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The Role of Artificial Intelligence in Modern Dentistry: Applications, Challenges, and Future Directions

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ABSTRACT

The integration of artificial intelligence (AI) into dentistry is revolutionizing diagnostic, therapeutic, and patient management practices, addressing the growing complexity of modern dental care. This review explores the multifaceted applications of AI, including its role in diagnostics, treatment planning, patient communication, imaging, and robotics, highlighting its potential to enhance accuracy, efficiency, and patient satisfaction. Key benefits such as cost reduction and workflow optimization are contrasted with significant challenges, including technical limitations, ethical concerns, and barriers to adoption by practitioners. By analyzing emerging technologies like natural language processing (NLP) and augmented reality (AR), this paper outlines future directions for personalized and predictive dentistry and multidisciplinary collaboration. The findings underscore the transformative potential of AI in dentistry while emphasizing the need for robust frameworks to ensure ethical, secure, and effective implementation. This review serves as a comprehensive resource for practitioners, researchers, and policymakers aiming to harness AI to elevate the standards of dental care.

Keywords: Artificial Intelligence, Dentistry, Diagnostics, Robotics, Treatment Planning

1 Introduction

THE integration of artificial intelligence (AI) into modern dentistry represents a significant paradigm shift, reflecting broader evolutionary trends in healthcare where technology plays an increasingly indispensable role. Over the years, advancements in AI have facilitated the development of sophisticated tools and methodologies, enhancing diagnostic precision, treatment planning, and patient management protocols in dental practice. As AI continues to evolve, its capacity to process and analyze vast datasets allows for more personalized and predictive care, ultimately driving better patient outcomes. This review aims to explore the multifaceted applications of AI in dentistry, examining not only the transformative potential inherent in these technologies but also the challenges associated with their implementation. Addressing these complexities is vital, as a clearer understanding of what AI can and cannot achieve will inform future directions and the overall trajectory of dental health practices in the coming years [1].

1.1 Importance of Artificial Intelligence [AI] in Dentistry

The incorporation of artificial intelligence (AI) into dentistry has transpired through a notable interplay of technological advancements and the evolving requirements of dental practice. At its core, AI encompasses machine learning, deep learning, and neural networks, which facilitate complex data analysis and pattern recognition that were previously unattainable. Historically, the integration of AI in dentistry can be traced back to early attempts at computer-aided diagnosis, which have progressively

advanced into sophisticated systems capable of performing tasks such as predictive analytics and diagnostic support [2].

A pivotal aspect lies in the capacity of AI to enhance diagnostic accuracy, optimize treatment planning, and streamline patient management, thereby improving overall outcomes in dental care [3-7]. These advancements are visually represented in Figure 1, which depicts the timeline of AI integration in dentistry, key benefits such as improved diagnostic precision, and ongoing challenges like the need for clinical validation. Despite these advancements, a critical consideration remains the necessity for robust clinical validation of AI applications to ensure safety and efficacy, underscoring AI's dual role as both a significant innovation and a source of potential ethical challenges within the field [8].

