

Enhancing Clinical Skills Through Simulation-Based Medical Education: A Quality Improvement Study

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Introduction

This study examines the impact of simulation training on procedural skills and confidence in O&G doctors. Using a post-course survey, we evaluated feedback measuring self-assessment on technical and non-technical skills.

Objective:

- **Determine Impact:** Assess how simulation training influences procedural skills and confidence.
- **Study Question:** Does in-house simulation-based training enhance applied knowledge, technical skills and confidence for O&G doctors at UHB?

Design:

Type: Prospective post-course evaluation

Methodology:

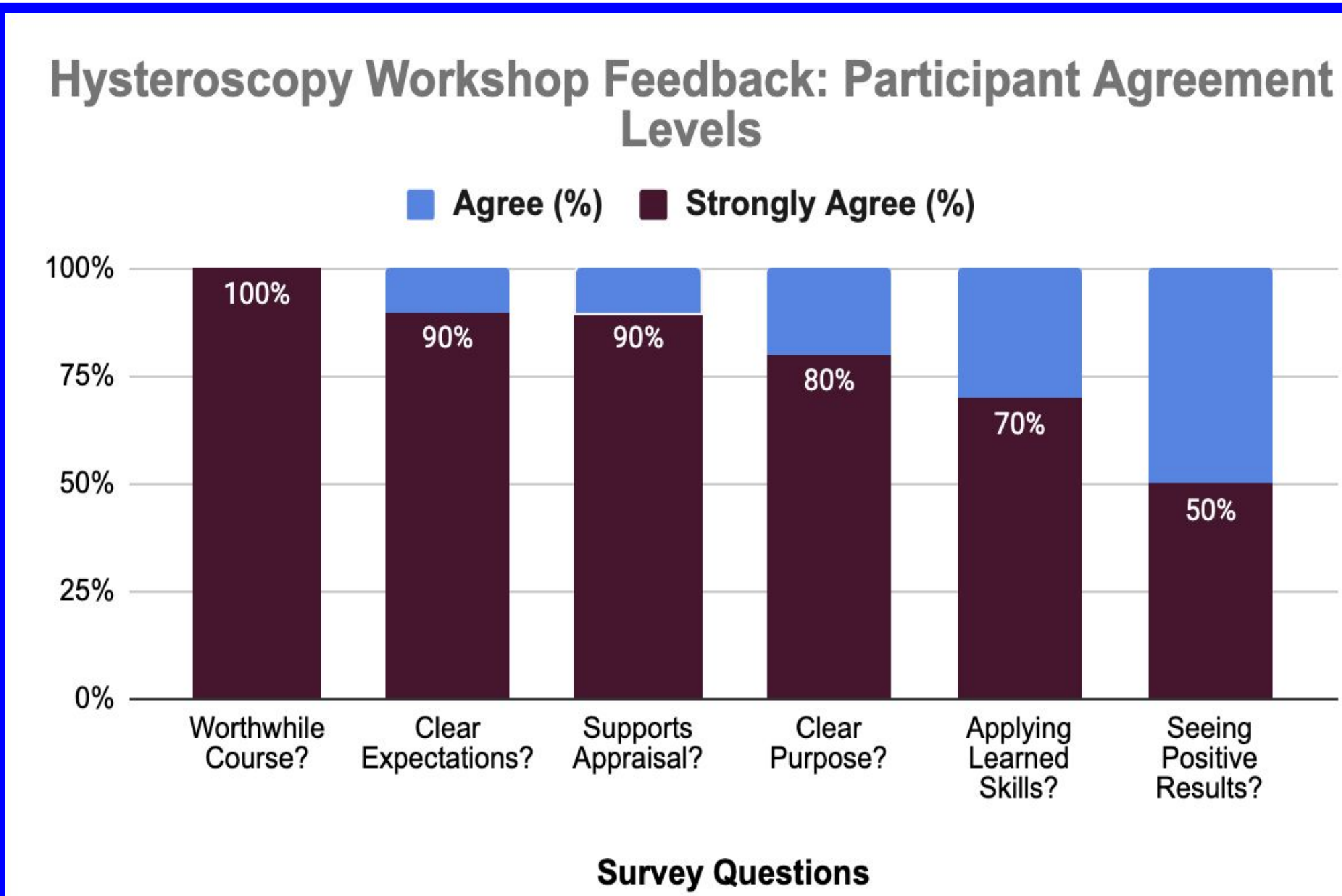
1. Subjective assessment through participant surveys.
2. Trainer evaluations based on the satisfactory completion of OSATs (Objective Structured Assessment of Technical Skills) using mannequins.
3. Feedback triangulated to reflect performance and perceived competence.

