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Faculty of Dentistry

A Research Project Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Dental Surgery (B.D.S).

Knowledge of semi-final and final dental students about the Artificial Intelligence in Dentistry at Napata College in 2025-2026.

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

{ اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ * خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ * اقْرَأْ وَرَبُّكَ الْأَكْرَمُ * الَّذِي عَلَّمَ بِالْقَلَمِ * عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ}

صدق الله العظيم

(سورة العلق: 1-5)

DEDICATION

To our beloved families,

your endless support and sacrifices have been the foundation of our journey.

Your patience and encouragement turned our challenges into strength.

To our mentors, especially Dr. Dalia,

your guidance and wisdom have been a constant source of inspiration, shaping our knowledge and leading us toward excellence.

To Napata College,

a place where we grew, learned, and discovered our potential this work stands as a reflection of that journey.

To every dental student, to those who combine knowledge, skill, and compassion in their daily practice, we pray that we continue to strive for excellence with determination and dedication.

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Abstract

Objectives: Artificial Intelligence (AI) is increasingly influencing various aspects of dentistry, including diagnosis, treatment planning, and clinical decision-making. However, the level of understanding, awareness, and attitudes toward AI among dental students in Sudan 2025 remains insufficiently explored.

Material and methods: this Cross-Sectional Study aimed to assess the knowledge, awareness, and attitudes of semi-final and final-year dental students toward AI in dentistry at Napata College, Khartoum Bahri, Sudan, during the 2025–2026 academic year. Data were collected using Online Questionnaires and analyzed using SPSS Software.

Results: of the 66 dental students who participated in the study 47% reported only partial knowledge of AI, while 31.8% confirmed having prior knowledge. More than half of the respondents (54.5%) rated their knowledge as poor. The majority (59.1%) relied on the internet and social media as their primary source of information, compared to formal university education. Most students recognized the importance of AI and its potential applications; Clinical decision support systems were the most preferred AI technology (53%). Key perceived benefits included time-saving and improved diagnostic accuracy, while major concerns involved lack of human judgment (59.1%) and technical errors. Importantly, most participants rejected the idea that AI could replace dentists, with 90.9% emphasizing the irreplaceable role of the human element. Additionally, a strong interest in learning was observed, with 83.3% expressing willingness to receive formal training in AI.

Conclusion: although dental students at Napata College demonstrate positive attitudes toward AI and recognize its clinical value, there is a significant gap in formal knowledge. Integrating AI-focused education and training into dental curricula is essential to prepare future dentists for the evolving digital landscape.

Keywords: Artificial Intelligence (AI), Dentistry, Dental Students, Knowledge, Awareness, Attitudes, Dental Education, Clinical Applications, Sudan.

ملخص الدراسة باللغة العربية

الأهداف :يتزايد تأثير الذكاء الاصطناعي (AI) في مختلف جوانب طب الأسنان، بما في ذلك التشخيص، وضع خطط العلاج، واتخاذ القرارات السريرية. ومع ذلك، فإن مستوى الفهم والوعي والمواقف تجاه الذكاء الاصطناعي بين طلاب طب الأسنان في السودان عام 2025 لا يزال غير مستكشف بشكل كافٍ.

المواد والطرق :هدفت هذه الدراسة الوصفية العرضية إلى تقييم المعرفة والوعي والمواقف لدى طلاب طب الأسنان في السنة قبل النهائية والنهائية تجاه الذكاء الاصطناعي في طب الأسنان في كلية نبتة، الخرطوم بحري، السودان، خلال العام الدراسي 2025-2026. تم جمع البيانات باستخدام استبيانات عبر الإنترنت وتحليلها باستخدام برنامج.(SPSS)

