Ethical Considerations of Community Water Fluoridation

Community water fluoridation (CWF) is widely regarded as one of the most effective public health interventions for preventing dental caries and has been recognized by the Centers for Disease Control and Prevention as one of the 10 great public health achievements of the 20th century.[1] By adjusting fluoride levels in public water supplies to an optimal concentration, this practice has contributed to significant declines in tooth decay over the past several decades.[2] The Centers for Disease Control and Prevention has stated that water fluoridation remains the most equitable and cost-effective method to deliver fluoride to all members of most communities, regardless of age, educational attainment, or income level.[1] CWF began in 1945 and had reached more than 209 million Americans as of 2022.[3] Decades of research, including many high-quality scientific studies, have demonstrated that optimal CWF is effective in preventing cavities and is safe for children and adults.[4]

While much has been written about optimal community water fluoridation, we must view the issue through the lens of the ADA Code of Ethics [5] to consider the ethical implications of this public health initiative. The principles of patient autonomy, nonmaleficence, beneficence, justice and veracity help determine whether it is ethically acceptable to provide CWF without individual consent and define the responsibilities of individual dentists and the American Dental Association in the CWF debate.

Patient autonomy is the principle that individuals should be able to determine what happens to their bodies.[5] The principle of patient autonomy may conflict with the state's social contract with its citizens to protect their health and well-being. Dentists are ethically obligated not to harm patients, to protect patients from harm (non-maleficence), to act for the benefit of others (beneficence), and to advocate for oral health equity for all (justice).

Compounding the complexity of the ethical issues of health care are the limitations of both personal and state health care resources and the government's obligation to prevent and control diseases. Fluoridating a community's water encompasses all of these factors. Optimal CWF allows the state to protect the public with no apparent harm. In the United States, fluorosis of tooth enamel is the only identifiable side effect of consumption of fluoride exceeding recommended levels. It may present as an esthetic concern, though the mottled tooth enamel is at lower risk of decay.

Beauchamp and Childress addressed the conflict between autonomy and beneficence in situations that arise in a government's response to issues that may expose others to risk.[6] To justify overriding patient autonomy, one must show that the "treatment" is necessary to prevent harm to others and has a reasonable prospect of doing so; if the proposed treatment meets these conditions, it still must pass the "least infringement" test and aim to minimize negative effects. Therefore, the ADA Principles of Ethics and the Beauchamp-Childress test can be used when justifying water fluoridation. Multiple studies support the benefit of optimal CWF in improving

public oral health by lowering the risk of dental caries.

When answering the question of whether a dentist has an ethical responsibility to support optimal CWF, the principle of beneficence again provides ample guidance. Under this principle, the dentist has a duty to promote patients' welfare and act for the benefit of others. The ethical dentist should assist patients in understanding the benefits of fluoridated water, including the reduction of health, fiscal and personal costs of tooth decay, and respect patients wishing to exert their autonomy by opting out of consuming fluoridated water. Under the principle of non-maleficence, it is also important for a dentist to evaluate all sources of fluoride exposure prior to recommending any supplemental fluoride to a patient, to reduce risk of enamel fluorosis.

The principle of veracity provides dentists with additional ethical guidance on the use of CWF. Veracity implores dentists to be honest and trustworthy, to communicate truthfully and without deception, and to maintain intellectual integrity. Intellectual integrity is defined as a commitment to truth, honesty and ethics in one's thinking and expressions, while remaining knowledgeable and open to scientific evidence. To communicate truthfully regarding water fluoridation, dentists have an obligation to be aware of fluoride levels in their communities. Dentists also have a duty to be knowledgeable about pro-fluoridation and anti-fluoridation efforts and discern which scientific studies are methodologically sound, credible and applicable to optimal CWF. Representation of the benefits of fluoride in dental practices, in communities and on social media should reflect the principles of veracity and intellectual integrity as well. The American Dental Association and all dentists must remain committed to intellectual integrity by keeping abreast of new scientific findings and re-evaluating evidence-based recommendations as necessary. As an example, in 2015, it was determined that optimal CWF should be changed from 0.7-1.2 ppm to a strict 0.7 ppm, when quality scientific studies and research determined it to be the best therapeutic dose while minimizing the risk of fluorosis.[7] Employing the principle of veracity, dentists must be willing to evaluate scientific evidence[8] and make any necessary changes to best care for their patients and the public at large.

Optimal CWF is not only a scientifically proven public health intervention; it is also a powerful tool for advancing health equity and social justice. By providing all residents, regardless of income, education, or access to dental care, with consistent protection against tooth decay, fluoridated water helps reduce disparities that disproportionately affect low-income and marginalized communities.[4] It ensures that preventive oral health support is available to everyone, without requiring individual resources or action. In this way, water fluoridation promotes fairness and dignity, supporting the fundamental right to health for all.[4]

Achieving equitable access to optimal CWF requires strong, sustained partnerships among public health agencies, local governments, dental and medical professionals, and community-based organizations. Collaborative efforts with schools, advocacy groups, and trusted local leaders help build public understanding, address concerns, and ensure that the voices of historically underserved communities are included in decision-making processes. These partnerships are essential for promoting transparency, fostering trust, and aligning resources to support long-term

fluoridation initiatives that prioritize health equity and social justice.

Community water fluoridation has consistently been shown to reduce the incidence of dental decay by at least 25% in both children and adults.[4] The long history of water fluoridation in the United States demonstrates that optimally fluoridated water has no negative impact on quality of life. With the preponderance of evidence demonstrating the benefit and safety of water fluoridation, as well as the careful consideration of the ethical implications, dentists and the American Dental Association can ethically support optimal CWF.

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