

Chapter 5

Importance of Training in Digital Dentistry for Improving Oral Health in Remote and Rural Areas

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ABSTRACT

This chapter reviews education and training in digital dentistry, adhering to PRISMA 2020 guidelines. It highlights the critical role of training in utilizing digital tools, especially in remote areas. Despite the benefits of technologies like AI, virtual reality (VR), and advanced devices in enhancing dental care, challenges such as high costs, limited training resources, and resistance to change remain significant. Effective training is vital for bridging the urban-rural care gap and ensuring equitable access to quality services. The review emphasizes the need for structured learning and technology adoption, informed by frameworks like Social Learning Theory and the Technology Acceptance Model. Addressing the digital divide requires integrating hard skills (oral health education) with soft skills (emotional intelligence) and leveraging innovations such as VR simulations and e-learning. Continuous education and collaboration are essential for advancing practice and improving patient care in underserved areas.

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SUMMARY

This chapter presents a systematic review following PRISMA 2020 strategies to measure the role of education and training in Digital Dentistry (DD). The review, applying an intended pursuit strategy and clear inclusion measures, highlights the critical status of training for the effective use of Digital Tools (DT), mainly in remote backgrounds. The results disclose that DT, including AI, virtual reality, and advanced dental devices, can suggestively enhance dental services but are hindered by challenges such as high charges, limited training resources, and fighting to change.

Effective education and training are vital for connecting the gap between urban and rural dental services, confirming unbiased access to high-quality dental services. The chapter highlights the transformative possibilities of DD in enlightening diagnostic accuracy, and patient services. Theoretical frameworks like Social Learning Theory and the Technology Acceptance Model highlight the necessity of structured learning and technology adoption.

Addressing the DD through inclusive skills such as oral health education and essential skills such as Emotional Intelligence (EI), curiosity combined with partnerships and financial support, is essential for overcoming these challenges. Innovations like VR simulations, tele-dentistry, and e-learning are crucial for developing the skills of oral health experts. Continuous education and multidisciplinary collaboration will further advance practice and enhance patient care in underserved areas.

INTRODUCTION

Education and training are lively for both personal and professional growth, providing opening awareness, intent, and skills. DE influences online platforms and skills to offer flexible, collaborative learning, enhancing convenience and skill development. In digital dentistry, training is vital for understanding and effectively using new skills, improving diagnostic accuracy, and patient services. Existing trends comprise artificial intelligence (AI), virtual reality (VR), and online courses, which enhance learning competence and engagement. In remote and rural parts, suitable training empowers oral health experts to effectively use digital skills despite supply limitations, improving care and connecting access gaps. This ensures improved oral health results in underserved areas. Moreover, DD signifies a transformative shift in oral health services, integrating advanced technologies to enhance diagnostic accuracy, planning, and patient results. Innovative technological devices such as CAD/CAM systems, intraoral scanners, and 3D printing, along with apps, media, and mHealth tools, demand complete education and training for dental experts,

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