



Addressing the challenges and opportunities of dental auxiliaries: A review

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Abstract

In the field of dentistry, an essential element that significantly influences the delivery of oral healthcare is the availability and distribution of dental auxiliaries. Dental auxiliaries encompasses a diverse range of professionals, including dentists, dental hygienists, dental assistants, and other supporting personnel, who collectively play a vital role in providing quality oral healthcare services to individuals and communities. This review emphasize the importance of broad workforce planning, effective policies, and investments in education and training to ensure a sustainable and well distributed dental workforce capable of meeting the oral health needs of diverse populations.

Keywords: Dental auxiliaries, dentist, dental

Introduction

Oral health professional who is neither a dentist or a dental hygienist is referred to as a dental auxiliary, and this includes the supporting staff who aids in dental care. As oral diseases continue to pose a significant burden on global health, ensuring an adequate and well-trained dental workforce becomes crucial for meeting the oral healthcare needs of populations. However, dental auxiliaries faces numerous challenges and complexities that require careful consideration and analysis. This review article aims to explore the multifaceted aspects of dental auxiliaries, examining its current status, challenges, opportunities, and potential strategies for improvement^[1].

The article will commence by offering an overview of the dental workforce landscape, presenting statistics and trends related to dental auxiliaries on a global scale. This will provide a context for understanding the existing gaps and disparities in workforce distribution, particularly in underserved regions and marginalized communities.

Next, the article will look into into the major challenges faced by dental auxiliaries. These challenges may include workforce shortages, maldistribution, demographic shifts, changing oral healthcare needs, and evolving practice patterns. Additionally, the impact of technological advancements, such as digital dentistry and teledentistry, on the dental workforce will be explored, along with the associated opportunities and implications^[2].

Furthermore, the review will analyze the factors influencing the recruitment, training, and retention of dental professionals. It will examine educational institutions and the evolving curriculum to meet the changing demands of the oral healthcare landscape. Additionally, it will discuss the role of professional organizations, regulatory bodies, and government policies in shaping the dental workforce.

The article will also highlight successful initiatives and innovative models that have been implemented to address dental auxiliaries challenges. These may include strategies to increase access to oral healthcare in underserved areas, interprofessional collaborations, workforce diversification, and the use of technology to enhance dental practice.

Finally, the review will conclude by summarizing the key findings and recommendations for future directions in dental auxiliaries planning. It will emphasize the importance of comprehensive workforce planning, effective policies, and investments in education and training to ensure a sustainable and well-distributed dental workforce capable of meeting the oral health needs of diverse populations^[3, 4].

By critically examining the current state of dental auxiliaries, its challenges, and potential solutions, this review article aims to contribute to the ongoing dialogue on optimizing the dental workforce to promote oral health equity and enhance the overall quality of oral healthcare delivery

Classification of dental auxiliaries

1. Non-operating auxiliaries

- Dental surgery assistant
- Dental secretary/receptionist
- Dental laboratory technician
- Dental health educator

2. Operating auxiliaries

- School dental nurse
- Dental therapist
- Dental hygienist
- Expanded function dental auxiliaries

Non-operating auxiliaries

Dental Surgery Assistant

Dental assistants contribute to more effective dental care. To aid in clearer visibility of the operative field, they grasp and pass tools, retract tissues, and use suction. They also mix substances, assist in keeping dental records, and sterilise tools and equipment. Additionally, some people have their teeth professionally whitened, especially in the Republic of Ireland where laser teeth whitening is categorised as a cosmetic surgery rather than a dental treatment. This procedure often takes place in dental offices that specialise in laser teeth whitening only, as opposed to general dental care [6].

Duties and responsibilities include

- Patient reception and preparation
- Sterilization, care and preparation of instrument
- Preparation and mixing of restorative and impression material
- Care of patient after treatment
- Preparation of the surgery for next patient

Dental secretary/receptionist

Dental Receptionists are the 'front line' of dental practices, serving as the first point of contact over the phone or upon arrival. You will be booking new patients, receiving guests, scheduling appointments, and performing other non-clinical administrative responsibilities [7].

Duties and responsibilities include

- Dealing with calls from patients and calling them if appropriate.
- Writing to them where necessary to chase payment or sending out reminders that they need to be seen for routine check-ups or further dental treatment.
- Using a diary/computerised diary system to book, switch and cancel appointments.
- General administration tasks, such as photocopying, scanning, faxing, printing and sorting/filing/sending forms.
- Handling payment from patients (cash, cards and cheques).

Dental Laboratory Technician

A dental technician is a member of the dental team who creates unique restorative and dental appliances as directed by a dental clinician. The four main fields of dental technology are as follows. These include orthodontics and auxiliaries, such as mouthguards and orthodontic appliances; fixed prosthesis, such as crowns, bridges, and implants; removable prosthesis, such as dentures and removable partial dentures; maxillofacial prosthesis, including ocular prosthesis and craniofacial prosthesis [7, 8].

With the use of patient measurements, drawings, and prescriptions, the dentist communicates with the dental technician. The most crucial part of this is a dental cast, which is a duplicate of the patient's anatomy made by the technician using a dental stone made of gypsum and a patient's dental imprint. The construction of unique appliances can then be done by a technician using this cast [9].

