

# INFLUENCE OF ARTIFICIAL INTELLIGENCE ON CLINICAL DECISION-MAKING IN HEALTHCARE: A KAP STUDY AMONG FUTURE PHARMACISTS

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## OBJECTIVES

Artificial Intelligence (AI) is transforming healthcare delivery and clinical decision-making through early diagnosis, precision medicine, and patient-centred care. Future pharmacists are expected to play a crucial role in integrating AI into healthcare systems. This study assessed the knowledge, attitude, and practice (KAP) regarding AI in clinical decision-making among pharmacy students, emphasising healthcare affordability, accessibility, and patient outcomes.

## METHODS

A cross-sectional questionnaire-based study was conducted among undergraduate pharmacy students using a structured and validated KAP survey administered through an online platform. The questionnaire included demographic details and 20 closed-ended questions related to AI applications in healthcare. Knowledge was assessed using multiple-choice questions, attitude through a 5-point Likert scale, and practice through adoption- and frequency-based responses. Scores were categorised into good, moderate, and poor levels using predefined cut-offs. Descriptive statistics, chi-square tests, and correlation analyses were performed.

## STUDY POPULATION

N = 176

Undergraduate pharmacy students

118 (67.0%)

Female

58 (33.0%)

Male

20

AI-related closed-ended questions

5-point

Likert scale for attitude

KAP

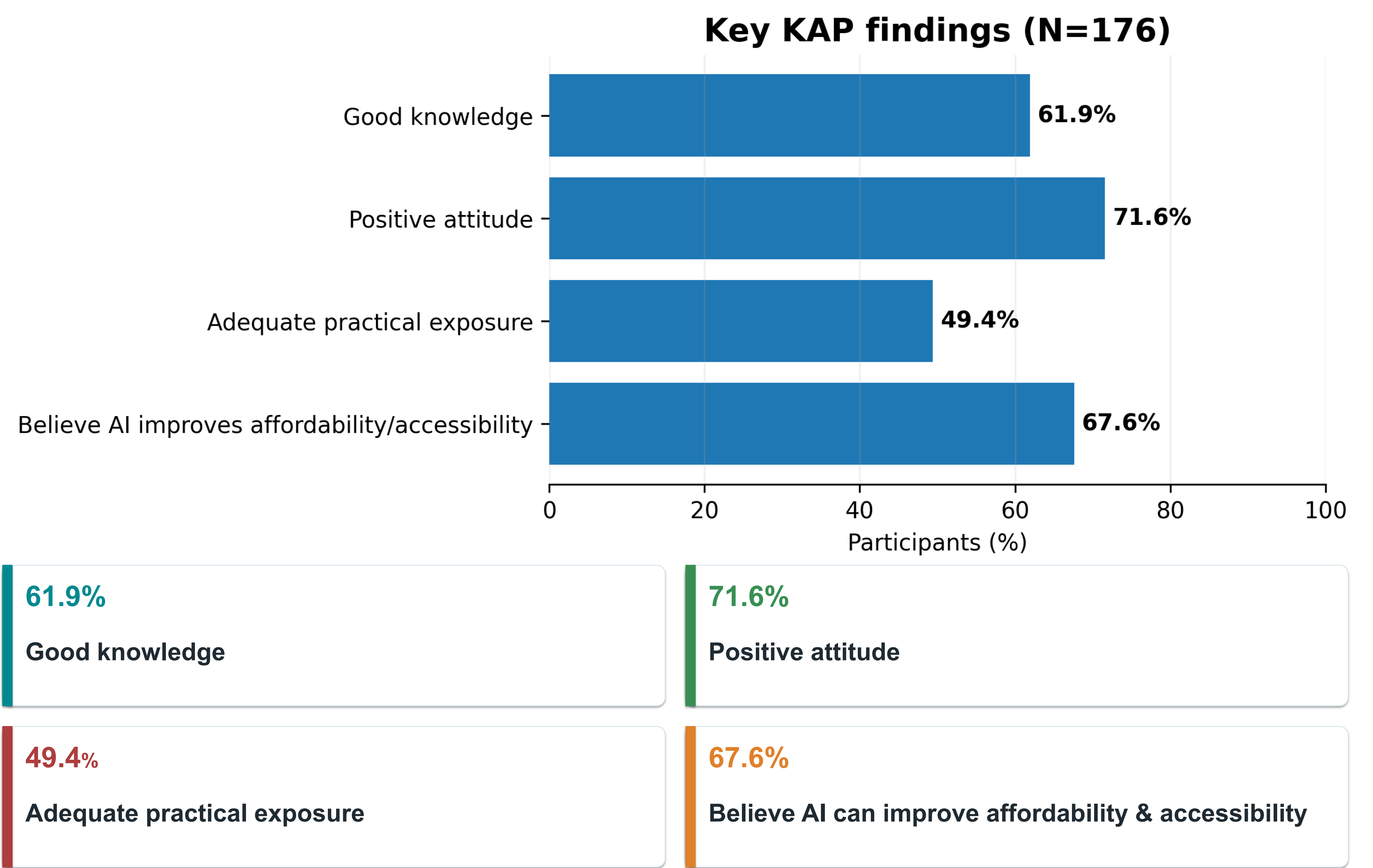
Good / moderate / poor cut-offs

ANALYSIS

Descriptive statistics • Chi-square tests • Correlation analyses

Knowledge → multiple-choice questions  
Attitude → 5-point Likert scale  
Practice → adoption- and frequency-based responses  
Scores → predefined cut-offs

## RESULTS



## STATISTICAL ASSOCIATIONS

Knowledge ↔ Attitude

$\chi^2 = 8.14$  |  $p = 0.004$

Knowledge ↔ Practice

$\chi^2 = 11.27$  |  $p = 0.001$

Knowledge ↔ Practice:  $r = 0.56$  |  $p < 0.001$

## BARRIERS TO AI ADOPTION

ETHICS

Ethical concerns

PRIVACY

Data privacy issues

TRAINING

Lack of practical training

The study identifies ethics, data privacy, and practical training as major barriers to AI adoption.

## KEY INTERPRETATION

FAVOURABLE AWARENESS  
BUT LIMITED EXPOSURE

Good knowledge (61.9%) and positive attitude (71.6%) were observed, but adequate practical exposure was lower (49.4%).

This demonstrates a knowledge–practice gap among future pharmacists.

## IMPLICATIONS FOR PHARMACY EDUCATION

- 01

AI-focused education
- 02

Hands-on training with AI-based healthcare tools
- 03

Ethics & data-security awareness
- 04

Patient-centred AI readiness
- 05

Cost-effective healthcare delivery

## CONCLUSION

The study demonstrates a knowledge-practice gap among future pharmacists regarding AI utilisation in healthcare. Although awareness and attitudes toward AI were favourable, limited practical exposure and concerns regarding ethics and data security hindered adoption. Integrating AI-focused education and hands-on training into pharmacy curricula may improve readiness for technology-driven, patient-centred, and cost-effective healthcare delivery.

References

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