Method:

1. **Participants:** 65 O&G doctors; residents and non-residents.
2. **Tools:**
 - a. Simulation equipment for curriculum-based O&G procedures.
 - b. A total of four courses including RCOG Basic Practical Skills, two hysteroscopy and one laparoscopy courses.
3. **Data Collection**
 - a. Post-simulation surveys.
 - b. Competency tests with qualitative feedback.

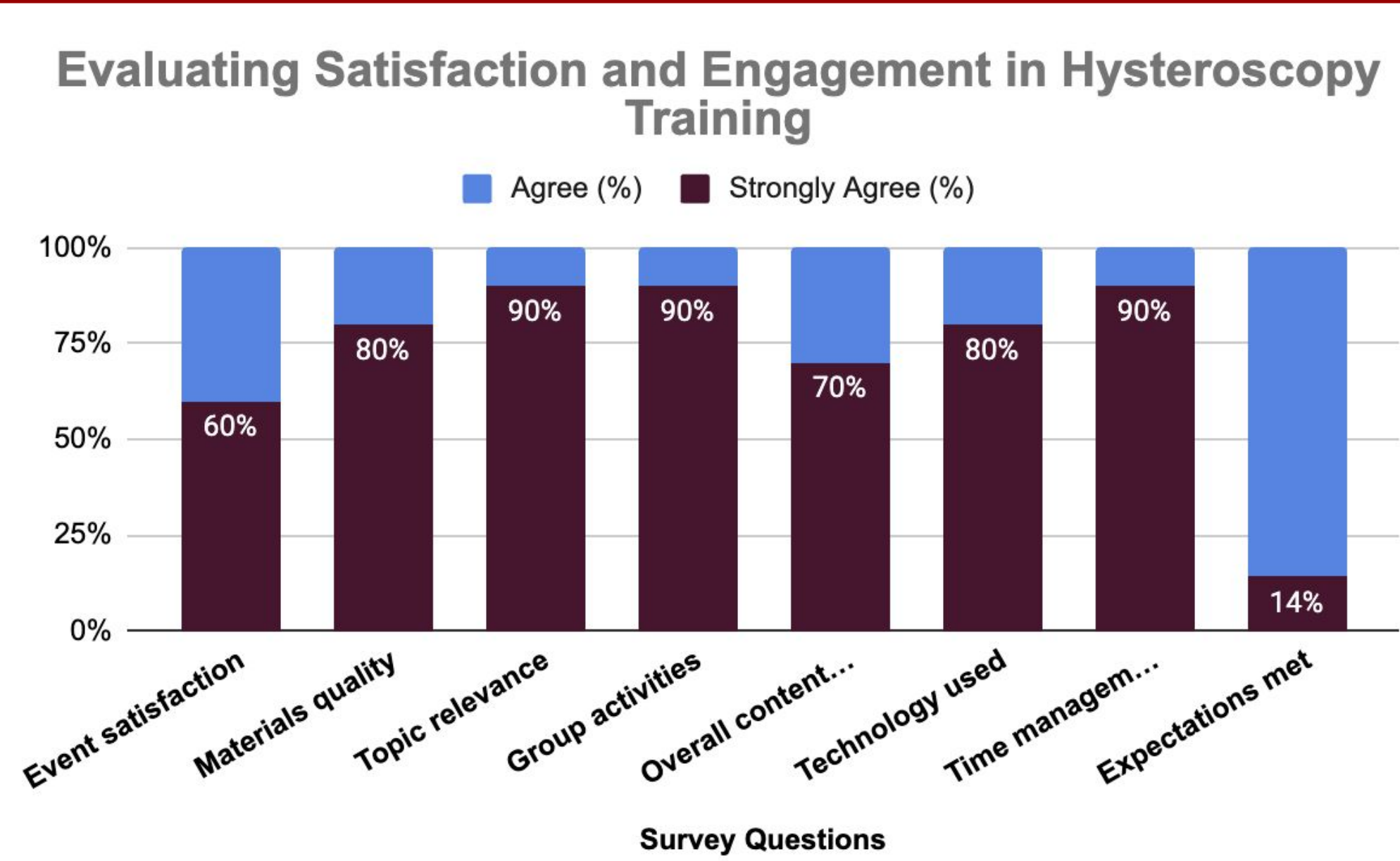
Results:

Graph 1: Hysteroscopy course (1)



