

SS-250 Evaluating and comparing accuracy of google gemini ai and perplexity ai in responding to patients' frequently asked questions in prosthodontics

Ali Moradi, Esra Nur Avukat, Mirac Berke Topcu Ersöz, Canan Akay

(Department of Prosthodontics, Faculty of Dentistry, Osmangazi University, Eskisehir, Turkiye)

PURPOSE: With the increasing integration of artificial intelligence (AI) tools in dental education, it is imperative to evaluate the reliability of the information they generate. This study aims to assess and compare the reliability of generated answers and the reliability of cited sources from two AI chatbots—Google Gemini and Perplexity AI—regarding implant-supported prostheses.

METHODS: Two full-time faculty members developed 30 open-ended questions covering core topics in implant-supported prostheses. These questions were then submitted to Google Gemini (2.5 Pro) and Perplexity AI (Sonar). The resulting answers were independently evaluated by two prosthodontists using Global Quality Score (GQS) to assess accuracy, value, precision and clarity. Paired T-test, Normality Test (Shapiro-Wilk) and Wilcoxon Signed-Rank Test were performed to statistically analyse the scores.

RESULTS: Out of 30 evaluated responses regarding implant-supported prostheses, Gemini demonstrated superior performance in answer accuracy with a significantly higher mean Global Quality Score (GQS) compared to Perplexity (4.33

vs. 3.57; $p < 0.001$). While Gemini also yielded slightly more reliable sources (mean score: 2.93 vs. 2.73), this difference was not statistically significant ($p = 0.415$). The correlation between source reliability and answer accuracy was weak for both models, indicating that higher source quality did not consistently predict higher response accuracy.

CONCLUSION: Our study found that for specialized dental topics, Google Gemini provides more accurate information than Perplexity AI. A key finding was that for both AIs, strong source citations did not guarantee a correct answer, or correct answers did not necessarily have strong source citations. This shows that you cannot trust an AI's response simply because it lists good references. Therefore, while AI tools are potentially useful in professional fields like dentistry, they must be used with caution. Professionals should always critically review and verify the information before relying on it.

Keywords: Artificial Intelligence, Google Gemini, Perplexity, Implant Supported Prosthesis, Patient Education, Prosthodontics

SS-251 Video-Assisted Learning on YouTube in Dentistry Education: The Impact of Overdenture Videos on Dentistry Students

Abdullah Yaşar Olkun¹, Abdullah Yaşar Olkun², Yiğit Alp Özkan¹, Yiğit Alp Özkan², Esra Ayşe Dilaverler Yardım²

(¹Department of Prosthodontics, Bahcesehir University, Istanbul, Turkey; ²Department of Prosthodontics, Istanbul Health and Technology University, Istanbul, Turkey)

OBJECTIVES: This study aimed to evaluate the effectiveness of video-assisted learning on the knowledge and perceptions of dental students regarding implant-supported overdentures, which represent a challenging but essential aspect of prosthodontic treatment. The increasing use of digital platforms for educational purposes motivated this research.

MATERIALS-METHODS: A prospective pretest-posttest intervention study was conducted involving 4th- and 5th-year dental students at Istanbul Health and Technology University. Participants initially completed a 15-item multiple-choice test designed to assess their baseline theoretical knowledge of implant-supported overdenture procedures. Students watched the selected educational video demonstrating key clinical steps, including implant positioning, abutment selection, impression-taking techniques, and prosthesis fitting. After the video session, students completed the same knowledge test to evaluate knowledge gain, as well as a 10-item Likert-scale survey to assess their perceptions about the video's clarity, educational value, engagement, and motivational impact. Data were statistically analyzed using paired

t-tests for knowledge score comparisons and descriptive statistics for survey results. Students complete the survey via Google Forms.

RESULTS: Analysis revealed a statistically significant increase in post-intervention test scores, indicating an improvement in students' understanding of overdenture concepts and clinical procedures. Survey responses reflected positive student attitudes toward video-assisted learning, highlighting increased clarity, engagement, and confidence in managing implant-supported overdentures. Most students expressed a preference for integrating similar video modules into their formal prosthodontic education.

CONCLUSION: Video-assisted learning through widely accessible platforms such as YouTube serves as an effective supplementary educational tool in dental training. It enhances both theoretical knowledge and practical confidence in complex prosthodontic procedures like implant-supported overdentures. Incorporating such multimedia resources into dental curricula is strongly recommended to enrich student learning experiences and outcomes.

Keywords: Social Media, Educational Technology, Overdenture, Dental Prosthesis, Implant-Supported