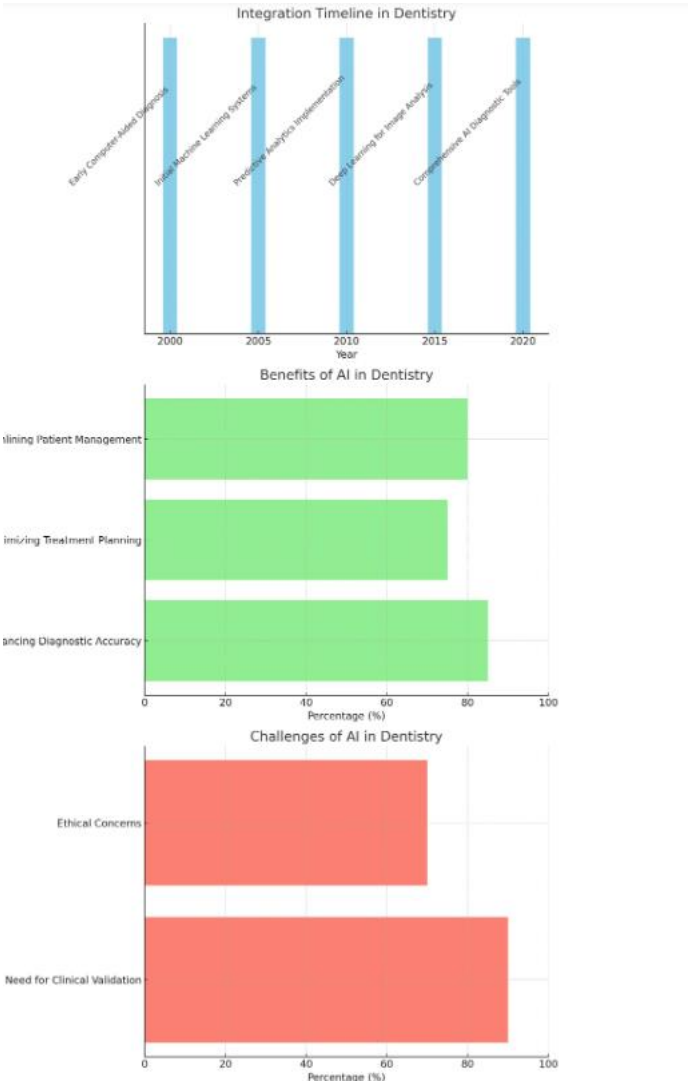

Fig. 1. The charts above illustrate the integration of AI in dentistry, showcasing a timeline of advancements from 2000 to 2020, key benefits such as improved diagnostic accuracy, and challenges such as the need for clinical validation.

1.2 Evolution of AI in Healthcare

Computational techniques, including machine learning and deep learning, the field of dentistry has witnessed a marked evolution, enhancing the precision and efficiency of various practices. For instance, Convolutional Neural Networks (CNNs) have revolutionized diagnostic imaging, allowing for the accurate identification of dental anomalies and facilitating faster treatment planning [9-10].

Moreover, the burgeoning applications of AI extend to patient management through intelligent systems that streamline communication and predict treatment outcomes, thus significantly improving the patient experience [11]. These advancements are further illustrated in Figure 2, which highlights the impact of AI on healthcare and dentistry from 2021 to 2025, showcasing metrics such as improvement in diagnostic imaging, time saved in treatment planning, and patient satisfaction scores. As dental professionals increasingly recognize the value of AI technologies, it becomes imperative to address the accompanying ethical and practical challenges, ensuring that the incorporation of such innovations leads to better clinical results while maintaining patient safety and confidentiality [12].

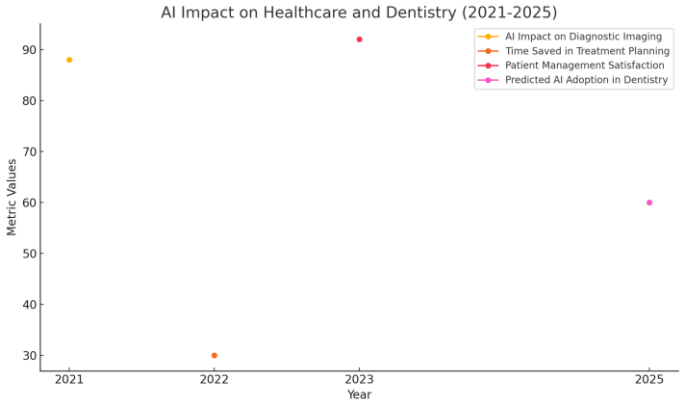

Fig. 2. The chart illustrates the impact of artificial intelligence on healthcare and dentistry from 2021 to 2025. It includes metrics such as improvement percentages in diagnostic imaging, time saved in treatment planning, patient management satisfaction scores, and predicted adoption rates of AI in dentistry. The trends highlight significant advancements and expectations for AI integration in medical practices during this period.

