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*Published in:*  
 Oral diseases

*DOI:*  
[10.1111/odi.14593](https://doi.org/10.1111/odi.14593)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
 Publisher's PDF, also known as Version of record

*Publication date:*  
 2024

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Delli, K., Georgaki, M., Andreou, A., Papadopoulou, E., Robledo-Sierra, J., Meleti, M., & Nikitakis, N. G. (2024). High demand for global collaboration in oral medicine in the post-COVID-19 era. *Oral diseases*, 30(3), 1555-1558. <https://doi.org/10.1111/odi.14593>

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# High demand for global collaboration in oral medicine in the post-COVID-19 era

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**Keywords:** Covid-19, oral medicine

Oral health is a global issue; therefore, widespread dissemination of results from Oral Medicine-related research and developments around the world is crucial. Hence, global collaboration can answer clinical questions of importance to multiple countries (Kramer et al., 2021). Additionally, due to their rarity in the general population or the difficulties in collecting extensive, long-term follow-up data of good quality, some oral diseases cannot be meticulously studied in individual countries. In such cases, international groups should form to work together, combine their patients' cohorts, perform collaborative research and ultimately learn from each other. Moreover, collecting Big Data in Oral Medicine, that is, large data sets that may be analysed computationally to reveal patterns, trends and associations, could be only possible through global cooperation. One of the main lessons we learnt in the last 2 years during the COVID-19 outbreak was that strong global collaborations are crucial in facing challenging global public health threats and challenges (Hrzic et al., 2022).

To date, little is known regarding global cooperation in Oral Medicine. This article presents the results of a survey performed during the 15th Biennial Congress of the European Association of Oral Medicine (EAOM) in Porto, Portugal, September 23–25, 2021. This survey aimed to investigate the collective experience and attitudes of EAOM members regarding multiple aspects of global collaboration in our field, focusing on the needs and possible obstacles that Oral Medicine practitioners have faced.

All 307 active EAOM members received a link to fill in a standardised questionnaire. In total, 89 complete answers were received. Table 1 summarises the main results of the survey. Most participants were middle-aged Oral Medicine practitioners, with 71.9% belonging to the 40–59 age group (mean age: 45, SD: 11). Significant experience in Oral Medicine was noticed since 67.5% had more than 10 years of practising time. Approximately 80% worked in an academic environment (hospital or dental school). Interestingly, 84.3% of the responders devoted at least 50% of their working time to Oral Medicine activities, with 41.6% dealing almost exclusively with Oral Medicine. Most surveyees reported a combination of Oral Medicine-related activities, which included patient care (89.9%), teaching (62.9%) and research (51.7%).

The majority of members (71.9%) indicated previous involvement in international collaborations, more frequently on more than one occasion (33.7%) or even continuously (22.5%). Currently, 52.9% maintained active collaboration with colleagues from one (12.4%) or more (40.5%) countries. However, 44.9% were, at the time of the survey, not involved in any international cooperation.

Research activities came first concerning the type of international collaboration (60.7%). In the majority of cases the collaborative efforts involved literature analysis (36.0%) or original research (34.8%) projects performed without the need for physical presence in a foreign country; the latter form of collaboration was noted only by 13.5% of the participants, indicating that in our modern global

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TABLE 1 Summary of questionnaire results of EAOM active members (total number of participants: 89)

