

INTRODUCTION:

- The integration of AI is reshaping healthcare, bringing forth progress in quality, efficiency, and accessibility.
- A prominent AI technology within this paradigm is the chat generative pre-trained transformer (ChatGPT), an advanced large language model distinguished for its capability to produce high-quality textual responses to a diverse array of prompts.¹
- The domain of women’s health, particularly Obstetrics and Gynaecology (OBGYN), represents a medical speciality that stands to gain considerable advantages.
- Given that OBGYN has historically been characterised by notable diagnostic and therapeutic deficiencies,^{2,3} for which large language model could be instrumental in addressing these inequities.

OBJECTIVES:

To evaluate the effectiveness of AI-based platforms in enhancing

- Diagnostic accuracy among residents of OBGYN
- Clinical decision-making among residents of OBGYN

METHODS:

Design:

- Cross-sectional comparative analysis done in the Obstetrics and Gynaecology departments of two accredited hospitals from December 2024 to March 2025,
- Group I, the AI-Integrated group, used the AI tool Chat GPT 4 Mini, whereas Group II had no AI assistance.

Inclusion and Exclusion Criteria:

- Residents currently enrolled in OBGYN residency programs at all postgraduate levels from the two hospitals were invited. Those who completed their training within the last two years but hadn’t fulfilled specialty requirements and junior doctors working as medical officers in OBGYN were also included.
- Participants were excluded if they were from other specialties, had fulfilled specialty requirements, held positions as house officers, medical students, fellows, attending physicians, or other healthcare professionals. Only those who consented to participate and completed the questionnaire were included.

Data Collection Tool:

- The assessment included 100 multiple-choice questions divided into two sections: 50 questions on diagnostic skills and 50 on clinical decision-making.

RESULTS: A total of 152 residents were enrolled, with 76 in each group.

Table 1: Demographic Overview of Study Population

	Categories	AI-Integrated Group	Conventional Group
Age	21-25 years	9(11.8%)	20(26.3%)
	26-30 years	51(67.1%)	45(46.9%)
	31-35 years	12(15.8%)	7(9.2%)
	36-40 years	4(5.3%)	3(3.9%)
	>41 years	0	1(1.3%)
Year of Residency	1 st year	12(15.8%)	23(30.3%)
	2 nd year	15(19.7%)	13(17.1%)
	3 rd year	25(32.9%)	18(23.7%)
	4 th year	8(10.5%)	13(17.1%)
	Residency trained physician	16(21.1%)	9(11.8%)

Figure 2: Comparison of Confidence Levels and Response Times in Clinical Scenarios Between AI-Integrated and Conventional Groups