1.3 Objectives of the Review

The advancement of artificial intelligence in dentistry necessitates a thorough examination of its objectives, which encompass a multifaceted exploration of the technologies implications for clinical practice and patient outcomes. Chief among these objectives is the aim to delineate the specific applications of AI in diagnostic processes, treatment planning, and patient management. This review seeks to highlight successes, such as the notable precision of AI-driven tools in detecting caries and predicting treatment outcomes, thereby enhancing clinical decision-

making. Moreover, the examination will cover the potential challenges, including technical and ethical considerations, which could impede the technologies implementation in routine practice. Ultimately, the review aspires to provide a comprehensive landscape of AIs role in modern dentistry, paving the way for future innovations and establishing foundational guidelines for responsible integration within the profession, as substantiated by the evolving practices documented in literature [13-15].

1.4 Overview of the Structure of the Essay

As the discourse surrounding the integration of artificial intelligence in modern dentistry evolves, it is imperative to delineate the structural framework of the ensuing analysis. The essay methodically begins with an introduction that highlights the critical relevance of AI in contemporary dental practice, tracing its evolution within the broader context of healthcare advancements. Following this foundation, the overview section elucidates core definitions and technological principles, providing a historical perspective that is essential for understanding AI's trajectory in dentistry. The central body subsequently explores diverse applications, spanning diagnostic enhancements and patient management solutions, while also examining the tangible benefits attributable to AI, such as improved accuracy and cost efficiency. Importantly, the analysis incorporates a critical evaluation of the challenges impeding AI adoption, including technical, ethical, and financial barriers. By concluding with a forward-looking perspective on future directions, the essay aims to foster a holistic understanding of AIs potential and limitations in dentistry [16-19].

2 Overview of Artificial Intelligence in Dentistry

The integration of artificial intelligence (AI) in dentistry signifies a paradigm shift towards more precise and personalized care. This evolution involves not only the application of machine learning and neural networks to analyze patient data but also a historical context that highlights early attempts at automating dental diagnostics and treatment planning. Key technologies underpinning this transformation include deep learning algorithms, which have vastly enhanced the accuracy of diagnostic imaging, such as dental X-rays and cone-beam computed tomography (CBCT) scans. These advancements enable earlier detection of conditions like dental caries and oral cancers, thus improving patient outcomes significantly. Furthermore, the use of AI-driven tools facilitates workflow optimization within clinical settings, streamlining processes from diagnosis to treatment execution. As these technologies continue to evolve, their integration offers promising avenues for enhancing the efficiency and effectiveness of dental practices while addressing existing challenges within the field [21-23].

2.1 Definition and Core Concepts of AI

The advent of Artificial Intelligence (AI) has fundamentally transformed numerous industries, with its integration into dentistry marking a pivotal moment in enhancing clinical practices. Characterized by its ability to replicate cognitive functions associated with human intelligence, AI encompasses a spectrum of technologies including machine learning, deep learning, and neural networks, which collectively facilitate the processing and analysis of vast datasets. As articulated, AIs efficiency in diagnostic accuracy stems from its capability to assess panoramic radiographs, delivering credible preliminary evaluations, albeit with certain limitations in caries and periapical assessments [24] This dual capacity—a facilitator of innovation and a juxtaposition to traditional practices—underscores the balancing act between clinical application and evolving technological capabilities. Consequently, the critical assessment of AIs role in modern dentistry reveals an intricate interplay between advancements and ongoing challenges, illuminating the path toward more effective dental care [25].

2.2 Key Technologies (Machine Learning, Deep Learning, Neural Networks)

The advancement of artificial intelligence (AI) in modern dentistry hinges significantly on key technologies such as machine learning, deep learning, and neural networks (Table 1). Central to these technological frameworks is machine learning, which empowers algorithms to identify patterns within vast datasets, thus enhancing diagnostic precision and operational efficiency in dental practices. Deep learning, a subset of machine learning, utilizes complex architectures like convolutional neural networks to improve the interpretation of dental images, thereby facilitating earlier detection of conditions such as caries and oral cancer. Moreover, neural networks have shown promise in automating treatment planning and predicting patient outcomes through advanced predictive analytics [26]. However, despite these advancements, challenges persist, including algorithm bias and data availability, which necessitate ongoing research and innovation to fully realize AI's potential in optimizing dental care and improving patient outcomes [27].

