

Environmental sustainability in dentistry: A call for ethical and eco-conscious practices

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Dentistry is no exception to the global paradigm shift towards environmental sustainability. Dental professionals, as guardians of oral health and wellness, have a moral obligation to combat environmentally unfriendly practices that have long been part of the industry. In this editorial I will examine ineffective and environmentally harmful dental treatment, make an argument for needed reform, and highlight the ethical need to implement greener processes. A healthier world is essential to overall health, which is why the dental community must rise to this challenge.

Wasteful practices and environmental impact Like many medical specialties, dentistry has a long history of generating a lot of waste. Some of the most obvious problems are the increasing use of plastic, single-use items and waste of water. The massive plastic waste crisis is largely the result of single-use plastic items, including gloves, syringes and packaging. Traditional dental products, including amalgams and gypsum, create harmful contaminants to aquatic habitats. Older sterilisation techniques used a lot of energy and water, which combined with the habit of operating machines unnecessarily. In addition to harming the environment, these wasteful practices also reflect badly on the dental profession as responsible healthcare providers.

There is a need for a critical assessment of the pros and cons of adopting environmentally friendly alternatives in dental practice. On the one hand, moving to environmentally responsible operations will require upfront investments in new machinery, supplies and technology, which can put a strain on the budgets of some operations. Initially, efficacy and patient numbers may be affected by the learning process of adopting new procedures. Also, buying durable products can be a bit more expensive than using conventional materials. However, these initial difficulties are insignificant compared to the many advantages.

Why would there be resistance to adopting more environmentally friendly or greener behaviours and equipment in dental practices?

- **Lack of understanding:** Many dentists may not be fully aware of the extent to which traditional techniques have a detrimental impact on the environment. Without insights, it may not be clear how urgent it is to switch to eco-friendly options.
- **Initial expenses:** New equipment, materials and technologies developed for sustainability in the first place



can be very expensive, which can be a barrier to smaller operations with more limited resources. Because of financial worries, dentists may see these investments as a burden and refuse to change.

- **Tradition and inertia:** Dentistry, like any profession, can be slow to adapt due to the inertia of long-standing habits. Since traditional methods have long been part of dental education and training, it can be difficult to deviate from what is known and comfortable.
- **Perceived disruption:** Switching to eco-friendly methods can be seen as breaking the usual schedule and workflow. Dentists and staff may be concerned that the implementation of new techniques and supplies will temporarily impede operations or require additional training.
- **Lack of infrastructure:** A dental clinic may need to significantly upgrade its infrastructure to transition to greener clinics. It takes time, effort and sometimes structural adjustment to implement water-saving technologies, waste management processes and digital storage systems.
- **Misconceptions:** Some dentists may believe that green solutions are less effective or of lower quality than conventional solutions. Education must be used to dispel these myths to promote change.
- **Time limit:** Oral healthcare practitioners often have busy schedules and little free time to experiment with and apply new techniques and technologies. It can be difficult to consider learning and integrating new techniques and processes that are not directly responsible for the generation of income.
- **Industry standards and regulatory incentives:** In some areas, the absence of industry standards or regulatory incentives for environmentally responsible practices may prevent practitioners from taking proactive steps to promote sustainability.
- **Competitive priority:** Dental practitioners have to perform a variety of tasks that include patient care, office work and continuing education, among others. The issue of environmental sustainability can be overshadowed by the imperatives of everyday practices and commitments.
- **Access to accurate information may be limited:** It may not be easy to access comprehensive information about the various eco-friendly options. Dentists can benefit from centralised resources that provide in-depth advice on environmentally friendly supplies and procedures.

Rationale for change

The dental community's dedication to environmental sustainability is not only ethically necessary but also a means to ensure the survival of dental care. Adopting environmentally friendly methods is a wise move, considering resource depletion and the severity of compounding environmental problems. Waste generation and carbon emissions can be significantly reduced by switching to digital recording and photography, using energy-efficient technology, and using recyclable and biodegradable materials. The financial return in this regard is undeniable with substantial cost savings as clinics use less energy, less water and have better waste



management systems. Dental professionals can improve their services while reducing their environmental impact by reinvesting these savings in advanced technology and patient care.

Ethical responsibilities of dental professionals

Dental practitioners have intrinsic ethical obligations to patients, to society and to the environment as healthcare providers. They are dedicated to the wellbeing of their patients beyond the dental chair because they are responsible for the patient's wellbeing. This includes protecting the health of the community and, by extension, the planet. Dentists are dedicated to the long-term health and vitality of their patients and the environment by implementing environmentally friendly procedures. Using sustainable materials, reducing plastic waste and saving water are all ethical requirements, not just alternatives. Dental professionals are uniquely positioned to help patients understand the importance of making informed decisions and the environmental impact of oral health practices. An environmentally conscious and conscientious generation can be nurtured through this education.

The environmental impact of dental practices can be significantly reduced by subscribing to sustainable practices. Patients are looking for environmentally conscious healthcare providers, which can increase patient loyalty and attract new customers. By implementing environmentally responsible processes, dental professionals can take the lead in environmental stewardship and health care, enhancing their status in the community and in the care setting.

In conclusion, environmental sustainability in dentistry is an urgent requirement, not a distant aspiration. The dental community has the ability to lead by example, to act as an agent of change and to reshape the industry so it reflects the ideals of a sustainable society.

Dentists can help to create a healthier and sustainable future by reviewing and modifying unnecessary processes, adopting innovative technology and using environmentally friendly materials. Keep in mind that the health of our world is closely tied to the health of our patients as we survey the evolutionary horizon in dentistry. Dental professionals can lead the way to a brighter, more sustainable future by adhering to their ethical obligations and promoting environmentally sustainable principles.

Let us work towards a world where healthy smiles coexist harmoniously with a thriving environment.