النتائج :من بين 66 طالباً شاركوا في الدراسة، أفاد 47% بامتلاكهم معرفة جزئية فقط عن الذكاء الاصطناعي، بينما أكد 31.8% وجود معرفة سابقة لديهم. وقد صنف أكثر من نصف المستجيبين (54.5%) معرفتهم بأنها ضعيفة. واعتمدت الأغلبية (59.1%) على الإنترنت ووسائل التواصل الاجتماعي كمصدر أساسي للمعلومات مقارنة بالتعليم الجامعي الرسمي. أقر معظم الطلاب بأهمية الذكاء الاصطناعي وتطبيقاته المحتملة؛ حيث كانت أنظمة دعم القرار السريري هي تكنولوجيا الذكاء الاصطناعي الأكثر تفضيلاً (53%). وشملت الفوائد الرئيسية المتصورة توفير الوقت وتحسين دقة التشخيص، بينما تمثلت المخاوف الرئيسية في الافتقار إلى الحكم البشري (59.1%) والأخطاء التقنية. والأهم من ذلك، رفض معظم المشاركين فكرة أن الذكاء الاصطناعي يمكن أن يحل محل أطباء الأسنان، حيث شدد 90.9% على الدور الذي لا يمكن استبداله للعنصر البشري. بالإضافة إلى ذلك، لوحظ اهتمام قوي بالتعلم، حيث أعرب 83.3% عن استعدادهم لتلقي تدريب رسمي في مجال الذكاء الاصطناعي.

الاستنتاج :على الرغم من أن طلاب طب الأسنان في كلية نبتة يظهرون مواقف إيجابية تجاه الذكاء الاصطناعي ويدركون قيمته السريرية، إلا أن هناك فجوة كبيرة في المعرفة الرسمية. إن دمج التعليم والتدريب الموجه نحو الذكاء الاصطناعي في مناهج طب الأسنان أمر ضروري لإعداد أطباء الأسنان المستقبليين للمشهد الرقمي المتطور.

الكلمات المفتاحية :الذكاء الاصطناعي، طب الأسنان، طلاب طب الأسنان، المعرفة، الوعي، المواقف، تعليم طب الأسنان، التطبيقات السريرية، السودان.

CHAPTER ONE

1. INTRODUCTION

1.1 Background

Over the past decade, the massive development in AI technologies has led to radical changes in our lifestyles. These technologies have become indispensable partners in managing our daily tasks, from handling simple individual queries and assisting with email writing to analyzing complex datasets in scientific research [1]. Artificial intelligence and machine learning are defined as the ability to teach a computer to perform tasks without the intervention of a human being using a specific algorithm.[2] AI is distinguished by its capability to mimic human reasoning and thinking [3].

(AI) has revolutionized dentistry, just as it has in many other scientific fields. Its applications are particularly transformative in dental radiology, where AI systems enable automatic segmentation of the inferior alveolar nerve, precise tracing of cephalometric landmarks, detection of caries, and alveolar bone loss with high accuracy [4]. In operative dentistry, AI assists in cavity diagnosis and root morphology analysis, determining working length and detecting root fractures.For prosthodontics, AI enhances denture shade selection for natural-looking results, as well as automated denture design, which leads to better fit and aesthetics.[4,5,6]

Beyond clinical applications, AI also enables remote diagnosis, making dental care more accessible for patients in underserved areas. Additionally, researchers and practitioners can leverage machine learning to analyses large datasets, accelerating advancements in dental science [7,8] In Sudan, artificial intelligence is a brand-new technology, and it is not fully established yet in the healthcare systems in general, including dentistry. In order to find solutions for the increasing difficulties of delivering excellent medical care in an era of large information, competition has commenced to develop AI apps [9,10]. the application of AI in the field of health will raise the quality of care in terms of effectiveness, efficiency, patient management and accuracy, thus decreasing the risk of mistakes due to the stress of healthcare professionals [11].

Therefore, understanding dental students' knowledge and awareness regarding AI technology is vital for advancing effective integration and ensuring that future dentists are well-prepared to use AI in their professional practices [1]. However, there is only one study in Sudan on this particular area among dental students; thus, the aim of this study is to assess the knowledge and awareness of dental students at Napata College about the application of artificial intelligence and to figure out their perceptions and thoughts. This information will be the basis for the beginning of the integration of AI

with dental practices in Sudan. As a result, this cross-sectional study was conducted.