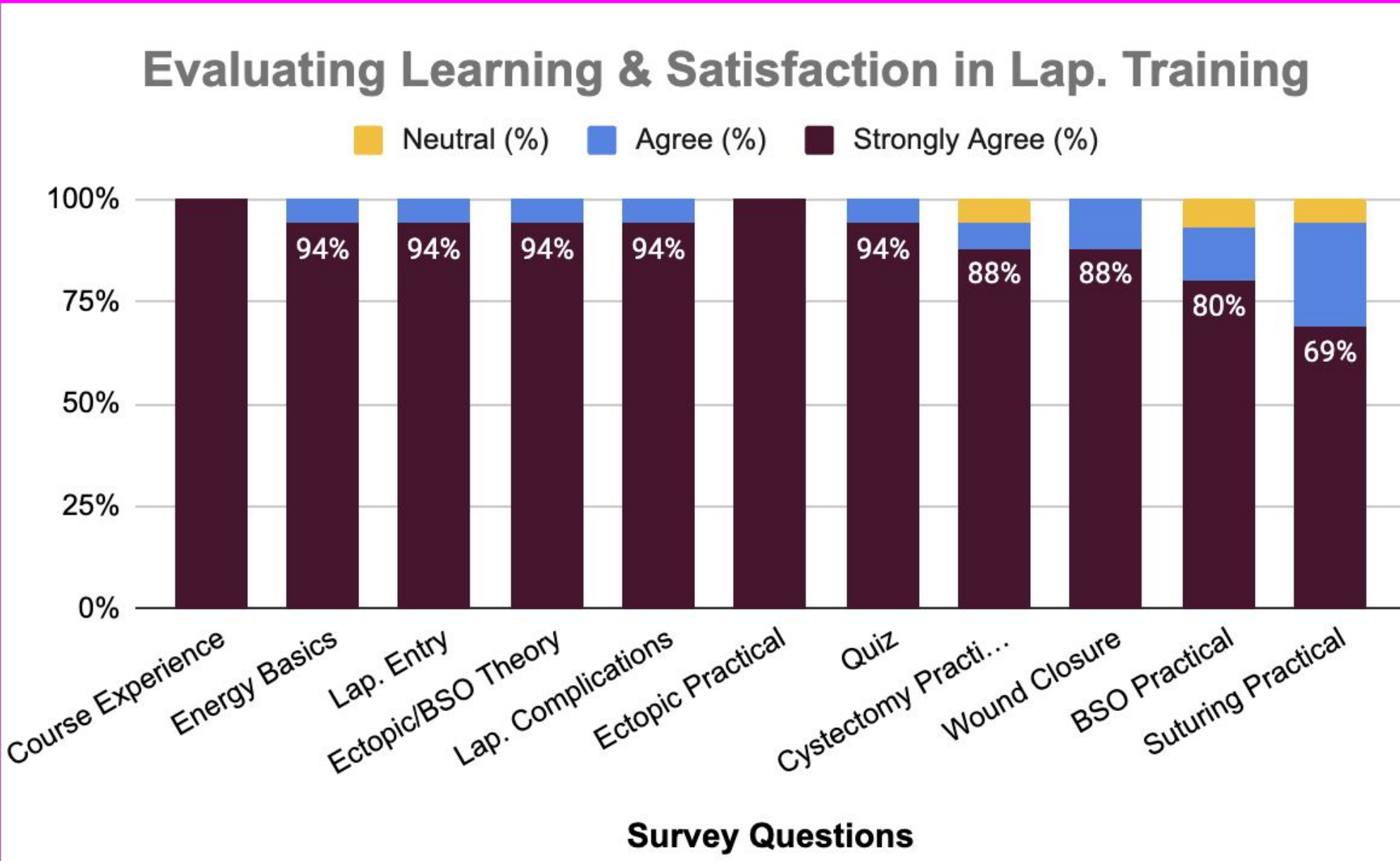
- The Course was worthwhile: **100%** Strongly Agree
- The course had clear expectations for residents and support appraisal for non-resident doctors: **90%** Strongly Agree
- Applying learned skills in simulation to practice: **70%** Strongly Agree
- Doctors already seeing positive results by the end of the session: **50%** Strongly Agree

Graph 2: Hysteroscopy course (2)



