International Journal of Dental Hygiene

Official Journal of the International Federation of Dental Hygienists

ORIGINAL ARTICLE

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Improving oral health in Pakistan using dental hygienists

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Dates:
Accepted 5 November 2009

To cite this article:
Int J Dent Hygiene **9**, 2011; 43–52
DOI: 10.1111/j.1601-5037.2009.00434.x
Shah MA, Darby ML, Bauman DB. Improving oral health in Pakistan using dental hygienists

Abstract: This paper reviews the healthcare system, available dental care, and oral health status of people in Pakistan. Considering the enormous unmet oral health needs, the insufficient supply of dental professionals and the current unstructured dental hygiene curriculum in Pakistan, a mission, vision, and goals for professional dental hygiene in Pakistan is recommended. The authors offer recommendations for competency-based dental hygiene education and practice, professional credentialing, a practice act, and a dental hygiene scope of practice to promote the health, welfare, and quality of life of the Pakistani people. Specifically, the authors recommend increasing the number of quality dental hygiene programs, establishing the dental hygienist as a primary care provider of oral health services, enhancing current dental hygiene curriculum, and establishing a dental hygiene council with responsibility for educational requirements and regulation of dental hygienists in Pakistan.

Key words: dental hygiene; dental hygiene council; dental hygiene curriculum; dental hygiene scope of practice; oral health disparity; Pakistan

Introduction

In Pakistan, the burden of oral disease is extensive, preventive oral healthcare services are lacking, and the concept of visiting the dentist on a regular basis does not exist. People visit a dentist when they experience oral pain. Although oral diseases are treatable and preventable, the insufficient supply and distribution of oral health professionals, non-existence of routine preventive oral health services, and lack of dental equipment contribute to oral health disparity. Pakistani citizens, especially rural residents, lack access to adequate, affordable, and organized oral health services (1).

About 30% of Pakistan's population lives below the poverty line and 55% have access to basic healthcare (1). It is practically impossible for parents to educate their children because time in school prevents their children from contributing to the family income; therefore, children enter the labor force rather than schools. Factors like these have led to an extremely low literacy rate (56% of adults are illiterate) as well as a lack of knowledge concerning oral health and practice. Approximately 50% of the children have never used a toothbrush (2).

Considering the enormous unmet oral health needs, the insufficient supply of dental professionals, and the current unstructured dental hygiene curriculum, this document promulgates a vision of the dental hygiene profession for Pakistan, including recommendations of competency-based dental hygiene education and practice, professional credentialing, a practice act, and a dental hygiene scope of practice to promote the welfare of the Pakistani public.

Overview of Pakistan

Situated in South Asia, Pakistan borders Iran, India, Afghanistan, and China (Fig. 1 here). Pakistan is the 9th most populous country in the world with a population of about 152 million (3). According to the 1998 census, more than 67% of the population lives in rural areas. Agriculture is the largest sector of the country's economy and a significant share of national gross domestic product (1, 3). About 30% of Pakistan's population lives below the poverty line and 55% have access to basic healthcare. The life expectancy at birth is approximately 64 years (1). There are 100 men for every 109 women (1) and the overwhelming majority of the population practices Islam.

Fig. 1. Map of Pakistan. Source: Map of Pakistan. Available at: http://www.desichat.org/images/pakistanmap2.gif (accessed 25 July 2008).

Education in Pakistan

The Pakistan educational system is organized into five levels including primary, middle, high (culminating in 10th grade), intermediate (11th and 12th grades which lead to the diploma in arts or diploma in science), and university leads to undergraduate and graduate degrees. Relatively limited sources have been allocated to education in Pakistan, i.e., <2% of the gross domestic product is spent on education (3).

Significant educational disparity exists between males and females due to the male dominated society. In 2003, nearly 46% of those aged 15 years or older were literate (59.8% males and 30.6% females) (3). It is practically impossible for parents to educate their children because time in school prevents children from contributing to family income; therefore, children enter the labor force rather than schools. Factors like these have led to an extremely low literacy rate (2). According to the *Ministry for Women's Development* (4), reluctance to enroll females in schools is due to the concern for their safety and honor (4) as well as cultural and religious beliefs. According to *Situation Analysis of Women in Pakistan*, 'Men and women reside in two separate worlds' (5). Males are seen as family breadwinners and decision-makers; females are subjugated and their physical space is their home. The birth of males is often lavishly celebrated, and preference is given to them due to their 'productive role' (5). In contrast, the birth of females is rarely appreciated and seldom celebrated, and their education is often withheld in favor of their male counterparts. Girls are taught domestic work and how to be good wives and mothers while their brothers are privileged to the best education possible within the limits of the family. However, the nature of females' inequality varies by class, geographic region, and the rural/urban living conditions (5).