2.3 Historical Perspective on AI Integration in Dentistry

The integration of artificial intelligence (AI) in dentistry dates back several decades, evolving alongside technological advancements in computer science and data processing. Initially, early efforts focused on expert systems that aided in diagnosis and treatment decisions, laying the groundwork for todays sophisticated applications. As computational power increased, methodologies such as machine learning and deep learning emerged, enabling

more complex analyses of dental data and imaging.

Table 1. Overview of key technologies in artificial intelligence [AI] for dentistry, their applications, significance, examples, and corresponding sources. The table highlights how machine learning, deep learning, and neural networks contribute to predictive analytics, diagnostic imaging, and personalized treatment approaches, underscoring their transformative potential in modern dental care.

Technology	Application	Importance	Example	Source
Machine Learning	Predictive analytics for patient outcomes	Improves treatment planning and efficiency	Risk assessment models for oral diseases	Journal of Dental Research, 2023
Deep Learning	Image analysis for diagnostics	Enhances accuracy in detecting dental conditions	Automatic caries detection from radiographs	International Journal of Oral Science, 2023
Neural Networks	Customized treatment recommendations	Allows for personalized dentistry approaches	Tailored orthodontic treatment plans	Computers in Biology and Medicine, 2023

The transition from basic decision support systems to advanced algorithms capable of interpreting radiographic images exemplifies this evolution. Notably, the utilization of Convolutional Neural Networks (CNNs) has revolutionized diagnostic accuracy, particularly in orthodontics, by allowing practitioners to identify anomalies with unprecedented precision [28]. This historical trajectory reflects a broader trend in healthcare, where the intersection of AI and clinical practice continues to enhance outcomes while highlighting the need for ethical standards and data security protocols amid ongoing challenges [29].

2.4 Current Trends in AI Adoption in Dental Practices

As the integration of artificial intelligence (AI) in dental practices continues to evolve, practitioners are witnessing a significant transformation in both clinical workflows and patient interactions. Emerging trends indicate an increased reliance on sophisticated deep learning algorithms, particularly Convolutional Neural Networks (CNNs), to enhance diagnostic precision across various applications, including the detection of dental caries and periodontal diseases [30]. Furthermore, innovative tools are being developed that leverage AI to optimize treatment planning, thereby reducing the cognitive load on practitioners and fostering a more efficient clinical environment [31]. In tandem with these technological advances, there is a growing emphasis on ethical considerations and data security, prompting the need for clear regulatory frameworks to govern AI applications. Consequently, the current trends reflect a dual focus on enhancing clinical outcomes while navigating the complexities associated with AI adoption, ultimately positioning the dental field for a future marked by greater efficacy and patient-centered care [32].

3 Applications of AI in Dentistry

The integration of artificial intelligence (AI) into dental practice has notably revolutionized various procedural and diagnostic methodologies. For instance, AI-driven algorithms enhance radiological analysis by significantly improving the accuracy of interpreting dental X-rays and Cone Beam Computed Tomography (CBCT) images, effectively facilitating early detection of pathological conditions such as oral cancers and dental anomalies. Furthermore, the advent of generative artificial intelligence, particularly large language models such as ChatGPT, has opened avenues for optimizing treatment plans across disciplines, including orthodontics and implantology, as evidenced by recent evaluations highlighting the models potential to provide clinically relevant insights [33]. However, while these advancements promise increased efficiency in patient management and workflow optimization, they also underscore the critical need for caution, as inaccuracies in AI interpretations can lead to detrimental healthcare outcomes [34]. Thus, a balanced integration of AI into dentistry is essential to fully realize its benefits while mitigating associated risks [35].

3.1 Diagnostic Applications

As advancements in artificial intelligence continue to shape various fields, the impact on dentistry, particularly in diagnostic applications, is increasingly significant. AI technologies, notably machine learning algorithms, have demonstrated remarkable efficacy in enhancing the precision of caries detection and the identification of precancerous lesions within oral tissues. This capability is particularly crucial, as early diagnosis can lead to improved patient outcomes and reduced morbidity associated with oral cancers. Furthermore, AIs role extends to diagnosing periodontal diseases, where it can analyze clinical data and radiographs to identify disease progression with higher accuracy than traditional methods. The integration of AI in these diagnostic processes not only streamlines workflows but also reduces the potential for human error, ultimately fostering a more reliable dentist-patient interaction. Consequently, the promise of AI in diagnostics heralds a transformative shift in dental practice, aligning with the overarching goal of enhancing patient care and health outcomes in modern dentistry [36-39].

