

## New Era with Artificial Intelligence in Dentistry

**Dr. Rachita G Mustilwar**<sup>1\*</sup>

1. Reader, Department of Periodontology, Rural Dental College, PIMS(DU), Loni, Maharashtra, India

**\*Corresponding Address:**

Dr. Rachita Mustilwar, Department of Periodontology, Rural Dental College, PIMS(DU), Loni, Maharashtra, India. E mail: [dr.rachu@gmail.com](mailto:dr.rachu@gmail.com)

Dear Editor,

Artificial Intelligence (AI) has emerged as a transformative force in various sectors, and its integration into healthcare is revolutionizing traditional practices. Dentistry, a field deeply rooted in precision and patient care, is experiencing a paradigm shift with the incorporation of AI.<sup>[1]</sup> The world is growing faster and going digital every now and then. Dentistry is no exception to it. Artificial intelligence is making world go digitally. To keep up the pace, the need of an hour is incorporation of AI in dentistry. The integration of AI in dentistry holds the promise of improving diagnostics, treatment planning, patient care, and overall efficiency in dental practices.<sup>[2]</sup>

One of the primary areas where AI is making significant strides in dentistry is in diagnostic imaging. Dental professionals routinely rely on X-rays and CT scans for accurate diagnoses. AI algorithms, trained on vast datasets, excel in the analysis of these images, aiding in the early detection of dental issues. AI enhances the precision and speed of image interpretation.

By leveraging patient data, including medical history and diagnostic images, AI algorithms can assist dentists in creating personalized treatment plans.

In the realm of robotic dentistry, AI-driven automation is making inroads to enhance procedural precision and efficiency. Robots equipped with AI capabilities can assist dentists in performing routine procedures with a level of accuracy that surpasses traditional methods.

Virtual assistants powered by AI are streamlining administrative tasks, making appointment scheduling more convenient, and providing patients with information about oral hygiene practices.

Tele-dentistry, facilitated by AI technologies, has emerged as a valuable tool for remote consultations and monitoring. Patients can receive advice and follow-up care without the need for physical visits to the dental office.<sup>[3]</sup>

Administrative tasks, often considered mundane but essential, are being optimized through AI tools. From billing and coding to record-keeping, AI-driven solutions are streamlining these processes

AI also plays a crucial role in the research and development of dental treatments. By facilitating the analysis of vast datasets, AI contributes to the discovery of new materials and drugs for restorative dentistry.

In conclusion, the role of AI in dentistry is multifaceted and transformative. From enhancing diagnostics and treatment planning to optimize patient care and administrative workflows, AI is reshaping the landscape of dentistry. While the integration of AI brings numerous benefits,

it is essential to address ethical considerations, ensure data privacy, and maintain a balance where technology complements the expertise of dental professionals.

**References:**

1. Agrawal P, Nikhade P. Artificial Intelligence in Dentistry: Past, Present, and Future. *Cureus*. 2022 Jul 28;14(7):e27405.
2. Chen YW, Stanley K, Att W. Artificial intelligence in dentistry: current applications and future perspectives. *Quintessence Int*. 2020;51(3):248-257.
3. Batra P, Tagra H, Katyal S. Artificial Intelligence in Teledentistry. *Discoveries (Craiova)*. 2022 Sep 30;10(3):153.

**Submitted:** 18/12/2023  
**Revised:** 20/12/2023  
**Accepted:** 22/12/2023  
**Published:** 26/01/2024

**Cite this article:**

Rachita G Mustilwar. New Era with Artificial Intelligence in Dentistry. *Jour Med Dent Fron* 2024;1(1)1:3-4