

Simulation-Based Curriculum

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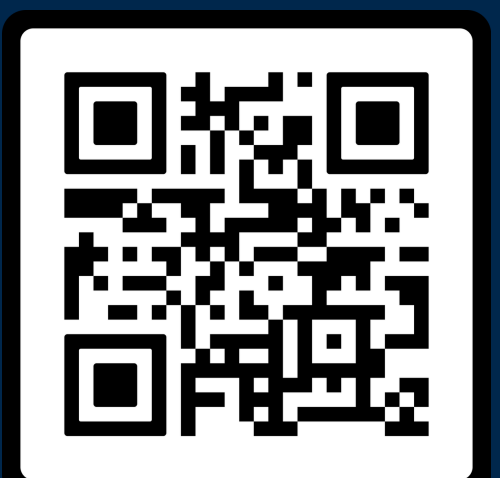
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Improve hysteroscopy and surgical capacity-building in low- and middle-income countries

Expand access to hysteroscopy to enhance care delivery and improve health outcomes for women

Strengthen partnerships globally in the healthcare system

References & Acknowledgments

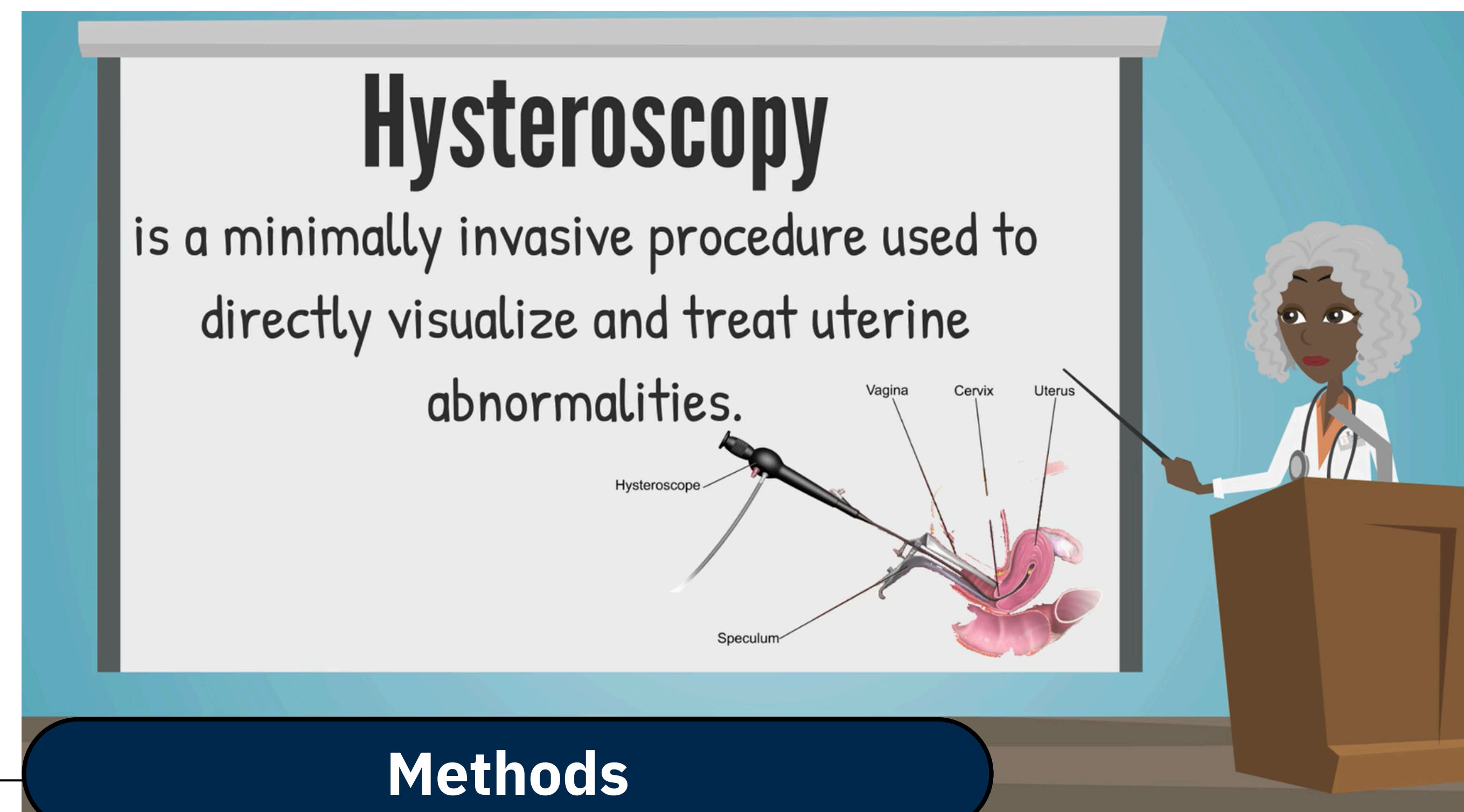


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Introduction

- In many **low-resource settings**, including Ghana and Rwanda, there is a shortage of trained hysteroscopy surgeons, largely due to:
 - Limited** access to formal **training**
 - Equipment and **resource constraints**
- This leads to unnecessary or invasive procedures, delayed care, and **increased morbidity and mortality**.