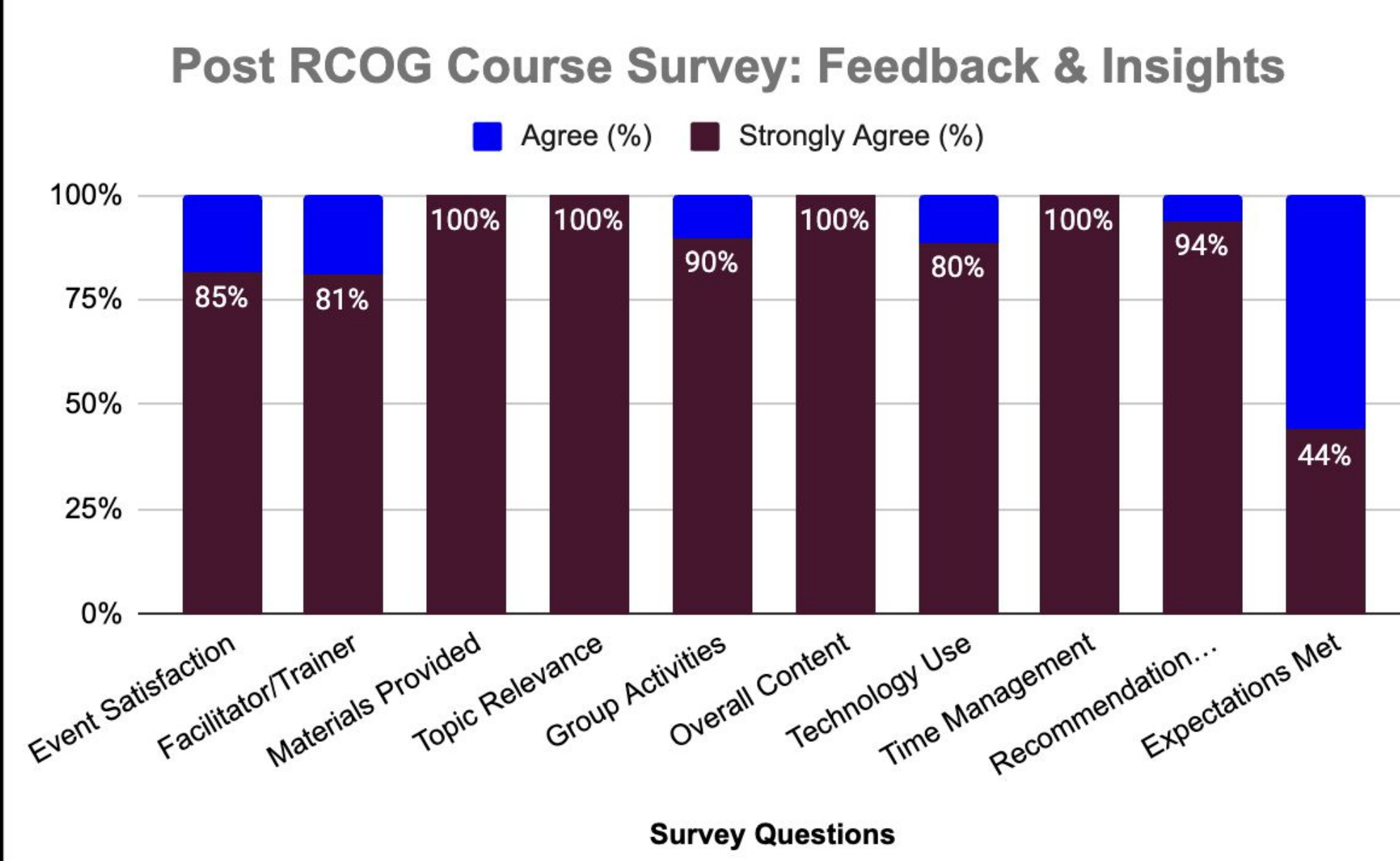
- **Event satisfaction** received 60% strong approval, with 40% agreeing.
- High ratings for **applied theory and practical sessions—materials quality** at 80% strongly agree, and **group activities** at 90% strongly agree.

Graph 3: Laparoscopy course Feedback



- Overall **Course Experience** received 100% Strongly Agree, with most other ratings in the 94–100% range.
- **Practical Sessions** received strong ratings, with **Ectopic pregnancy** at 100%, **BSO** 80%, and **Suturing** 70%.

Graph 4: Basic practical skills RCOG Course



- Overall course **Satisfaction**, **facilitators** expertise were highly rated, as well as **materials & content**.
- **Topic relevance & group activities** were also highly rated
- **Tech** use and **Recommendation** of course to others was rated at 94% strongly agree.
- **Expectations:** 45% exceeded, 55% met.

Discussion:

- In-house courses and simulation training of O&G doctors at UHB improved technical skills on mannequins and boosted their confidence. Most participants highly rated the courses for clarity and engagement.
- Although translating training into clinical practice remains an area for development and might be challenging to evaluate, in my role as college tutor however, all our residents' doctors were able to achieve satisfactory outcomes in their ARCP outcomes. These findings support integrating simulation into regular training while refining methods to measure impact and performance in clinical practice.
- Trainers were satisfied with participants' performance by the end of the practical sessions.

Conclusions:

- Simulation training demonstrably enhances technical proficiency and self-confidence in O&G trainees.
- Participant feedback and trainer observations validate the educational quality and relevance of these courses.
- Regular inclusion of simulation within postgraduate medical education is strongly recommended.

Future Directions:

- Funding secured via UHB Medical Academy to support four annual simulation courses (2 Obstetrics, 2 Gynaecology).
- First funded course (Laparoscopy) delivered April 2025; RCOG ROBuST course scheduled for July 2025.
- Future courses will be tailored to trainees' learning needs using rotation-specific evaluations.