0.12–0.97) were associated with lower participation. Students not in a research club were less likely to report high barriers (AOR = 0.64, 95% CI: 0.42–0.97), whereas students from government institutions had higher odds (AOR = 1.92, 95% CI: 1.12–3.28).

**Conclusion:** Medical students in Ethiopia face significant barriers to research, with participation influenced by clinical training, courses, and conferences. Mentorship challenges, academic writing difficulties, and curriculum gaps limit engagement. Improving mentorship, research training, and curriculum integration could enhance student involvement.

**Key Words:** Education, Medical, Undergraduate; Students, Medical; Research/education; Cross-Sectional Studies; Ethiopia; (Source: MeSH-NLM).

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