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Periodontitis as a Risk of Hospitalization and Death by SARS-CoV-2

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Dear Editors,

We concur with the observations of Mauer et al. [1] addressing the comparative analysis of risks of hospitalization, clinical outcomes and death due to SARS-CoV-2 in patients hospitalized in Lombardy. Affordable precision/personalized medicine which combines the patients clinical data with lab-on-a-chip biomarkers, imaging and point-of-care diagnostics is the way forward if we want to dispense quality care to patients. Among real time monitoring of COVID-19 related risk diseases, it is pertinent to monitor oral and periodontal health, when we take into perspective the probability of poor gum health contributing to the COVID-19 related hospitalization and other adverse outcomes [2–4].

Sufficient evidence in literature underscores the importance of oral health, with emphasis on the prevention and treatment of periodontitis, linking it with many systemic diseases, and now with COVID-19 [3–5]. The same is suggested by the sample of 78 COVID-19 positive (delta variant) patients from India among whom patients with periodontitis were significantly more likely to need hospital admission, assisted ventilation or have COVID-19 related pneumonia than the periodontally healthy patients ($p < 0.05$; **Table 1**) [3]. Further studies are warranted to address the effect of oral and periodontal health on hospitalization and death due to other COVID-19 variants.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Postgraduate Institute of Medical Education and Research, Chandigarh, India Institutional Ethics Committee (INT/IEC/2021/SPL-636). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

SG contributed to conceptualization, data curation, analysis and writing-original draft. Analysis and writing-review and editing was done by IR and TS. SG has directly accessed and verified the data reported in the manuscript.

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TABLE 1 | Association between Periodontal disease status (Healthy, Gingivitis, Periodontitis) and Hospital admission, COVID-19 related pneumonia and assisted ventilation among 78 Indian COVID-19 positive patients (India, 2021).

	Healthy	Gingivitis	Periodontitis	*p*-value[a]
Home isolation	16[a]	12[a]	0[b]	<0.001
Hospital admission (Ward + ICU)	11[a]	9[a]	30[b]	
COVID-19 related pneumonia: Yes	3[a]	4[a,b]	14[b]	0.007
COVID-19 related pneumonia: No	24[a]	17[a,b]	16[b]	
Assisted ventilation required	3[a]	5[a]	21[b]	<0.001
Assisted ventilation not required	24[a]	16[a]	9[b]	

[a]*Pearson Chi-Square (Exact Sig. 2-sided).*

Each superscript letter denotes a subset of periodontal disease status groups whose column proportions do not differ significantly from each other measured by pairwise Z-tests (Bonferroni corrected) at the 0.05 level.

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CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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