

Evaluating the AMPATH Surgical App (ASAP): Open Appendectomy Module
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Introduction: Due to paucity of surgical personnel and lack of resources in low- and middle-income countries (LMICs), general practitioners with little surgical education are often relied upon to complete emergent appendectomies. To address this concern, a smart phone app-based curriculum called AMPATH Surgical App: Open Appendectomy Model (ASAP) was created to enhance learner's appendectomy skills. The aim of this study was to evaluate the effectiveness of ASAP compared to standard curricula using Kirkpatrick's Learning Evaluation Model.

Methods: A randomized controlled trial was performed. Participants were randomized by simple, random allocation into the intervention ASAP curriculum education group, or the control standard education group. The intervention group was provided access to ASAP while the control group received traditional appendectomy instruction that included textbook and atlas chapters on appendicitis. All participants were assessed at weeks 0, 3, and 6 for appendectomy knowledge and surgical skill, both Kirkpatrick Level Two outcomes, and confidence, a Level One outcome.

Results: 10 students were enrolled into 2 groups: control (6/10, 60%), and intervention (4/10, 40%). At baseline there was no significant difference between control and intervention groups for knowledge pre-test, skills self-assessment, skills expert assessment, and operative time; demonstrating that the groups are similar in baseline knowledge and skill. There was no significant difference in confidence between groups after the first simulation; both groups did increase in confidence from baseline. Both groups decreased operative from baseline to simulation 1, and despite no significant difference between groups for simulation 1 expert assessment, both groups increased points earned from baseline to simulation 1.

Conclusion: Preliminary results show ASAP to be an effective teaching tool, resulting in increased confidence and skills assessment improvements, corresponding to Levels One and Two of Kirkpatrick's Learning Evaluation Model, respectively.