3.2 Treatment Planning

Integrating artificial intelligence in treatment planning

signifies a transformative advancement in dental care, specifically benefiting disciplines such as orthodontics and implantology. By harnessing sophisticated algorithms, practitioners can achieve enhanced precision in formulating individualized treatment strategies that account for the unique anatomical and clinical conditions of each patient. For instance, deep learning techniques, including Convolutional Neural Networks, have demonstrated remarkable efficacy in optimizing orthodontic interventions by analyzing radiographic data and predicting treatment outcomes more accurately than traditional methods [40]. Moreover, AIs role extends to prosthodontics, where it facilitates the creation of digital workflows that streamline implant planning and restoration processes, ultimately improving patient outcomes [41]. However, as the integration of AI continues to evolve, it is imperative to address the accompanying challenges, including data integrity and ethical concerns, to fully realize its potential in refining treatment planning across the dental spectrum [42].

3.3 Patient Management

The integration of Artificial Intelligence (AI) in modern dentistry extends beyond diagnostic and treatment applications to encompass significant improvements in patient management. AI-driven solutions, such as chatbots and virtual assistants, facilitate enhanced communication by providing patients with immediate responses to inquiries and personalized information regarding their treatment plans. These technologies can predict treatment outcomes based on historical data, allowing for more accurate forecasting of recovery paths and potential complications. Furthermore, AI plays a crucial role in pain management by analyzing patient data to optimize analgesic prescriptions tailored to individual needs, thereby improving overall patient satisfaction. As outlined in the literature, the advantages of AI in enhancing patient engagement and streamlining communication processes underscore the necessity for its adoption, yet effective implementation demands overcoming challenges such as data privacy and ethical considerations in maintaining patient confidentiality [43]. This evolved approach signifies a shift towards more proactive and responsive patient care models in dentistry.

3.4 Imaging and Radiology

With the increasing complexity of dental care and the need for precise diagnostics, the integration of artificial intelligence in imaging and radiology emerges as a pivotal advancement in modern dentistry. Recent studies highlight AIs capability to enhance the interpretation of dental X-rays and cone beam computed tomography (CBCT) images, thereby improving accuracy in detecting pathological conditions such as caries and periodontal diseases [44]. The implementation of AI algorithms not only streamlines workflow but also provides immediate diagnostic support, which is particularly crucial in time-sensitive clinical scenarios [45]. As the AI system demonstrates high specificity in evaluating panoramic radiographs, its application may facilitate early intervention and treatment planning, thus ultimately improving patient outcomes. However, the reliability of these AI tools remains contingent on the quality of the training data and continued refinement of the algorithms, indicating a pressing need for robust validation practices within the field [46].

4 Benefits of AI in Dentistry

As the landscape of dentistry evolves, the integration of Artificial Intelligence (AI) emerges as a catalyst for transformative advancements, particularly in enhancing accuracy and efficiency within clinical settings. Utilizing machine learning and deep learning algorithms, AI systems can achieve unprecedented levels of diagnostic precision, thereby reducing the likelihood of human error in detecting dental diseases and planning treatments. Studies demonstrate that these technologies significantly streamline imaging processes, enabling quicker interpretation of radiographs and CBCT scans while optimizing workflow efficiency for practitioners. Moreover, the cost implications of AI in dentistry are noteworthy; its ability to automate routine tasks leads to substantial reductions in operational costs, contributing to more affordable dental care options for patients. These efficiencies also enhance patient experiences by delivering faster diagnoses and tailored treatment plans, thereby fostering a profound shift toward more personalized dental care practices in modern dentistry [47].

