ChatGPT in Pharmacy: Rx for the Future

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BACKGROUND[1]

- AI uses natural language processing (NLP) to provide fast, evidence-based responses to clinical questions

- ChatGPT (est. 2022) utilizes deep learning (DL) to analyze clinical trials and guidelines, answering complex drug-related questions

- AI integration presents challenges, including learning curves, workflow disruptions, and trust concerns among patients and providers

- ChatGPT should serve as a supplementary tool rather than replace pharmacists

OBJECTIVES

Primary
Assess accuracy of ChatGPT's responses to T2DM questions compared to medical guidelines and UpToDate® Lexidrug™

Secondary
Assess accuracy of ChatGPT provided references to T2DM questions

METHODS

Study Design
- Observational
- Based on previous research
- 8/14/24-8/29/24
- ChatGPT 3.5

Statistical Analysis
- JASP software
- Accuracy: One-sample t-test
- Normality: Shapiro-Wilk
- Significance: $p < 0.05$

Question Development
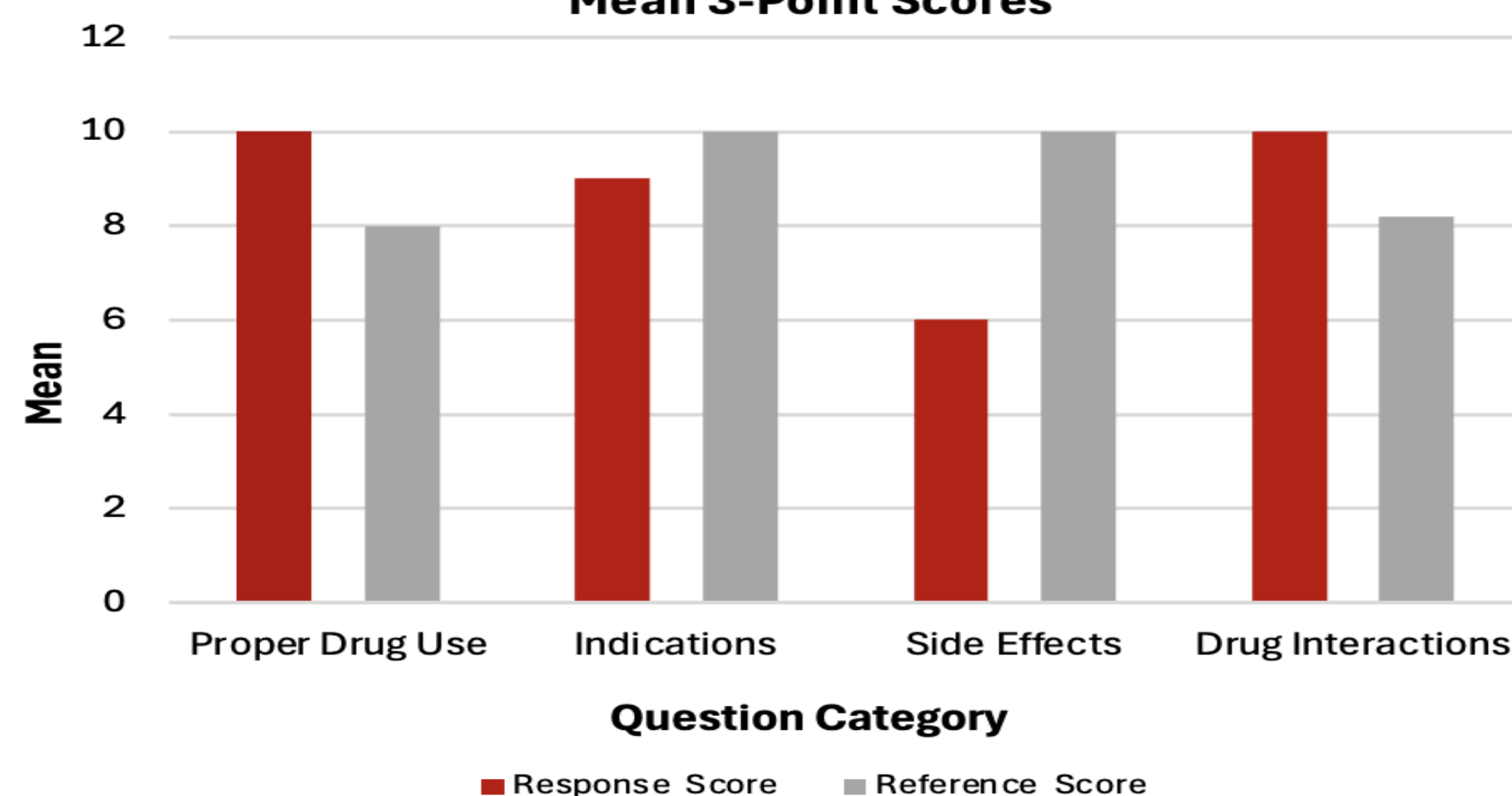Mentor created 20 questions categorized into four domains (n=5)

| Proper Drug Use | Indications | Side Effects | Drug Interactions |

Grading Scale

1	5	10
Incorrect	Partially Correct	Correct

RESULTS

Mean 3-Point Scores — bar chart of Response Score and Reference Score by Question Category (Proper Drug Use, Indications, Side Effects, Drug Interactions)

One Sample T-Test			
	t	df	p
Response Score	-1.321	3	0.278
Reference Score	-1.727	3	0.183

CONCLUSION

- Accurately answers clinical T2DM questions, specifically drug interactions and usage

- Provides acceptable references with minor inconsistencies

- AI should be used as a supplementary, not a standalone, tool in pharmacy practice

- Future research should focus on broader disease state, more questions, multiple AI platforms, and evaluating real-world impact

REFERENCES

1. Kaul V, Enslin S, Gross SA. History of artificial intelligence in medicine. *Gastrointest Endosc*. 2020;92(4):807-812. doi:10.1016/j.gie.2020.06.040

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