

How Do Surgeons Perceive Artificial Intelligence in Their Practice? A Local developing Country – Cross Sectional Study

Hamed Abdullah Alwadaani, MD*

ABSTRACT

Introduction: Implementing artificial intelligence (AI) in surgery has become more popular during the last four decades. Yet, it has a slow pace in the developing countries.

Objective: To evaluate the perspectives of local surgeons about AI implementations during their practice in order to evaluate their needs for improving perception of this technology.

Method: An online cross-sectional survey study was conducted among surgeons of different professional levels and experience in Saudi Arabia in 2024. The research survey was derived from existing literature. A chi-squared test was conducted to assess whether there is a statistically significance difference in participants knowledge, perceptions, and practices on AI based on their socio-demographic variables.

Results: A total of 209 surgeons participated in this study. Participants receiving instruction on AI possessed a higher level of basic knowledge (97.2%) compared to those not receiving instruction (81.1%) (P-value = 0.02). Knowledge about ML and DL was also significantly higher among those who were being taught (84.5% and 69.9%, respectively, P-value = 0.00), contrary to those who did not undergo teaching of AI (32% and 13.2%, respectively, P-value = 0.00); among those who were being taught about AI, 97.2% had knowledge about AI applications in surgical and medical practice as compared to 32.3% who were not taught about it (P-value < 0.001). Among those participants who had already implemented AI in medical practice, the majority (75% of participants) had received formal education on it, whereas 12.6% of those who implemented AI never received education on it.

Conclusions: There is a need for rigorous research, education, and focused training of present and future doctors to help them learn the significance of, and acquire the skills to implement, AI as one component of modern technology.

Keywords: artificial intelligence, knowledge, perception and practice, medical professionals

Bahrain Med Bull 2025; 47 (1): 2695-2699

* Department of Surgery, College of Medicine
King Faisal University, Saudi Arabia.
Email: hawadaani@kfu.edu.sa