Reply to: Periodontal problems are not prevalent in Sjögren's disease

Sirs,

We thank Dr Vissink *et al*. for their interest in our work. There is a significant difference in the literature about the prevalence of periodontal disease (PD) among patients with primary Sjögren's disease (SjD). The prevalence reported in several clinical studies ranges from 30% to 83.9% (2-4), in contrast to the prevalence of 7.5% recorded by the Norwegian registry (1). In our study, we observed that 97.7% of patients had PD on at least one tooth. We totally agree that the patients' origin (dental offices, rheumatology clinics, or national registries), as well as the disease definition, different periodontal examination protocols and units of analysis have an impact on the prevalence. Furthermore, an uneven distribution of PD has been found among the different racial/ethnic groups. For instance, among Americans, Hispanic Americans had the highest prevalence of periodontitis (63.5%), followed by African Americans (59.1%), and Caucasian Americans (40.8%). In addition, the lowest and highest socioeconomic categories had a twofold difference in prevalence (5). Specifically, in a study in the Mexican general population with a low socioeconomic level, the average number of sextants with no PD at clinical examination was reported to be 1.8 per person (6). Therefore, our prevalence may have been influenced by the aforementioned characteristics; yet, this does not make our findings invalid.

Moreover, there is disagreement and discussion in Sjögren's literature regarding the link between PD and primary SjD. Regarding this, there was no discernible difference in periodontitis between primary SjD patients and controls according to the meta-analyses by De Goés *et al*. (which included nine studies) (7) and Maarse *et al*. (which included ten studies) (8). Wu *et al*. pointed out that the inclusion of various kinds of controls in the Maarse trial and the failure to convert standard errors into standard deviation in the Goés study could have skewed these results. As a result, the authors conducted out a new meta-analysis and made the necessary corrections. When comparing SjD patients to healthy controls, they found a detrimental effect on the gingival index (GI) and plaque index (PI), but not on the clinical attachment level (CAL) or probing pocket depth (PPD). Thus, the authors were unable to draw a conclusion supporting or refuting a link between SjD and PD (9). Later, a new meta-analysis now by Yang *et al*. which included five trials, revealed an OR of 2.1 for the association between SjD and PD. Then, when the same meta-analysis included 16 papers with complete data, the authors found that while bleeding on probing and GI scores were greater in SjD patients, PPD, CAL, and PI scores were not. The authors concluded that SjD patients were more likely to be diagnosed with PD, although there was high heterogeneity among the studies (10).

Similarly, information from national registries varies as well. For instance, the Taiwan's National Health Insurance Research Database, which includes 7709 primary SjD patients and 7090 controls, reported an RR for periodontitis of 1.44 in patients with SjD regardless of disease duration, age, or gender (3). Conversely, the nationwide study conducted in Norway, which included 760 primary SjD patients and 22178 controls, found no statistically significant difference in periodontitis between SjD patients and a control group (1). As a result, we concur with an earlier review of this topic (4), which noted that the literature provides some degree of evidence for an increased risk of periodontitis in SjD, but the opinion is not unanimous. This debate will continue until well-designed studies that account for confounding variables are developed.

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References

1. AGA OO, BOLSTAD AI, LIE SA, FEVANG BT: Periodontitis in patients with primary Sjögren's syndrome: A nation-wide register study. *Eur J Oral Sci* 2023; 131: e12950. https://doi.org/10.1111/eos.12950
2. VUJOVIC S, DESNICA J, STEVANOVIC M *et al*.: Oral health and oral health-related quality of life in patients with primary Sjögren's syndrome. *Medicina* 2023; 59(3): 473. https://doi.org/10.3390/medicina59030473.
3. CHUANG C, HSU CW, LU MC, KOO M: Increased risk of developing dental diseases in patients with primary Sjögren's syndrome-A secondary cohort analysis of population-based claims data. *PLoS One* 2020; 18; 15(9): e0239442. https://doi.org/10.1371/journal.pone.0239442
4. GHEORGHE D, POPESCU D, DINESCU S, SILAGHI M, SURLIN P, CIUREA P: Association between Sjögrens syndrome and periodontitis: epidemiological, fundamental and clinical data: a systematic review. *Diagnostics* 2023; 13: 1401. https://doi.org/10.3390/diagnostics13081401
5. EKE PI, DYE BA, WEI L *et al*.: Update on prevalence of periodontitis in adults in the United States: NHANES 2009 to 2012. *J Periodontol* 2015; 86: 611-22. https://doi.org/10.1902/jop.2015.140520
6. MORALES-RUIZ P, MORENO-BARRERA A, RIBAS-PÉREZ D *et al*.: Periodontal health of a low socioeconomic level population in Yucatan (Mexico). A cross-sectional study. *Medicine* 2023; 102(45): e35748. https://doi.org/10.1097/md.0000000000035748
7. DE GOÉS S, LOPES R, BAGORDAKIS E, LANZA E, DOUGLAS-DE-OIVEIRA D, MOREIRA S: Relationship between Sjögren syndrome and periodontal status: A systematic review. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2018; 125(3): 223-31. https://doi.org/10.1016/j.oooo.2017.11.018.
8. MAARSE F, JAGER DHJ, ALTERCH S *et al*.: Sjogren's syndrome is not a risk factor for periodontal disease: a systematic review. *Clin Exp Rheumatol* 2019; 37 (Suppl. 118): S225-33.
9. WU S, WU CY, CHEN MH *et al*.: Periodontal conditions in patients with Sjögren's syndrome: a meta-analysis. *J Dent Sci* 2021; 16(4): 1222-32. https://doi.org/10.1016/j.jds.2020.11.015.
10. YANG B, PANG X, GUAN J *et al*.: The association of periodontal diseases and Sjögren's syndrome: a systematic review and meta-analysis. *Front Med* 2023; 9: 904638. https://doi.org/10.3389/fmed.2022.904638