4.1 Improved Accuracy and Efficiency

The integration of Artificial Intelligence (AI) technologies within modern dentistry has catalyzed significant advancements in the precision and efficiency of diagnostic procedures and treatment planning. Innovations such as Convolutional Neural Networks (CNNs) excel in the analysis of complex dental images, enhancing the identification and characterization of dental pathologies while minimizing the potential for human error. This technological sophistication not only streamlines workflow but also optimizes resource allocation by reducing the time clinicians spend on diagnostic tasks, allowing for a greater focus on patient care [48]. Furthermore, through predictive analytics, AI systems can facilitate tailored treatment plans that align more closely with individual patient needs, ultimately leading to improved outcomes and heightened patient satisfaction [49]. As AI continues to evolve, its role in improving accuracy and efficiency will likely expand, solidifying its position as an indispensable tool in contemporary dental practice.

4.2 Cost Reduction in Dental Care

The integration of artificial intelligence (AI) in dentistry heralds a transformative shift in cost reduction, fundamentally altering the economic landscape of dental care. By employing advanced machine learning algorithms for diagnostics, AI minimizes both time and labor intensity previously associated with traditional procedures, which can lead to significant financial savings for dental practices and their patients [50]. The automated interpretation of dental imaging enhances diagnostic accuracy, thereby reducing costly medical errors and the need for repeat procedures, further driving down expenses. Additionally, AIs role in optimizing treatment planning ensures that resources are utilized more efficiently, allowing practitioners to deliver better patient outcomes with fewer material inputs. This convergence of technology not only improves operational efficiency but also enhances access to affordable care, reinforcing AIs pivotal role in shaping the future of economical dental healthcare [51].

4.3 Enhanced Patient Experience and Satisfaction

The integration of artificial intelligence (AI) in modern dentistry promises a transformative enhancement of patient experience and satisfaction, addressing an increasing demand for personalized care. One compelling application is the use of AI-driven diagnostic tools, which significantly improve the accuracy of detecting oral health issues, thus enabling timely interventions [52]. Such precision not only fosters trust but also alleviates patient anxiety associated with uncertain or delayed diagnoses. Moreover, AI facilitates the customization of treatment plans, aligning therapeutic outcomes with patient aesthetics and preferences, a factor that is particularly crucial in orthodontics [53]. The implementation of chatbots for patient communication streamlines appointment scheduling and follow-ups, providing patients with immediate responses and reducing the burden on dental staff. Collectively, these advancements signal a paradigm shift in how care is delivered, resulting in a more engaging and satisfactory patient journey throughout their treatment [54].

4.4 Streamlined Workflow and Practice Management

Efficient management of practice workflows is essential to enhance the delivery of dental care, and artificial intelligence (AI) emerges as a critical component in achieving this objective. By automating routine tasks and optimizing administrative processes, AI can significantly reduce the time spent on non-clinical duties, thereby allowing dental professionals to focus on patient care. For instance, AI-driven systems can streamline appointment scheduling and patient communication through chatbots, which can provide instant responses to inquiries, manage reminders, and facilitate smoother patient interactions [55]. Moreover, the integration of advanced machine learning models has demonstrated success in enhancing diagnostic accuracy by analyzing radiographic data, identifying potential oral health issues faster than traditional methods [56]. Emphasizing streamlined workflows not only enhances operational efficiency but also contributes to improved patient outcomes, positioning AI as an invaluable ally in modern dental practice management [57].

5 Challenges in Implementing AI in Dentistry

The integration of artificial intelligence (AI) into dental practices presents various challenges that can significantly impede its effective implementation. Despite advancements in algorithmic technologies and increasing evidence of their efficacy, concerns surrounding data availability and quality persist. The reliance on diverse datasets for training AI models raises issues of algorithm bias, where inadequately representative data may lead to skewed outcomes in diagnosis and treatment planning, thereby undermining patient care standards [58]. Furthermore, ethical considerations related to patient privacy and data security remain problematic, particularly given the intricacies of regulatory frameworks that govern AI technologies in healthcare environments [59]. These challenges are compounded by resistance among practitioners who may be hesitant to adopt new systems due to fears of obsolescence or increased operational costs, thus underscoring the need for comprehensive strategies to facilitate acceptance and optimize the benefits of AI in dentistry [60].