Healthcare in Pakistan

Healthcare delivery

The healthcare system in Pakistan offers unequal services throughout the nation; the poor, rural population, the less educated, women and children are ignored by the healthcare system (6). Pakistan's health infrastructure is underdeveloped especially in rural areas; yet, 70% of the population lives there (1).

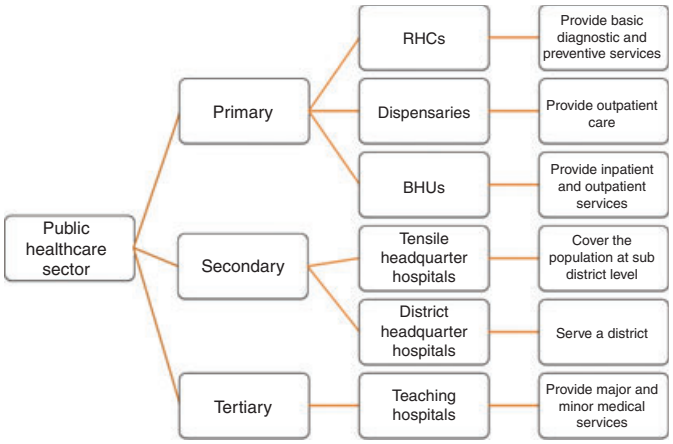

Fig. 2. Public healthcare sector.

The Pakistan Medical and Dental Council (PMDC) regulates medical and dental care, while the Federal Ministry of Health directs nationwide planning and coordinating. The provincial departments of health implement health policies and provide healthcare through government hospitals and other healthcare facilities (7, 8).

The public healthcare sector provides preventive and therapeutic services through rural health centers (RHC), dispensaries and basic health units (BHU) (Fig. 2 and Table 1 here). Dispensaries provide outpatient care, while the BHUs offer both inpatient and outpatient services (7, 8).The distribution of these facilities is population based; for every 5,000–10,000 people, there is one BHU and a RHC for a population of 40,000–100,000 people (1). According to Mahbub ul Haq (6), the people of Pakistan are very dissatisfied with their current healthcare system (6). Most public health centers operate only a few hours daily or have been closed. The BHUs lack basic amenities, i.e., 28% have no electricity; the examination tables, weighing scales, and instruments including blood pressure devices are decrepit and 21% lack female health professionals (7). This lack of female health professionals might be due to the low (30%) female literacy rate and attitude toward the role of women outside the home. Thus, public attendance at the primary healthcare sector is low.

Healthcare in Pakistan is minimal. Public health facilities are remote, underfunded, understaffed and require out-of-pocket payments for supposedly free services. Thus, attendance at public health facilities is low and consumers prefer the private healthcare sector (7, 8).

The private health sector includes for-profit providers, non-profit non-governmental organization (NGO), and an informal sector. For-profit private health sector is the major provider of outpatient care. Nishtar (7) states that the owners of private clinics have no ethical values, charge unaffordable fees, provide unsanitary environment, and offer outdated medical technology (7).

The total health expenditure of Pakistan is approximately 0.7% (1) of the country's gross domestic product (GDP), which is disproportionately low when compared to 16% in the United States (9). About 43% of the GDP is spent on the country's debt rather than quality primary care (8). As oral health services are not delivered separately from overall healthcare, no record of annual oral healthcare expenditures is available (1).

