

Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.
The abstracts on this page have been chosen and edited by Reena Wadia.

Using the evidence base carefully

Chambrone L, Garcia-Valenzuela FS, Avila-Ortiz G et al. Errors and complications in clinical periodontal practice due to methodologic bias and bad interpretation of the evidence. *Periodontol 2000* 2023; DOI: 10.1111/prd.12475. Online ahead of print.

Proper assessment of the literature requires clinical knowledge combined with a systematic approach built on the recognition of common methodological biases and the avoidance of interpretive errors. Different types of errors and complications may arise during and after the execution of periodontal or implant-related procedures. Some of the most relevant and less commented, causative agents of errors and complications are methodological biases and bad interpretation of the evidence. Proper assessment of the literature requires solid clinical knowledge combined with a systematic approach built on the recognition of common methodological biases and the avoidance of interpretive errors to critically retrieve, dissect, and judiciously apply available information. This review addresses common types of methodological bias and interpretive errors that can alter the reader's perceptions on the real effect and potential ramifications of the reported outcomes of a given therapeutic approach due to bad interpretation of the available evidence: 1) types of methodological biases; 2) spin and interpretive bias; 3) interpretation pitfalls when assessing the evidence; 4) choice of relevant endpoints to answer the question(s) of interest; and 5) balance between statistical significance and clinical relevance.

<https://doi.org/10.1038/s41415-023-5588-0>

Periodontitis in kidney transplant recipients

Roguljić M, Vučković M, Gelemanović A et al. Risk factors of severe periodontitis in kidney transplant recipients: A case-control study. *J Periodontol* 2023; DOI: 10.1002/jper.22-0351. Online ahead of print.

Kidney transplant recipients with severe periodontitis had significantly higher uric acid level and AGE, which may contribute to the systemic health status of this patient population.

Kidney transplant recipients (KTRs) represent a vulnerable group of patients who develop several comorbidities. This study aimed to explore the risk factors for severe periodontitis (SP) in KTRs. KTRs were divided into those with or without periodontitis and in relation to the severity of periodontitis. A comprehensive medical and periodontal examination was performed. A total of 100 KTRs were included in the analysis, of which 87% had periodontitis. Significant predictors of periodontitis were older age and lower skeletal muscle mass. When examining periodontitis severity, predictors of SP were increased levels of uric acid and dental plaque. In the subset analysis that included only KTRs with measured advanced glycation end products (AGE), 34% had SP. The predictors of SP were AGE and dental plaque.

<https://doi.org/10.1038/s41415-023-5590-6>

Learning – tactile or virtual?

McMillan D, Hung M, Vu T, Dang P, Kritz-Silverstein D. Student engagement and comprehension using tactile and virtual learning. *J Dent Educ* 2023; DOI: 10.1002/jdd.13181. Online ahead of print.

Results suggest that for dental students, learning activities involving handling physical teeth may produce greater comprehension than viewing virtual images of teeth on a screen.

Dental students' levels of engagement and comprehension were assessed using tactile learning (with physical teeth) versus virtual learning (using computer images) in a dental histology course. One hundred first-year dental students were randomly divided into 20 teams of 5. Half were given physical tooth models while the other half access to virtual images of tooth models, which was then switched. Groups completed the same learning exercise and formative assessment. A survey assessed students' learning preferences and attitudes. There were no differences by group assignment in both formative assessment scores and learning preferences. For all students, comprehension of material was significantly higher in the tactile condition, but there was no difference in engagement. Students who preferred learning with physical tooth models had higher engagement compared to those who preferred virtual tooth models, and significantly more positive attitudes toward physical tooth models.

<https://doi.org/10.1038/s41415-023-5589-z>

Biomechanical behaviour of short implants

Li R, Wu Z, Chen S et al. Biomechanical behaviour analysis of four types of short implants with different placement depths using the finite element method. *J Prosthet Dent* 2023; DOI: 10.1016/j.jprostdent.2023.01.005. Online ahead of print.

Large implant diameters, rather than long implants, led to reduced intraosseous strain, especially under oblique loading.

This finite element analysis study evaluated the microstrain-stress distribution in the peri-implant bone and implant components for 4 types of short implants at different placement depths of platform switching. By using short implants as prototypes, 4 short implant models were 1:1 modelled. The diameter and length of the implants were 5×5, 5×6, 6×5 and 6×6 mm. The restoration was identical for all. Three different depths of implant platform switching were set: equicrestal, 0.5-mm subcrestal and 1-mm subcrestal. The models were then assembled and assigned an occlusal force of 200 N. A finite element analysis was completed. The 5×5 implant group showed the largest intraosseous strain. A 1-mm increase in implant diameter resulted in a 17% to 37% reduction in maximum intraosseous strain when loaded with oblique forces. The strain in the bone tended to be much smaller than the placement depth at the equicrestal and 0.5-mm subcrestal positions than that at the 1-mm subcrestal position.

<https://doi.org/10.1038/s41415-023-5591-5>