Objective

Develop a **scalable** simulation-based hysteroscopy training program that **builds local surgical capacity** and improves women's health outcomes.

Results

The following educational and assessment materials were developed :

- Blueprints for 33 learning objects
- Three animated instructional videos
- Educational handouts
- Simulation task trainers for hands-on practice
- Pre- and post-training questionnaires
- Procedural checklist

Methods

Needs Assessment

- Consultation with clinicians and partners to identify training gaps
- Literature review

Curriculum Development

- 42 academic sources to identify best practices in simulation-based hysteroscopy training.
- Formulation of blueprints for 33 learning objects based on **Miller's Pyramid**.
- Development of 3 animated instructional videos
- Educational Hand-out
- Task Trainer Feedback

Task Trainer

Development of context-adapted, low-cost task trainer

Assessment of Learning Objectives

- Pre- and post-questionnaire
- Procedural Checklist

Knowledge - Cognitive Domain			Skills -- Psychomotor		
Miller's Level ¹ (Relative Order)	Learning Objective	Content Source	Miller's Level ¹ (Relative Order)	Learning Objective	Content Source
Apply (Mid)	Identify indications and contraindications of hysteroscopy: diagnostic, polypectomy, IUD removal	Pre-program Questionnaire, Program Video, Checklist, Post-Program Questionnaire	Set (Low)	Discuss risks and benefits, and obtain informed consent	Program Video, Checklist
Understand (Low)	Know major risks and benefits of hysteroscopy	Pre-program Questionnaire, Program Video, Checklist, Post-Program Questionnaire	Set (Low)	Ensure proper safety protocols by conducting a comprehensive "safety timeout" before the procedure	Program Video, Checklist
Analyze (Mid)	Compare and contrast hysteroscopy to alternative procedures	Pre-program Questionnaire, Program Video, Checklist, Post-Program Questionnaire	Set (Low)	Perform proper patient positioning and preparation	Program Video, Checklist
Understand (Low)	Know proper patient preparation for the procedure	Pre-program Questionnaire, Program Video, Checklist, Post-Program Questionnaire	Guided Response (Mid)	Develop hand-eye coordination/dexterity with hysteroscopy instruments	Program Video, Checklist
Apply (Mid)	Identify methods for cervical preparation	Pre-program Questionnaire, Program Video, Checklist, Post-Program Questionnaire	Mechanism (Mid)	Navigate the procedure with the camera at a fore-oblique angle	Program Video, Checklist
Apply (Mid)	Identify proper equipment selection, components, and maintenance	Pre-program Questionnaire, Program Video, Checklist, Post-Program Questionnaire	Affect - Attitude		
Analyze (Mid)	Compare and contrast distension media types and delivery	Pre-program Questionnaire, Program Video, Checklist, Post-Program Questionnaire	Miller's Level ¹ (Relative Order)	Learning Objective	Content Source
			Responding (Mid)	Report improved confidence toward own ability to identify clinical scenario eligible for hysteroscopy	Pre-program Questionnaire, Post-Program Questionnaire
			Responding (Mid)	Report improved confidence toward own ability to offer hysteroscopy to patients	Pre-program Questionnaire, Post-Program Questionnaire
			Responding (Mid)	Report improved confidence in knowledge of risks of hysteroscopy	Pre-program Questionnaire, Post-Program Questionnaire
			Responding (Mid)	Report improved confidence in knowledge of benefits of hysteroscopy	Pre-program Questionnaire, Post-Program Questionnaire
			Responding (Mid)	Report improved confidence in knowledge of complications and its'	Pre-program Questionnaire, Post-Program Questionnaire

Affect - Attitude Questionnaire

Pre-Program	Not at All Confident	Slightly Confident	Somewhat Confident	Very Confident	Extremely Confident
1. How confident are you in identifying clinical scenarios where hysteroscopy is an appropriate diagnostic or treatment option?	1	2	3	4	5
2. How confident are you in explaining the purpose and indications of hysteroscopy to a patient?	1	2	3	4	5
3. How confident are you in explaining the risks associated with hysteroscopy, as compared to alternative procedures?	1	2	3	4	5
4. How confident are you in explaining the benefits associated with hysteroscopy, as compared to alternative procedures?	1	2	3	4	5
5. How confident are you in identifying complications during the hysteroscopy procedure?	1	2	3	4	5
6. How confident are you in managing complications during the procedure as	1	2	3	4	5

Next Steps

- Validation of Assessment Tools**
 - Content validity review by the Delphi Panel
 - Iterative refinement following pilot testing
- The Pilot Phase** will collect data:
 - Knowledge improvement** - Pre- and post-training questionnaires, checklist
 - Technical skill** - Simulation performance assessments
 - Attitudes and Confidence** - Towards hysteroscopy practice.
 - Feedback** - Training relevance and effectiveness