Oral health services in the public sector are delivered through the RHC. There are 541 RHCs for the 105 million rural inhabitants, 341 posts are vacant, leaving one dentist for 0.5 million people. Furthermore, 40% of the dental equipment at RHCs is non-functional and dental materials, instruments and drugs are excluded from the RHCs' essential supply list. The public oral health facilities are clearly unable to meet the dental health need of the people especially the underprivileged. Thus, rudimentary oral health services in rural areas are provided by the blacksmith or shopkeeper whose extractions

Table 1. **Diploma of dental hygiene in Pakistan list of major core courses**

	First-Semester	Second-Semester	Third and Fourth-Semester
Lectures, Laboratory and Clinic	Basic Computer Skills English proficiency Behavioral Sciences Research Methodology Anatomy Physiology Microbiology Biochemistry Pathology Pharmacology	Dental Pharmacology Oral Anatomy & Tooth Morphology Dental Materials Community Dentistry Sterilization & Disinfection	Periodontology Operative Dentistry Prosthodontics Orthodontics Clinical Practice in Dental Hospitals

Source: Dow University of Health Sciences School of Dental Care Professionals (DCP). Dr. Ishrat-ul-ebad khan Institute of Oral Health Sciences (DIIOHS). Prospectus for Admission in Session 2007–2008. Available at: http://www.duhs.edu.pk/download/prospectus/prospectus-DCP-2007-08.pdf (accessed 1 July 2008).

are usually managed without infection control or local anesthesia (1).

Oral health status in Pakistan

Oral healthcare is a far greater need than general healthcare, yet it is a very low priority for the majority of Pakistan people. In 1996, only 6% of children brushed their teeth on a daily basis; nearly 50% have never used a toothbrush and the 44% who do brush their teeth once a week or less (2). Tanwir *et al.* (10) revealed that 54% of adults in Karachi, Pakistan perceived personal oral problems. About one-third of the adults were dissatisfied with their dental aesthetics, 17% had oral pain, 15% had cavities and 8% reported difficulty chewing. These researchers also reported an association between increased age with increased pain, gingivitis, and periodontitis. Furthermore, females and people who were illiterate reported more oral problems than males (10). Tanwir *et al.* (10) concluded that oral pain and untreated disease are extensive in Karachi residents (10).

The lack of oral health awareness accounts for over 90% of all untreated oral diseases including caries and periodontal disease. The concept of visiting the dentist on a regular basis does not exist; rather, Pakistan people visit a dentist when they experience oral pain. Oral health knowledge deficit and absence of toothache are responsible for delays in seeking dental treatment; consequently, individuals who present for dental treatment are usually beyond restorative care, necessitating tooth extraction. It is not surprising that 90% of all the treatment provided in the public dental clinics is tooth extraction. Oral examination, scaling and prophylaxis count for <3% of the services provided in public dental clinics (1). Children grow up uninformed of the importance of oral care and consequently become adults with compromised oral health, missing teeth and oral dysfunction (11). Geographic location, gender and economic status play a role in who receives dental care; urban residents, males, and those with high socioeconomic status seek dental care more often in comparison with rural residents, those with low socioeconomic status, and females (1).

Oral diseases and disorders

Dental caries

The prevalence of dental caries in Pakistan is significantly less than the prevalence of gingivitis, periodontitis, and oral cancer. Fifty percent of Pakistani children, 12–15 years of age, present with carious lesions. However, the prevalence of caries is on the rise when comparing the DMFT score of 12- to 15-year olds with previous findings. For example, the DMFT index of 12-year olds was reported as 1.2 in 1988 and 1.6 in 2003. Similarly, the DMFT score of 15- to 18-year olds was 1.8 in 1988 and has increased to 2.3 in 2003 (1, 12). Unfortunately, 97% of Pakistani children, age 12–15 with carious lesions, are untreated (1). Untreated carious lesions have decreased slightly from 98.5% in 1992 (13). In contrast to Pakistan, 59% of US adolescents age 12- to 19-year olds have caries and only 23% present with unmet oral needs (14). Pakistani adults have unmet oral needs as well. Half of the caries present in adults age 35–44 have not been restored while more than 90% of the treatment provided is tooth extraction. A similar percentage of extracted teeth in adults age 65 and over are observed. Due to the poor diet of adults age 65 and over, a high prevalence of caries has been reported. A positive correlation between age and caries is also evident, i.e., as age increases, the prevalence of caries increases as well. On an average, seniors aged 65 and older have 18 teeth affected by caries. The prevalence of caries in rural areas is more pronounced than in urban areas. The increased sugar consumption (1) and lack of oral health knowledge are responsible for the incidence of caries in children and adults.