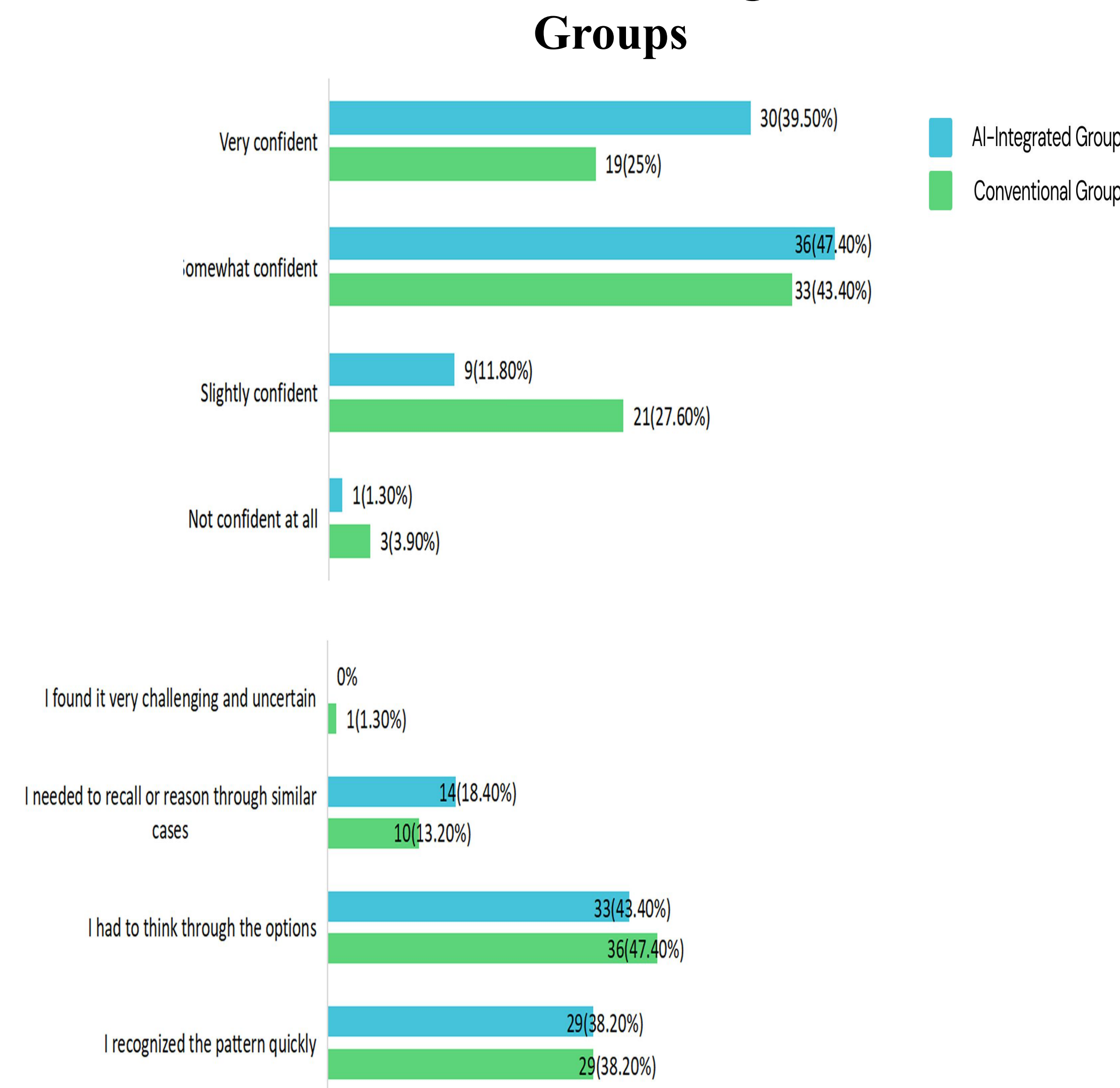


Figure 1: Variability in Diagnostic Accuracy and Clinical Decision-Making Mean Success Rates Through AI Integration