1.2 problem statement:

Despite the increasing global adoption of Artificial Intelligence (AI) technologies in dentistry, there remains a significant deficiency in the knowledge, awareness, and formal training among dental students, particularly in developing countries such as Sudan. This gap is largely attributed to inadequate integration of AI into dental curricula, reliance on informal and non-academic sources for AI information, and limited technical resources. Such shortcomings pose a considerable barrier to the effective implementation and acceptance of AI applications in future dental practice. Therefore, it was imperative to address these educational and infrastructural deficiencies to better prepare dental students for the evolving technological landscape within the profession.

1.3 Justification:

Targeting senior dental students at Napata College offers a valuable chance to assess their readiness and attitudes toward artificial intelligence (AI) before clinical practice. As a leading institution, the College is well-positioned to pioneer AI integration in dental education, especially since current programs in Sudan lack structured AI training and interdisciplinary collaboration. This study will provide the first local dataset on this topic, supporting curriculum development, faculty training, and national policy discussion on AI in dental education and practice.

1.4 Research Question:

- What are the perceptions of semifinal and final dental students at Napata College regarding the applications of artificial intelligence in dentistry?
- What are the tools of AI that are suspected to be used by students?
- What are the courses, workshops, or training program related to AI in dentistry students attended?
- To what extent do students show interest in computer technology and digital innovations in dentistry?
- To what extent do students view AI as a collaborator versus a competitor in clinical decision-making.

1.5 Research Objectives:

1.5.1 General objective:

To assess the level of knowledge of semi-final and final-year dental students toward the application and impact of artificial intelligence in dentistry at Napata College (2025).

1.5 Specific Objectives:

1. To evaluate the overall awareness and depth of knowledge regarding artificial intelligence (AI) and its specific applications in dentistry among students.

2. To examine students' attitudes toward the future role of AI in clinical dental practice and education.

3. To identify perceived advantages and concerns related to AI use in dentistry (e.g., efficiency, ethical issues, job replacement).

4. To determine the main sources of information influencing students' understanding of AI.

CHAPTER TWO

2. Literature Review

Artificial intelligence (AI) has emerged as a transformative technology in healthcare, including dentistry, where it is increasingly applied in diagnosis, treatment planning, and clinical decision-making. Recent studies have highlighted both the potential benefits and existing challenges associated with integrating AI into dental education and practice.

A study conducted by Elhijazi and Benyahya (2023) among Moroccan students revealed limited awareness of AI fundamentals, with a considerable proportion of students lacking knowledge about its applications in both daily life and education [1]. Similarly, Choudhary et al. (2023) reported insufficient knowledge and awareness of AI among dental students in India, emphasizing the need for improved educational strategies [4].

In contrast, some studies have shown relatively higher levels of awareness. Research conducted in Sudan by Mohammed et al. (2025) demonstrated that students' knowledge of AI improved with academic progression, with senior students exhibiting better understanding than their junior counterparts [13]. Likewise, a study in Turkey by Keser and Namdar Pekiner (2021) found that although a majority of students were familiar with AI applications, only a limited proportion had a comprehensive understanding of how to integrate these technologies into clinical practice [14].

In Saudi Arabia, Aldowah et al. (2024) reported that while dental students expressed strong interest in AI, nearly half were dissatisfied with the level of training provided, and a significant majority supported the integration of AI into dental curricula [6]. These findings are consistent with those of Al-Omari and Al-Sabbagh (2024), who reported moderate awareness levels among Jordanian dental students, with higher knowledge observed among senior students [15].

The growing role of AI in dentistry has been well-documented in the literature. Shan et al. (2021) highlighted the application of AI in various dental fields, including radiology, where it enhances diagnostic accuracy and efficiency [3]. Similarly, Rokaya et al. (2024) discussed the expanding use of AI across multiple dental specialties, while also addressing challenges such as data privacy, accuracy, and clinical reliability [19].Despite its advantages, several concerns have been raised regarding the implementation of AI in healthcare. Studies have emphasized issues related to ethical considerations, lack of human judgment, and potential technical errors [16,17].