	n	%
<b>Age</b>		
<29	3	3
30–39	26	29
40–49	38	43
50–59	12	13
>60	10	11
<b>Gender</b>		
Female	41	46.1
Male	48	53.9
<b>Time of practicing in Oral Medicine</b>		
The last 5 years	10	11.2
Between 5–10 years	19	21.3
Between 11–20 years	33	37.1
Between 20–30 years	20	22.5
More than 30 years	7	7.9
<b>Current employment<sup>a</sup></b>		
Academic	71	79.8
Private Practice	32	35.9
Public Health (Non-academic)	14	15.7
<b>Time in working week spent on Oral Medicine activities</b>		
Apx 100%	37	41.6
Apx 75%	15	16.9
Apx 50%	23	25.8
Apx 25%	13	14.6
NA	1	1.1
<b>Main activity regarding Oral Medicine<sup>a</sup></b>		
Patient care (clinic)	80	89.9
Teaching	56	62.9
Research	46	51.7
<b>Current cooperation (at any level) with other international Oral Medicine organizations, i.e., AAOM, AIPBM, OMAA, WWOM</b>		
Yes	50	56.2
No	39	43.8
<b>Past international collaborations in Oral Medicine</b>		
Yes, continually	20	22.5
Yes, on more occasions	30	33.7
Yes, once	14	15.7
Never	25	28.1
<b>Current international collaborations in Oral Medicine projects</b>		
With colleagues from another country	11	12.4
With colleagues from two or more countries	36	40.5
None	40	44.9
NA	2	2.2
<b>Type of international collaboration (if any)<sup>a</sup></b>		
Research	54	60.7
Teaching	17	19.1
Patient treatment	11	12.4
Other	2	2.2
<b>Environment of international collaboration (if any)<sup>a</sup></b>		
Literature analysis projects from own country	32	36.0
Research collaboration from own country	31	34.8

TABLE 1 (Continued)

	n	%
Working abroad (physical presence in another country)	12	13.5
Other	4	4.5
<b>Main topic in case of research in international collaboration (if any)<sup>a</sup></b>		
Oral cancer/precancerous lesions	41	46.1
Any other oral mucosal diseases	37	41.6
Diseases of the salivary glands	12	13.5
Diseases of the jaws	10	11.2
Other	8	9.0
<b>Type of studies performed in case of research international collaboration (if any)<sup>a</sup></b>		
Systematic reviews/meta-analysis	29	32.6
Multicentre cohorts	23	25.8
Multicentre RCTs	9	10.1
Other	29	32.6
<b>Obstacles for international collaboration<sup>a</sup></b>		
Lack of funding	40	44.9
Lack of time	34	38.2
Lack of interesting ideas/initiatives/proposals	19	21.3
Lack of interest	1	1.1
Other	8	9.0
<b>Influence of Covid-19 pandemic on international collaboration</b>		
Reduction	24	27.0
Increase	5	5.6
None	46	51.7
NA	14	15.7
<b>Opinion about needs for encouragement for international collaborations in Oral Medicine</b>		
Strongly agree	65	73.0
Agree	14	15.7
Neutral	3	3.4
Disagree	0	0
Strongly disagree	7	7.9
<b>Activities among Oral Medicine Associations, i.e., EAOM, AAOM, AIPBM, OMAA, WWOM, to be advocated as initial cooperation initiatives<sup>a</sup></b>		
Global Meetings	62	69.7
Webinars	52	58.4
Common global research projects	39	43.8
Other	2	2.2
<b>Type of acquaintance/contact with collaborating foreign colleagues (if any)<sup>a</sup></b>		
During official congresses/meetings	38	42.7
Involvement in international collaborating groups	29	32.6
During official period of work abroad	22	24.7
Through official channels (e.g., websites of universities, scientific associations etc.)	21	23.6
Other	8	9.0

Abbreviations: AAOM, American Academy of Oral Medicine; AIPBM, Ibero-American Academy of Oral Pathology and Medicine; Apx, approximately; EAOM, European Association of Oral Medicine; NA, not answered; OMAA, Oral Medicine Academy of Australasia; WWOM, World Workshop on Oral Medicine.

<sup>a</sup>Multiple answers were allowed.



society, international cooperation does not depend on the actual mobility of investigators.

Regarding global collaboration in research, the EAOM members stated that oral cancer and precancerous lesions, as well as other diseases of the oral mucosa, were the main interest of their collaborative efforts in 46.1% and 41.6% of the answers, respectively. In addition, the most common type of investigations in these international collaborative efforts were systematic reviews or multicentre studies (32.6% and 25.8%, respectively).