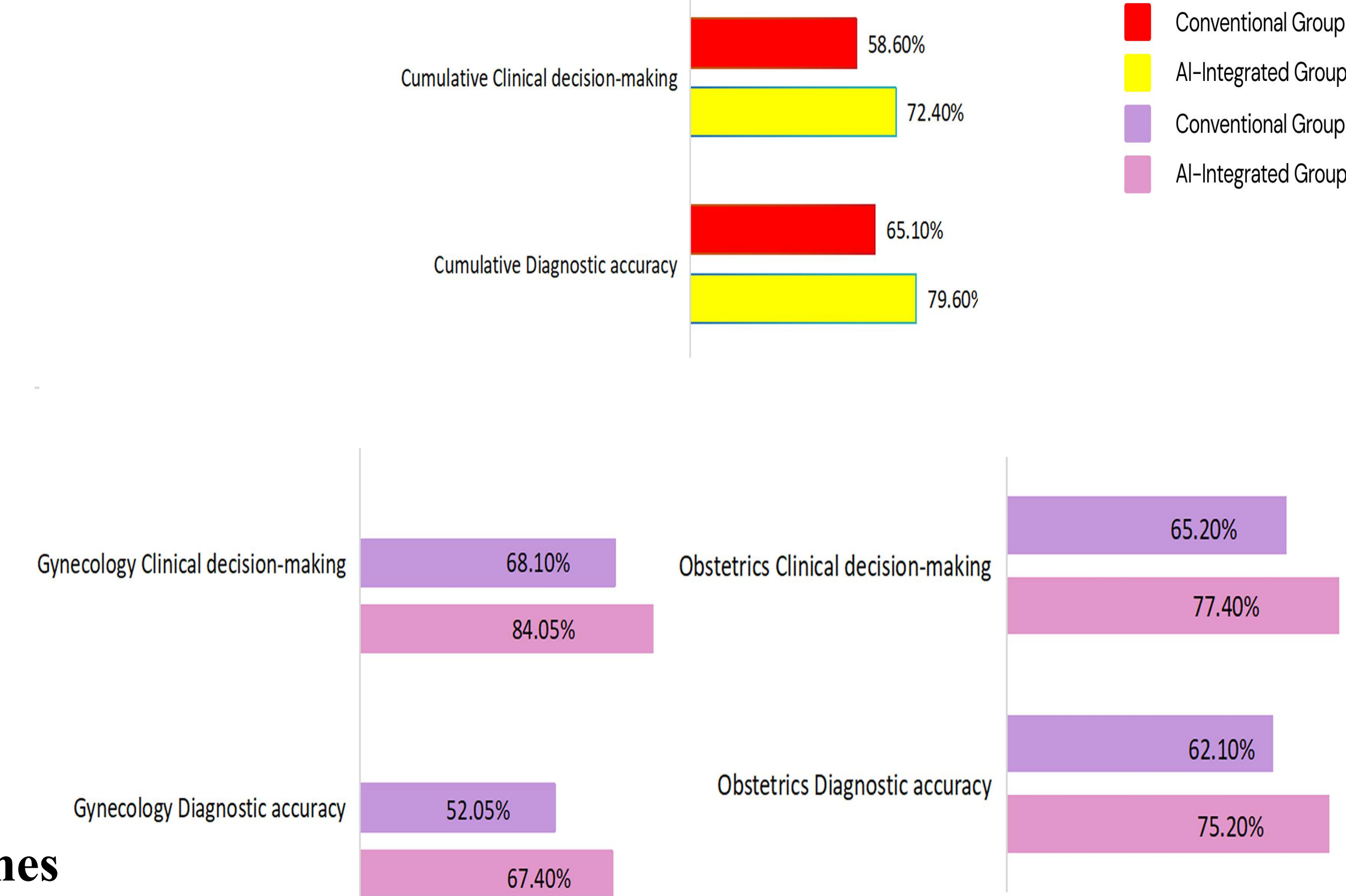


Table 2: Univariate (Binomial logistic regression) analysis of success rate of diagnostic Accuracy and clinical decision-making

Variables	Units of measurement	OR	95% Confidence Interval (Lower-Upper)	p-value
Cumulative Diagnosis accuracy	Success rate	1.05	1.02-1.07	<0.001*
Cumulative clinical decision making		1.06	1.03-1.09	<0.001*
Obstetric diagnosis accuracy		1.06	1.03-1.08	<0.001*
Gynaecology diagnosis accuracy		1.03	1.01-1.05	<0.001*
Obstetric Clinical decision making		1.05	1.02-1.08	<0.001*
Gynecology Clinical decision making		1.05	1.02-1.07	<0.001*

Outcome:

- The mean success rate in diagnostic accuracy and clinical decision-making (percentage of correctly answered cases per participant)
- Average time to diagnosis and, self-reported confidence levels.

Data Analysis:

- Analysis was performed using SPSS version 26.0
- Chisquare test, t-test, Binomial logistic regression

CONCLUSION:

This study shows that using AI tools, like ChatGPT-4 Mini, in obstetrics and gynecology training improves diagnostic accuracy, clinical decision-making, and resident confidence. The AI-integrated group performed better than the conventional group in both specialties.

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