Furthermore, reliance on informal learning sources, such as the internet and social media, has been identified as a common trend among students, which may negatively affect the quality of knowledge acquired [6,11].

A scoping review by El-Hakim et al. (2025) highlighted significant gaps in structured AI education within dental curricula, emphasizing the need for formal training and faculty development [18]. Additionally, a systematic review published in Nature Reviews Dentistry (2024) confirmed the strong potential of AI in improving diagnostic and clinical outcomes, while concluding that AI cannot replace the human role in dentistry [20].

Overall, the literature indicates that while dental students demonstrate positive attitudes and growing interest in AI, their level of formal knowledge remains limited. This highlights the urgent need for integrating AI into dental education to ensure that future dentists are adequately prepared for the evolving technological landscape.

CHAPTER THREE

1.3 Materials and Methods:

3.1 Study Design and Setting: A descriptive, faculty-based, cross-sectional study was conducted at Napata College, a prominent private higher education institution in Khartoum, Sudan, established in 2005. The college is recognized for its commitment to medical and technological sciences, providing a clinical and academic environment that integrates modern dental education within the Sudanese healthcare context.

3.2 Study Duration:

The study was carried out over a six-month period from September 2025 to February 2026. Data collection specifically took place between October 1, 2025, and January 1, 2026. using quantitative research design 2026.

3.3 Study Population and Sampling:

The target population comprised all fourth- and fifth-year dental students enrolled in the Bachelor of Dental Surgery (BDS) program at Napata College. The total number of eligible students was estimated at 66 students. A census sampling method was applied, meaning all eligible students were invited to participate. This approach was chosen to eliminate sampling error and provide a comprehensive representation of the target group.

3.4 Inclusion and Exclusion Criteria:

3.4.1 Inclusion criteria:

Students officially registered in the fourth or fifth year, present on campus or reachable through official college channels during the data collection period, and those who provided informed electronic consent.

3.4.2 Exclusion criteria:

Students from earlier academic years (first, second, or third year), those absent on official leave during the data collection period, and those who declined to participate.

3.5 Data Collection Tool:

Data were collected using a structured, pre-tested questionnaire developed following a thorough review of relevant literature. The questionnaire was designed and distributed using Google Forms, facilitating efficient data collection and management. It covered three main areas: demographic information including age, gender, and academic year. Awareness assessment evaluating knowledge of AI applications across various dental specialties such as diagnostics, radiology, treatment planning, and prosthodontics. And attitudes toward AI, exploring students' perceptions, concerns, and views regarding the integration of AI in dental practice and education.

3.6 Data Management and Analysis:

Responses were automatically compiled into a spreadsheet from Google Forms. The data were then cleaned, coded, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 24. Descriptive statistics, including frequencies and percentages, were used to summarize demographic variables and levels of awareness and chi square test used to identify significant relationship between demographic variables and the levels of awareness. All data were stored in a password-protected file on a secure server to ensure confidentiality, and anonymity was maintained by removing all personal identifiers.

3.7 Ethical Considerations:

Ethical approval was obtained from the Institutional Review Board (IRB) of Napata College prior to the start of the study. The first page of the online survey contained a detailed informed consent statement, and completion of the questionnaire was considered implied consent. Participation was entirely voluntary, and participants were assured of their right to withdraw at any time without penalty. All data were handled in strict accordance with the principles of the Declaration of Helsinki.

