

Background & Hypothesis

Background

- Patients increasingly seek medical information online prior to clinical encounters, particularly during pregnancy¹ (Sayakhot P. *BMC Pregnancy Childbirth*, 2016.)
- However, access to accurate and personalized obstetric anesthesia information before Pre-Anesthesia Unit visits remains limited.

Purpose

- To determine if a Large Language Model-based digital assistant in the Pre-Anesthesia Unit of Canadian academic hospitals can improve the satisfaction and effectiveness of patient education in obstetrics.

Methods

Phase 1 – Chatbot Development

- Obstetric anesthesia literature review to curate knowledge base
- Frequently asked questions (n = 50) identified from obstetric anesthesia resources
- Chatbot responses reviewed by anesthesiologists at The Ottawa Hospital

Phase 2 – Patient Evaluation

- Obstetric patients ≥ 18 years attending the Pre-Anesthesia Unit
- Patients asked one question (with optional follow-up)
- Post-interaction satisfaction survey

Sample size

- Target n = 20 based on qualitative saturation principles² (Vasileiou K. et al., BMC Med Res Methodol 2018)

Results

Table 1 – TOH Anesthesiology Clinician ratings of 50 Chatbot answers in response to 50 SOAP frequently asked questions

Question	Average Rating (n = 50*)
The answer given by the Chatbot fully addressed the question	4.44
I would not add anything to the answer given by the Chatbot	3.62
The answer given by the Chatbot did not relate accordingly with the question asked	1.42
The quality of the answer is appropriate to enhancing patients' orientation	4.48
The language used in the answer is appropriate for the understanding of a non-healthcare worker	4.68
The answer given lacks information that could be addressed if another question would be asked for context	2.22
Overall score for the Answer Appropriateness	7.9

* Five assessors each rated 10 questions for a total of 50 responses

Note: Ratings were based on a 5-point Likert scale where 1 = strongly disagree and 5 = strongly agree. Final question rated on a 10-point Likert scale

Table 2 – Patient Ratings of Chatbot Answers in Response Self Formulated Questions

Question	Average Rating (N=20)
Did the Chatbot answer fully address your initial question?	4.8
If you needed to refine your question to get an appropriate answer, did the second answer fully address your question?	4.7
I believe the consultation of the Chatbot could prevent me to search for another medical encounter for remaining questions	3.8
One advantage with the Chatbot is the easy accessibility to have remaining clinical questions answered	4.7
I believe the Chatbot could just add confusion to my understanding of the peripartum experience	2.0
I would rather have all the orientation on the consultation day than have the Chatbot as a guide resource	2.4
Do you feel more confident on how to access key information about the peripartum process with the Chatbot assistance?	4.4
Do you feel the Chatbot could help you understand the peripartum process somewhat deeper?	4.5

Note: Ratings were based on a 5-point Likert scale where 1 = strongly disagree and 5 = strongly agree.

Conclusions and Discussion

- Clinicians agree the Chatbot gives appropriate, understandable answers.
 - Occasional need for clarification
- Patients strongly agree the Chatbot provides appropriate answers.
 - Patient comments note that it would be a helpful supplement to the PAU visit
- Recent literature has yielded similar conclusions: that AI chatbots have potential to supplement traditional clinic visits³ (Suri et al. *Int J Obstet Anesth*, 2025)
- **Study limitations:** Selection bias, response bias, subjective outcome measures