



Bright Smile: The Efficacy of At-Home Kits, In-Office Procedures, and Public Dental Assessment Sessions

Faraed D Salman¹ and Aya J Hussein^{2*}

¹Professor in Dental Assistant Department/Medical Technical Institute, Erbil, Polytechnic University, Erbil, Iraq

²BSc Pharmacy, MBA, MSC, Ph.D(c), Universiti Malaya/Faculty of Pharmacy, Kuala Lumpur, Malaysia

***Corresponding Author:** Aya J Hussein, BSc Pharmacy, MBA, MSC, Ph.D(c), Universiti Malaya/Faculty of Pharmacy, Kuala Lumpur, Malaysia.

Received: June 24, 2024

Published: July 01, 2024

© All rights are reserved by **Faraed D Salman and Aya J Hussein.**

A bright smile is essential for improving personal appearance and boosting self-confidence, especially in social and professional environments. It can enhance self-esteem and facilitate positive interactions by creating a favorable impression on others. Maintaining a bright smile signifies good oral health practices, reducing self-consciousness and promoting better relationships both personally and professionally. Efficient and convenient dental care solutions are necessary to ensure easy access to teeth whitening methods, reducing the need for frequent and costly dental appointments. The process of teeth brightening, commonly known as teeth whitening, encompasses a variety of procedures, techniques, kits and assessment sessions. These varied strategies will be discussed in this editorial to show how they cater to diverse preferences and conditions, providing choices for individuals desiring a more radiant smile.

The study by Busch et al. analyzes a teeth-brightening kit with three components: alkaline sodium fluoride solution, phosphate gel, and calcium gel [1]. The kit follows a specific sequence for optimal results: sodium fluoride, phosphate gel, and calcium gel applied over 2-10 hours. Each component plays a unique role in conditioning, brightening, and strengthening the teeth. The process starts with sodium fluoride to prepare the tooth surface, followed by phosphate gel to condition and brighten the teeth, and ends with calcium gel to strengthen and complete the brightening process. Busch et al. show that this method effectively brightens teeth through chemical reactions involving fluoride, phosphate, and calcium ions, providing a practical approach to cosmetic teeth enhancement [1].

Another study by Alexander et al. examines a teeth whitening technique involving bleaching substance application for 3-30 minutes, followed by removal, iterated at least once [2]. The study introduces a teeth whitening kit with bleaching substance, lip and cheek retractor, consisting of solvent (50-96%), oxidation agent (2-30%), and varnish former (2-30%). The technique disintegrates tooth stains, ensuring bright teeth outcomes with repeated applications. The efficacy of bleaching substance is enhanced by its composition and application. The substance contains an oxidation agent crucial for breaking down stains, solvent for dissolving stains, and varnish former for better adhesion to teeth. Repeating the procedure is crucial for effective stain disintegration. Each application diminishes stains gradually, requiring multiple applications for desired whiteness level. Repetition aids oxidation agent in breaking down stains and brightening teeth consistently. This process ensures a thorough and effective whitening process at home with the provided kit [2].

The research conducted by Allred & Jessop focuses on dental bleaching instruments similar to trays, with an outer protective layer and inner bleaching layer [3]. These devices are easier to use than flat bleaching strips. The bleaching layer is a solid mixture that becomes more adhesive when moistened, ensuring durability during use. The devices can be grouped together and may include dental desensitizing tools. The study found that whitening devices maintain their structure and bonding properties, offering advantages over flat strips. The trays are designed to fit teeth, helping retain the bleaching mixture effectively. The bleaching

layer in the trays becomes more adhesive when moistened, ensuring durability during use. This leads to consistent and successful outcomes. Dental trays also include desensitizing tools, providing a comprehensive solution for bleaching and sensitivity management. By offering both remedies in one package, dental trays offer a convenient approach to dental care, enhancing user comfort. Overall, dental bleaching devices are a user-friendly option compared to traditional strips, providing effective outcomes [3].

On the other hand, Thosre and Mulay's study explores teeth whitening methods for enhancing smiles conservatively [4]. It highlights clinical cases using various bleaching methods based on patient needs, discoloration cause, and finances. The focus is on preserving tooth structure while changing shade to match neighboring teeth, emphasizing the importance of a radiant smile. The study discusses bleaching techniques, such as in-office vital bleaching and nonvital bleaching for discolored teeth post-root canal procedure. Different methods can be combined for single tooth discoloration based on severity and patient needs. The study shows successful tooth shade alteration with a focus on safeguarding tooth structure for aesthetic improvements. It suggests tooth whitening can enhance smiles while maintaining tooth structure and stresses considering patient-specific factors when choosing a bleaching method [4].

Lastly, the article entitled "Enhancing Smiles: Service learning, inter-professional collaboration, and health promotion in a First Nations community" outlines an initiative to improve dental health in a remote First Nations community called Hartley Bay in British Columbia, which comprises approximately 200 individuals and can only be reached by air or sea [5]. The project included dental assessments, a questionnaire for parents, school-based hygiene sessions, fluoride programs, educational sessions, and visits by pediatric trainees from University of British Columbia (UBC). Findings revealed that merely 31% of preschoolers and 8% of school-aged children were cavity-free. The benefits of these activities include teaching children good oral health habits, strengthening tooth enamel with fluoride, providing insights on oral health, ensuring routine dental check-ups for children, and detecting dental problems early. These collective endeavors contribute to enhanced overall dental health and diminish the necessity for extensive dental interventions in the future. The

project's success is shown by the focus on preventive dental care and initial improvements in children's dental well-being. It also offers a learning opportunity for pediatric trainees in a remote environment [5].

In conclusion, although the articles examined do not specifically explore the potential side effects and long-term consequences of those different dental kits and procedures, they do emphasize the immediate effectiveness of such methods. The available evidence indicates that there are various approaches accessible to individuals aiming to enhance their dental aesthetics, ultimately contributing to an improved quality of life. It is important to note that these treatments and assessments are not solely focused on cosmetic improvements; rather, they play a significant role in advancing overall well-being. Through the enhancement of dental aesthetics, patients may gain heightened self-assurance and social ease, highlighting the significance of these treatments beyond their visual attractiveness. With advancements in the field, it is essential for future studies to address the existing gaps in knowledge regarding the long-term impacts, ensuring that both patients and healthcare professionals are well-informed about all facets of dental care.

References

1. Busch S., *et al.* "Kits, their manufacture and method for brightening coating of teeth". (2007).
2. Alexander K., *et al.* "Method for teeth whitening" (2006).
3. Allred PM and Jessop N T. "Dental bleaching devices and methods and kits that utilize such devices". (2004).
4. Thosre D and Mulay S. "Smile enhancement the conservative way: Tooth whitening procedures". *Journal of Conservative Dentistry* 12.4 (2009): 164-168.
5. Harrison R., *et al.* "Brighter smiles: Service learning, inter-professional collaboration, and health promotion in a First Nations community". *Canadian Journal of Public Health / Revue Canadienne de Santé Publique* 97.3 (2006): 237-240.