CHAPTER FOUR

4. Results:

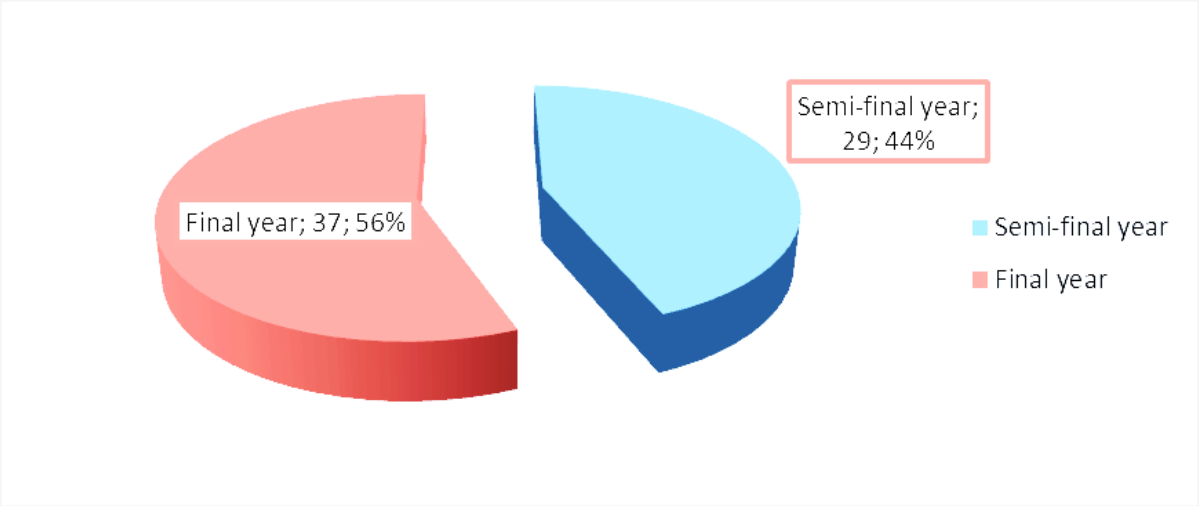

Figure. (1) The academic level

Table (1) Awareness of artificial intelligence (AI) applications in dentistry is present

Item	Frequency	Percent
Yes	21	31.8 %
No	14	21.2 %
Maybe	31	47 %
Total	66	100 %

There is a state of cognitive "uncertainty"; the largest percentage of participants (47%) answered "maybe" about their knowledge of artificial intelligence, while only 31.8% confirmed their knowledge of it (Table 1).

Table (2) The level of knowledge regarding artificial intelligence in dentistry is adequate.

Item	Frequency	Percent
Excellent	25	37.9 %
Poor	36	54.5 %
None	5	7.6 %
Total	66	100 %

More than half of the sample (54.5%) described their level of knowledge as "weak," while 37.9% considered their knowledge to be excellent (Table 2).

Table (3) The importance of artificial intelligence in modern dentistry is recognized.

Item	Frequency	Percent
Very important	17	25.8 %
Important	42	63.6 %
Neutral	6	9.1 %
Not important	1	1.5 %
Total	66	100 %

Table (4) Artificial intelligence can be applied across various dental specialties.

Item	Frequency	Percent
Filing	12	18.2 %
Prosthesis	6	9.1 %
Prosthodontics	8	12.1 %
Surgery	18	27.3 %
Diagnosis, ortho, prothodontic and oral surgery	22	33.3 %
Total	66	100 %

One-third of participants (33.3%) believe that artificial intelligence can be comprehensively applied in diagnosis, orthodontics, prosthodontics, and oral surgery, while surgery came in as the single specialty with the most expected role for artificial intelligence at 27.3% (Table 4).

Table (5) The use of artificial intelligence in dentistry provides significant benefits.

Item	Frequency	Percent
Increased accuracy in diagnosis	44	66.7 %
Time saving	19	28.8 %
Better patient outcomes	3	4.5 %
Total	66	100 %

Table (6) The use of artificial intelligence in dentistry has potential drawbacks.

Item	Frequency	Percent
Lack of human judgment	39	59.1 %
Data privacy concerns	5	7.6 %
Technical errors	19	28.8 %
Ethical issues	3	4.5 %
Total	66	100 %

The greatest concerns are “lack of human judgment” at 59.1%, followed by concerns about technical errors at 28.8% (Table 6).

Table (7) The main sources of information about artificial intelligence in dentistry are reliable.

