

Dentistry and climate change: a Sustainable Development Goal 13 lens

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Introduction

Studies on the intersection between dentistry and Sustainable Development Goal13 (SDG13) can guide the future practice of dentistry to support the protection of the environment and eliminate the negative impact on climate. The aim of this study was to map the research on the links between dentistry and climate change; and to make recommendations for future studies to address gaps on the links between dentistry and the targets of SDG13

Methods

We used Elsevier's SciVal database to search for articles published between 2003 to 2022 in the field of dentistry. We included only articles where SDG13 was addressed. We extracted, compiled, and analyzed information about the title of article, authors, countries of authors' affiliation, journal, year of publications, number of citations, field weighted citation impact (FWCI), other SDGs addressed in the manuscripts in addition to SDG13, and topics addressed in the article.

Results

A total of 75 papers published by 374 authors on dentistry and climate change were retrieved. Two authors published 3 or more articles and both were from Ireland. The greatest number of articles was by authors from the United Kingdom (n=13), Iran (n=10), Japan (n=9) and the USA (n= 9); and were published in 2021 (n=9). Manuscripts were published in 54 journals with the highest number in the Journal of Lasers in Medical Sciences (n=7) and the British Dental Journal (n=7). In addition, 61 (81.3%) papers were cited 814 times. The average FWCI was 0.855 and 25 (33.3%) had FWCI greater than 1. The most frequent topic discussed was the impact of carbon dioxide laser use in dentistry (n=48) and pollution and waste disposal (n=11) on the climate. In addition to SDG13, the articles also addressed SDG12 (Responsible consumption and production, n=12), SDG3 (Good health and wellbeing, n=7) and SDG9 (Industry, innovation and infrastructure, n=4).

Conclusion

Research into climate change and dentistry is driven by four countries despite the global impact. The citation of the publications is modest with a third having an impact above the global average. The focus of the publications is mainly limited to how dentistry contributes to climate change and the need for responsible production and consumption of dental products. Studies on the link between dentistry and SDG13 can be combined with other SDGs. More studies are needed, especially in developing countries, to identify the relation between dentistry and the SDG13 indicators.

Keywords

Climate change, dental practice, dental products, sustainable development, citation impact