5.1 Technical Challenges

As the integration of Artificial Intelligence [AI] within dentistry continues to advance, it encounters significant technical challenges that could impede its efficacy. One of the primary concerns centers around data availability and quality, as AI systems require large datasets for training to ensure their reliability and accuracy [61]. In particular, inconsistent data from diverse sources can introduce biases, ultimately affecting the algorithms performance across different demographics. Furthermore, the inherent complexity of dental diagnostics necessitates robust validation protocols to assess algorithmic biases, which remain inadequately addressed in current practices [62]. Such validation is critical, as unverified AI tools pose risks of misdiagnosis or inappropriate treatment recommendations. Addressing these technical challenges is essential for fostering trust and acceptance among dental practitioners, thereby paving the way for AIs successful implementation in clinical settings. Ensuring that AI applications are both effective and ethically sound is imperative for their sustainable adoption in modern dentistry [63].

5.2 Ethical and Legal Considerations

As the integration of artificial intelligence (AI) within dentistry advances, the ethical and legal dimensions of this technology become increasingly critical to address. With the utilization of AI for diagnostic and treatment purposes, concerns regarding patient privacy and data security emerge prominently. For instance, the handling of sensitive patient information necessitates stringent compliance with existing health care regulations, such as the Health Insurance Portability and Accountability Act (HIPAA) in the United States, which aims to protect patient data from unauthorized access. Furthermore, the deployment of AI-driven algorithms raises questions about accountability in clinical decisions; if AI systems yield incorrect or detrimental outcomes, the attribution of responsibility remains ambiguous, potentially exposing practitioners to legal liabilities. Such complexities underscore the need for comprehensive guidelines and regulatory frameworks to navigate the ethical landscape of AI in dentistry, ensuring that technological progress does not compromise fundamental patient rights and safety [64-66].

5.3 Adoption Barriers

The integration of artificial intelligence (AI) within modern dentistry is often hindered by several critical adoption barriers that impede widespread implementation. These barriers notably include resistance to change among practitioners, which can stem from a lack of familiarity with technological innovations and a preference for traditional practices. Consequently, dental professionals may perceive AI systems as excessive or unnecessary, leading to skepticism regarding their efficacy and reliability. Furthermore, financial considerations play a significant role; the initial costs associated with deploying AI-driven tools can be prohibitive for many dental practices, particularly smaller ones that operate with limited budgets. Addressing these challenges is imperative to fostering acceptance of AI in dentistry. Thus, to effectively facilitate adoption, stakeholders must develop targeted strategies that encompass education, financial incentives, and demonstrable evidence of improved outcomes, aligning with findings from contemporary research that emphasizes the need for multidisciplinary approaches in healthcare innovation [67-69].

5.4 Interoperability Issues with Existing Systems

The implementation of Artificial Intelligence (AI) within modern dental practices is notably hindered by significant interoperability issues inherent in existing systems. Various dental technologies, including digital imaging systems and practice management software, often operate in silos, leading to fragmented data management and inefficient workflows. This lack of integration is exacerbated by the diversity of data formats and standards across platforms, inhibiting seamless communication among stakeholders in patient care. Moreover, the disconnect between AI systems and traditional practice management can lead to underutilization of advanced diagnostic tools that maximize patient outcomes. As highlighted by the challenges in healthcare technology integration, resolving these interoperability concerns necessitates a concerted effort to standardize data protocols and improve interoperability frameworks within the dental ecosystem. Achieving this goal will be essential for fully harnessing the benefits of AI in optimizing patient care and clinical decision-making in dentistry [70].

6 Conclusion

The integration of Artificial Intelligence (AI) into modern dentistry presents a promising frontier characterized by transformative applications and inherent challenges. As highlighted throughout this analysis, AI has significantly enhanced diagnostic accuracy, optimized treatment planning, and improved patient management, underscoring its potential to redefine healthcare delivery in dental settings. However, the journey is not without obstacles; issues such as algorithmic bias, data security, and resistance from practitioners must be navigated carefully to facilitate widespread adoption. Furthermore, ethical considerations surrounding patient privacy call for robust regulatory frameworks to ensure responsible implementation. Moving forward, the future of AI in dentistry will hinge on collaborative efforts among various disciplines to address these challenges while unlocking innovative solutions like personalized treatment pathways and novel imaging techniques. As we look ahead, fostering a synergy between technological advancements and foundational ethical principles will be crucial for maximizing the benefits of AI in dental practice.

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