Item	Frequency	Percent
University lectures	13	19.7 %
Internet and social media	39	59.1 %
Conferences or workshops	7	10.6 %
Friends/colleagues	2	3 %
None	5	7.6 %
Total	66	100 %

Most participants (59.1%) rely on the internet and social media as their primary source of information, surpassing university lectures, which accounted for only 19.7% (Table 7).

Table (8). Artificial intelligence has the potential to replace dentists in the future.

Item	Frequency	Percent
Yes	13	19.7 %
No	48	72.7 %
Not sure	5	7.6 %
Total	66	100 %

Table (9) Willingness to receive training in artificial intelligence applications in dentistry is present.

Item	Frequency	Percent
Yes	55	83.3 %
No	11	16.7 %
Total	66	100 %

Desire to learn: The results showed a very strong desire for professional development; 83.3% of participants expressed a desire to receive specialized training in AI in dentistry (Table 9).

Table (10) The application of artificial intelligence enhances clinical practice.

Item	Frequency	Percent
Yes	38	57.6 %
No	8	12.1 %
I don't know	20	30.3 %
Total	66	100 %

57.6% of participants believe that AI applications will enhance their clinical practice (Table 10).

Table (11) Dental treatments incorporating artificial intelligence are recommended.

Item	Frequency	Percent
Yes	36	54.5 %
No	27	40.9 %
I don't know	3	4.5 %
Total	66	100 %

Table (12) Artificial intelligence has the potential to permanently replace dentists.

Item	Frequency	Percent
Yes	3	4.5 %
No	60	90.9 %
I don't know	3	4.5 %
Total	66	100 %

The vast majority of the sample (90.9%) reject the idea that artificial intelligence can permanently replace a dentist (Table 12), and 72.7% believe that it will not replace a dentist in the foreseeable future (Table 8).

Table (13) Certain types of artificial intelligence technologies are considered more beneficial in dentistry.

Item	Frequency	Percent
Image-based Diagnosis	1	1.5 %
3D Printing	9	13.6 %
Surgical Robots	21	31.8 %
Clinical Decision Support	35	53 %
Total	66	100 %

Most participants (53%) preferred using Clinical Decision Support systems, followed by surgical robots at 31.8% (Table 13).

The data indicates that participants recognize the high value of artificial intelligence and want to learn and apply it to improve diagnostic accuracy, but at the same time they emphasize the irreplaceability of the human element, with a gap in "formal" (university) knowledge being filled through the internet.

CHAPTER FIVE

5.1 Discussion:

The present study evaluated the knowledge, awareness, and perceptions of dental students at Napata College, Sudan, regarding the application of artificial intelligence (AI) in dentistry. The findings reveal a consistent pattern of high interest and positive attitudes toward AI, despite a noticeable deficiency in formal knowledge, highlighting a critical gap in contemporary dental education.

AI is increasingly recognized as a transformative tool in dentistry, influencing both clinical practice and education. Its rapid development necessitates the integration of modern technologies into dental curricula to ensure that future practitioners are adequately prepared for the evolving digital landscape [5,19,20].

A key finding of this study is that more than half of the participants (54.5%) rated their knowledge of AI as poor, while 47% expressed uncertainty regarding their awareness. This reflects limited depth of understanding and lack of confidence among students. Similar findings have been reported in previous studies, where students demonstrated general awareness but insufficient foundational knowledge of AI concepts [1,14,16]. In contrast, studies reporting higher knowledge levels often attribute this to early exposure and structured educational programs [4,10,18].

The heavy reliance on informal sources, particularly the internet and social media (59.1%), further explains this knowledge gap. While these platforms increase accessibility, they may lack scientific accuracy and reliability, potentially leading to fragmented understanding. This observation aligns with previous research highlighting the growing dependence on non-academic sources among students [6,11], emphasizing the need for structured, evidence-based learning approaches [18,20].

Despite these limitations, students demonstrated strong positive attitudes toward AI. The majority acknowledged its role in enhancing diagnostic accuracy, improving treatment planning, and increasing clinical efficiency. This is consistent with findings from studies conducted in Saudi Arabia, Turkey, and Sudan [6,13,14]. The preference for clinical decision support systems suggests that students perceive AI as an assistive tool rather than a replacement for clinical judgment.

