



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

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Keywords: COVID-19, oral health, death, prevention, ventilation

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.

OPEN ACCESS

Edited by:

Olaf Von Dem Knesebeck,
 University Medical Center Hamburg-
 Eppendorf, Germany

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Received: 22 June 2022

Accepted: 22 July 2022

Published: 31 August 2022

Citation:

Gupta S, Räisänen IT and Sorsa T
 (2022) Periodontitis as a Risk of
 Hospitalization and Death by SARS-
 CoV-2.
Int J Public Health 67:1605156.
 doi: 10.3389/ijph.2022.1605156

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.

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	

^aPearson 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.

FUNDING

This work was carried out as a part of routine COVID-19 diagnostic activity of the Regional Virus Diagnostic Laboratory under ICMR New Delhi, by the Department of Virology, PGIMER, Chandigarh.

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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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