

AB004. Education for all: enhancing high-quality laparoscopic surgery training for surgeons in remote communities of Ecuador

Andres D. Oquendo¹, Juan C. Mejia¹, Sebastian M. Colina¹, Fernando J. Torres², Pedro J. Gallegos¹

¹College of Health Science, School of Medicine, Universidad San Francisco de Quito, Quito, Ecuador; ²Department of Surgery, School of Medicine, Universidad San Francisco de Quito, Quito, Ecuador

Correspondence to: Andres D. Oquendo, MD. College of Health Science, School of Medicine, Universidad San Francisco de Quito, Diego de Robles s/n, Quito 170901, Ecuador. Email: aoquendo@alumni.usfq.edu.ec; andresdavid-oc@hotmail.com.

Background: Laparoscopic surgery has demonstrated significant benefits, yet access to training in this technique remains limited in lower and middle-income countries. In Ecuador, underserved communities face challenges in accessing high-quality education in laparoscopic surgical care. This study analyzes the effectiveness of an established surgeon-led training program in enhancing laparoscopic skills in participants from remote areas and its impact on improving access to high quality surgical care.

Methods: We conducted a comprehensive analysis of a 40-hour training program implemented in Quito, Ecuador. This program educated surgeons working in multiple remote areas in Ecuador. It was led by certified professional surgeons who provided expert guidance, evaluation, and feedback on skill progression. We evaluated pre- and post-training measurements of completion time for eleven laparoscopic exercises to assess skill development. Additionally, we conducted a follow up survey to assess the program's impact on participants' surgical practice.

Results: The analysis of the established training program showed significant improvements in laparoscopic skills. The pre- and post-training time measurements revealed a statistically significant reduction in completion times in eleven of the eleven laparoscopic exercises, indicating enhanced skill development. The follow-up survey indicated that participants perceived improved abilities and

reported increased utilization of laparoscopic techniques in their patient population, leading to reduced complications. However, no quantitative data were available to analyze patients' outcomes.

Conclusions: Our analysis demonstrates the effectiveness of this program in enhancing laparoscopic skills and improving access to quality surgical care for surgeons working in remote hospitals of Ecuador. The findings support the use of these programs as a sustainable model for delivering accessible courses to physicians, thereby improving surgical techniques and patient outcomes. This analysis inspires us for the potential implementation of a similar initiative using an online and remote course to facilitate the delivery to more surgeons working in the most remote areas.

Keywords: Laparoscopic surgery; surgical training; global health; underserved communities; medical education

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Footnote

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Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). The study was approved by the Institutional Ethics Committee of University San Francisco de Quito (No. MSP-VGVS-2020-0274-O) and informed consent was obtained from all individual participants.

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