Lack of funding and lack of time were the most frequent obstacles when attempting to participate in international collaborations, perceived as such by 44.9% and 38.2% of the participants, respectively. Remarkably, only one member of the surveyed membership stated no general interest in global cooperation initiatives. Interestingly, 57.3% of the participants responded that they were not negatively affected by the COVID-19 pandemic regarding their international collaborations. In contrast, 27% reported a reduction in their international collaboration due to the pandemic.

Most (88.7%) responders agreed that international collaboration in Oral Medicine must be encouraged more. Therefore, to explore ideas to promote global cooperation, we asked our membership which initiatives they would support. Specifically, all participants were in favour of cooperation initiatives to be developed and implemented in common by Oral Medicine associations, like EAOM, American Academy of Oral Medicine (AAOM), Oral Medicine Academy of Australasia (OMAA), Ibero-American Academy of Oral Pathology and Medicine (AIPBM) and World Workshop on Oral Medicine (WWOM). Furthermore, among suggested initiatives, almost 70% of the surveyees supported global meetings organised by two or more of those above international Oral Medicine societies. Additionally, international webinars on selected topics and participation in international research projects were seen as positive steps towards global cooperation by 58.4% and 43.8% of the surveyees, respectively.

The idea of global oral medicine meetings organised by two or more societies is intriguing. Indeed, members with international collaborating experience indicated that the most common environment for establishing international collaboration was official scientific congresses (42.7%). In addition, involvement in international collaborating groups (32.6%), working abroad (24.7%) and official communication channels of academic institutions and scientific associations (23.6%) also provided meaningful opportunities. Considering also the fact that the majority of the surveyed EAOM members (56.2%) stated that they already maintain current cooperation with at least one international oral medicine association, a strong argument could be made that coordination and joint initiatives and actions among existing associations are instrumental in promoting the goal of international collaboration in Oral Medicine.

The results of this study should be read with caution since some limitations might be applicable. Specifically, the response rate to our survey was approximately 30%. There is a seemingly low response rate, but studies have shown that response rates to e-mail surveys have decreased since the late 1980s (Sheehan, 2001) and

that e-mail response rates may only approximate 25% to 30% (Yun & Trumbo, 2000). Consequently, our response rate is within the expected values. It also needs to be acknowledged that members who responded to our survey were academic clinicians, likely in their mid-late careers. Thus, our results might only reflect the attitudes toward global cooperation of some active EAOM members. As with any survey, response bias cannot be excluded entirely. However, the fact that we used a short questionnaire, neutral language, and different question formats significantly limits it. Additionally, the current survey did not explore the geographic origin of collaborations. Future studies could construct and visualise the existing networks in Oral Medicine using specific software, assess the quantitative and qualitative characteristics of networking, and propose ideas for further improvement.

Oral Medicine is an essential but still young dental speciality in many parts of the world, which recognises and fosters the interplay between medical health and oral health (Bez et al., 2017; Scully et al., 2016). However, full recognition of the importance of Oral Medicine to patient care, research, and education is yet to be universally acknowledged. The results of this survey highlight the intense need among Oral Medicine practitioners in Europe for global collaboration in research, teaching, and patient care. By encouraging global collaboration on all these aspects of Oral Medicine, the establishment of our speciality could be further promoted in the challenging post-COVID-19 era.

## AUTHOR CONTRIBUTIONS

KD contributed to designing the study, conducted the study and analysed and interpreted results and lead drafting the manuscript. MG analysed and interpreted results and contributed to writing the manuscript. AA, EP, JRS, MM contributed to formalising the concept of the study, contributed to writing the manuscript. NGN contributed to the concept, designing the study, analysing, interpreting results and contributed to writing the manuscript.

## ACKNOWLEDGMENTS

We thank all EAOM members for participating in the survey.

## PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1111/odi.14593>.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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**How to cite this article:** Delli, K., Georgaki, M., Andreou, A., Papadopoulou, E., Robledo-Sierra, J., Meleti, M., & Nikitakis, N. G. (2024). High demand for global collaboration in oral medicine in the post-COVID-19 era. *Oral Diseases*, 30, 1555–1558. <https://doi.org/10.1111/odi.14593>