Exploring the Readiness of Dental Practitioners toward Machine Learning in Oral Diagnostics: A Cross-Sectional Study in Bhopal City

Vijayta Sharva, Swapnil Jain, Hina Handa*, Neha Rajhans, Shiksha Nahar, Suvarna Gargava

Department of Public Health Dentistry, *Department of Oral Medicine and Radiology, People's Dental Academy, People's University, Bhopal (Madhya Pradesh)

ABSTRACT:

Background: Machine learning (ML) is transforming dental diagnostics, but its adoption depends on practitioners readiness.

Aim: To assess knowledge, attitude, and practice regarding ML in oral diagnostics among dental practitioners in Bhopal.

Materials and Methods: A cross-sectional study was conducted among 200 dental practitioners using a pre-validated questionnaire. Data were analyzed using SPSS **version 30 with descriptive statistics, t-test, and ANOVA ($p < 0.05$).**

Results: Awareness of ML was 81%, with 47% showing good knowledge. A positive attitude was observed in 69% of participants; however, only 39% reported using ML tools. Postgraduates and older practitioners had significantly higher KAP scores ($p < 0.05$). Major barriers included lack of training (68%) and knowledge (64%).

Conclusion: Despite good awareness and positive attitude, the use of ML in practice is limited. Training and curriculum integration are essential for effective adoption.

KEY WORDS: Machine Learning, Artificial Intelligence, Dentistry, KAP, Oral Diagnostics