However, concerns regarding AI were also evident, particularly related to the lack of human judgment and the risk of technical errors. These concerns are well-documented in the literature and reflect the limitations of AI in complex clinical scenarios that require critical thinking, ethical considera-

tions, and patient interaction [16,17,20]. Dentistry remains a patient-centered profession that relies heavily on human skills such as communication and empathy, which cannot be fully replicated by AI. Notably, the majority of participants (90.9%) rejected the idea that AI could replace dentists, reinforcing the perception of AI as a supportive rather than substitutive technology. This finding is consistent with the broader literature, which emphasizes the complementary role of AI in healthcare [17,19].

Encouragingly, a high proportion of students (83.3%) expressed willingness to receive formal training in AI, indicating strong readiness for educational advancement. This reflects a clear gap between demand and availability of structured AI education. Similar trends have been reported in multiple studies, where students advocated for the inclusion of AI in dental curricula [6,10,18].

Overall, the findings of this study are consistent with both regional and international research, highlighting the urgent need to integrate AI into dental education through curriculum reform, faculty training, and infrastructure development. Addressing these gaps is essential to ensure that future dentists are equipped with the necessary knowledge and skills to effectively utilize AI technologies in clinical practice.

5.2 Limitations:

This study is cross-sectional, single-center, and relies on self-reported measures, which limits generalizability and precludes causal inference. Some response categories (e.g., “maybe”) reduce precision in assessing true knowledge. Future research should include objective knowledge tests, multi-center samples, and longitudinal designs to evaluate the impact of curricular interventions.

5.3 Conclusion:

The study of 66 dental students showed limited knowledge of artificial intelligence (AI), with most reporting poor or only partial understanding. The majority relied on the internet rather than university education, highlighting a gap in formal teaching. Despite this, students had positive attitudes toward AI and recognized its benefits, especially in improving diagnosis and saving time. Concerns included a lack of human judgment and technical errors, and most rejected the idea of AI replacing dentists. Notably, a high percentage expressed strong interest in learning more about AI through formal training.

5.4 Recommendations:

1. Integrating specialized courses in "Artificial Intelligence in Dentistry" into the academic curriculum, to reduce reliance on informal sources such as social media.
2. Colleges should organize intensive (hands-on) training courses on the use of surgical robots and clinical decision support systems.
3. Dental clinics and centers are recommended to adopt Clinical Decision Support techniques, as they are the most preferred type (53%) and the most capable of enhancing clinical practice and reducing human errors.
4. Investing in AI-based diagnostic tools, as most participants (66.7%) agreed on their role in increasing the accuracy of results, thus improving patient treatment outcomes.
5. Medical software developers should focus on making AI tools "augmented intelligence" rather than replacements, to reassure doctors who fear losing "human judgment".

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Appendices

A. Questionnaire :

Do you know about Artificial Intelligence in Dentistry?