Dental Health Educator

This person gives advice on how to prevent dental diseases and may even be allowed to provide preventative medications intra orally. The responsibilities of some dental surgical assistants have been expanded in a few nations so they can do specific preventive operations. Auxiliaries are permitted to lead fluoride mouthrinsing programmes for groups of school children in Sweden after receiving two additional weeks of training. They aren't permitted to perform any intraoral surgeries though [10].

Operating auxiliaries

School Dental Nurses

This is an operational auxiliary who has the legal authority to diagnose dental disease plan and carry out certain preventative and treatment measures including some operative procedures in the treatment of dental caries and periodontal disease in specific populations of persons mostly school children. In New Zealand, interest in a systematic strategy to enhance paediatric oral health initially emerged in 1905. Due to the distance that frequently divided small settlements, it was particularly challenging to treat these children. The individual who had the most impact on the establishment of the organisation was T.A. Hunter, who founded the New Zealand Dental Association and paved the way for the establishment of a dental school in that country. The school where they were educated was called "The Dominion Training School for Dental Nurses." Over the course of the two-year training programme, both reversible and irreversible treatments are covered. Each school dental nurse is assigned to a school after completing her training, where she is employed by the government to provide routine dental care for between 450 and 700 children. Every school with more than 100 kids enrolled has a dental clinic on the premises [11, 12].

Duties and Responsibilities include

- Oral examination
- Prophylaxis
- Topical fluoride application
- Advice on fluoride supplements for the diet
- Local anaesthetic administration
- Preparing cavities and placing amalgam fillings in baby and adult teeth
- Pulp capping
- Extraction of primary teeth

Dental Therapist

This is a person who is authorized to carry out specific preventive and treatment procedures, such as filling cavities and restoring teeth, under the advice of a supervising dentist. Due to a lack of dentists willing to serve in the school dental service, dental dressers the British term for therapists were created in the country. The last training school, located in the London neighbourhood of New Cross graduated the auxiliaries based on the New Zealand type in 1962. They became known as "New Cross Auxiliaries" as a result. The term "auxiliary" was changed to "therapist" in the United Kingdom in 1979. Therapists, a group of employees in Australia that is based on the New Zealand Dental Nurse model, have been employed since 1966. Similar to school dental nurses in New Zealand, they play a very different job because they are not allowed to diagnose dental problems or organize treatment [13].

Duties of a Dental Therapist

- They receive instruction in clinical caries detection.
- cavity preparation techniques for both permanent teeth and primary teeth.
- Material handling skills, crucial pulpotomies under rubber dam for primary teeth, and local anaesthetic extraction of primary teeth.
- They don't have much experience interpreting X-rays. At the dentist in charge's request, they frequently take radiographs.
- They lack the necessary endodontic training. They might not be able to treat dental trauma cases but they might be able to offer emergency first aid.

Dental Hygienist

A dental hygienist is a working auxiliary who is certified and registered to practice dental hygiene by the relevant state, province, territory, or country's regulations. Dental professionals oversee the dental hygienist job. Under the supervision of a qualified dentist, the hygienist cleans and polishes the patient's teeth and offers guidance on dental hygiene. In the US, hygienists are also employed by public school systems to visit schools on a regular basis where they check the students teeth and send any that need treatment to a dentist. Hospital hygienists may be asked to work with bed and ambulatory patients who only need minor preventive care.

The Dental Council of India has stipulated that the programme of study must last for a minimum of two academic years and must result in the awarding of a Dental Hygienist Certificate. The candidate must have passed at least matriculation examination of a recognised university taking science subject or an equivalent recognised qualification^[13, 14].

Duties and Responsibilities include

- Cleaning of the mouth and teeth, paying special attention to calculus and stains.
- Fluoride topical applications, sealants, and other preventative measures.
- Screening or first examinations of individuals
- Instruction in oral hygiene.

Expanded Function Dental Auxiliary

They have also been known as expanded duty dental auxiliary, expanded function dental assistant, expanded function dental hygienist, and expanded function auxiliary. An EFDA is a dental assistant or, in certain situations, a dental hygienist who has additional training in tasks relevant to the direct care of patients while continuing to work directly under a dentist's supervision. They perform reversible procedures, or ones that might be changed or redone without causing the patient any unnecessary health risks. They work alongside the dentist and take over conventional restorative procedures as soon as the cavity preparation and base have been finished. They do not prepare cavities or make decisions regarding pulp preservation once caries have been excavated^[15, 16].

Duties and Responsibilities include

- Placing and removing of temporary restorations, rubber dam and matrix band.
- Reducing and shaping of amalgam fillings on tooth.
- Putting acrylic restorations in teeth that have already been prepared.
- Finishing and polishing of filling materials.

Conclusion

India had one dentist for every 10,000 people in urban regions and 2.5 lakh people in rural areas. Almost three-quarters of all dentists are concentrated in urban areas, which house only one-fourth of the country's population. To meet demand, India need a longer-term constructive approach in developing and growing dental auxiliary systems. Dental auxiliary professionals in India include dental hygienists, laboratory technicians, and dental surgical assistants who have been recognised by the Ministry of Health and the Government of India, as well as certificate courses recognised by the Dental Council of India.

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