Yes

No

Maybe

2. How would you rate your knowledge about Artificial Intelligence in Dentistry?

Excellent

Poor

None

3. In your opinion, how important is Artificial Intelligence in Dentistry?

Very important

Important

Neutral

Not important

4. Which dental fields do you think Artificial Intelligence can be applied to?

5. What are the possible benefits of using Artificial Intelligence in Dentistry?

Increased accuracy in diagnosis

Time saving

Reduced cost

Better patient outcomes

Improved learning for dental students

6. What are the possible drawbacks of using Artificial Intelligence in Dentistry?

High cost of technology

Lack of human judgment

Data privacy concerns

Technical errors

Ethical issues

7. What is your main source of information about Artificial Intelligence in Dentistry?

University lectures

Internet and social media

Conferences or workshops

Friends/colleagues

None

8. Do you think Artificial Intelligence will replace dentists in the future?

Yes

No

Not sure

9. Would you like to receive training on Artificial Intelligence in Dentistry?

Yes

No

10. Your academic level:

Semi-final year

Final year

11. If you had the opportunity to work in a team
that includes a robot as a participant, would you
agree to join?

Yes

No

I don't Know

12. Do you think the application of R/AI will
enhance your clinical practice?

Yes

No

I don't know

13. Would you recommend treatment with R/AI?

Yes

No

I don't know

14. Can AI replace the dentist permanently?

Yes No I don't know

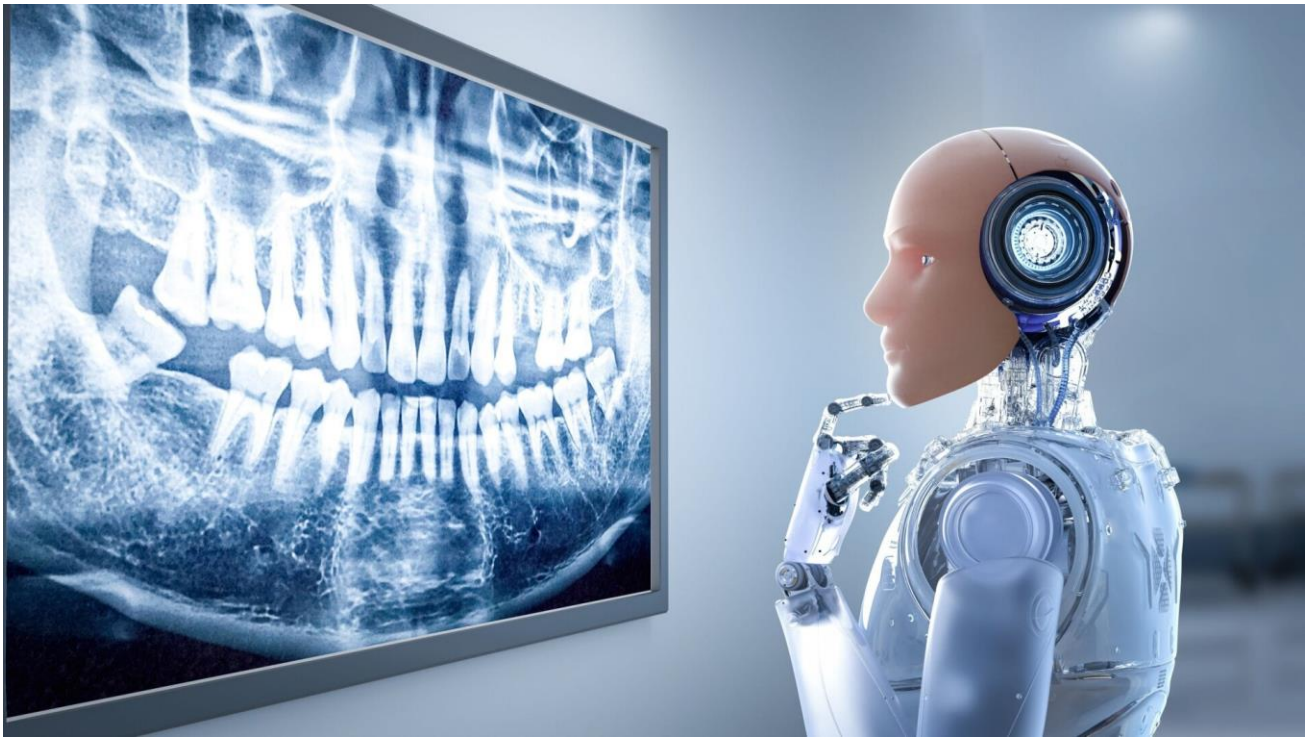
15 . Which type of Artificial Intelligence technology do you prefer to use or consider most beneficial in dentistry?

Image-based Diagnosis Digital Treatment Planning 3D Printing Surgical Robots
Clinical Decision Support

B. Pictures

Picture 1. AI in treatment and Investigation

Picture 2. Robotic Investigation by X-ray



Picture 3. AI in Diagnosis and Guide od X-ray