Periodontal disease

Less than 28% of 12-year-old children have healthy gingiva. Twenty-two percent of women have bleeding gingiva and 34% have dental calculus (1). As many as 17% of 18–34-year-old women have advanced periodontal disease (attachment loss of >6 mm) (1, 15). Furthermore, 93% of 65-year olds have some form of gingivitis or periodontitis (1). For comparison, in the United States, 5.08% of adults age 20–64 and 11.88% of 50- to 64-year olds have moderate or severe periodontal disease (14). Like caries, the prevalence of gingivitis and periodontitis is more pronounced in rural areas. The *Oral Health in Pakistan A Situation Analysis* (1) further indicates that one-third of the national population could greatly benefit from scaling or non-surgical periodontal therapy (1). According to Qureshi *et al.* (15), preterm delivery of low birth-weight babies in Pakistan occurs in 37% of all live births, which the authors correlate with the high prevalence of periodontal disease in women of childbearing age (18–34 years) (15).

Oral cancer

Oral cancer, a relatively rare cancer globally, is exceptionally prevalent in Pakistan. Oral cancer is the second most common

cancer in Pakistani males (following lung cancer) and females (following breast cancer). The incidence rate and the risk factors for oral cancer are similar in both genders. The major risk factor for oral cancer is chewing Paan also known as betel-quid (extract of the *Acacia catechu* tree), and areca nut (the seed of the areca nut palm) in combination with tobacco use. A relationship between duration of chewing, frequency of chewing per day, and retention of chewing betel-quid overnight while asleep was found (1). Approximately 34% of men and 12.5% of women use some form of tobacco on a regular basis (1). This finding was confirmed by Bhurgri *et al.* (16) who investigated the demographics of oral pharyngeal cancer in south Karachi as documented in the Karachi Cancer Registry during 1995–2001. Findings indicated a significant number of advanced stage cancer cases and most of the lesions had metastasized to distant sites at time of diagnosis. Squamous cell carcinoma comprised 96.5% of the total cancer lesions, and laryngeal cancer was three times more frequent in males in comparison to females (16).

Other oral conditions

Due to oral health knowledge deficits and cost, only 5% of the 35–44-year-old edentulous individuals' wear oral prosthesis while another 30% greatly need them. More than 60% of the seniors (65 year old and over) require oral prosthesis but only 17% wear either partial or complete dentures (1).

Fluoride in Pakistan

Community water fluoridation is inexpensive, effective, and equitable (17). Although, water fluoridation significantly inhibits caries, it is not available in most parts of Pakistan. Khan *et al.* (18) assessed the natural fluoride levels in water supplies in Pakistan. After analyzing 987 water samples from piped water, tube-wells, wells in rural areas and various streams, they found that the 84% of the water contained <0.7 ppm of fluoride. The authors concluded that there is a great need for alternative sources of fluoride in Pakistan (18). Khan (19) also found that Pakistan is a low fluoride country when he analyzed 991 water samples from all four provinces of Pakistan. About 64% of the locations had a fluoride level below 0.3 ppm, while only 6% of the locations were in the optimum range of 0.7–1.0 ppm (19). According to *Oral Health in Pakistan a Situation Analysis* (1), the fluoride levels in drinking water vary throughout the country (1). Siddique *et al.* (20) collected water samples in Karachi, Pakistan, confirm the variation of fluoride levels in the country. Siddique *et al.* (20) found that the fluoride contents in water samples collected from the subsurface and river sources were below the recommended fluoride value (<0.7 ppm); however, the groundwater samples in some industrial areas revealed higher level (>1.2 ppm) of fluoride concentration (20). Based on the evidence, the citizens of Pakistan lack optimum fluoride levels in their water supply.

Dental care workforce in Pakistan

Dentistry

There are 16 dental colleges in Pakistan, mostly private, graduating more than 600 dentists per year (1). Eligibility criteria for attending dental school includes the successful completion of intermediate level of education after matriculation and an entrance test consisting of 100 questions covering biology, chemistry, physics, and English. The Provincial Government for Dental Colleges designs the entrance test used by both private and public dental schools. The 4-year dental school curriculum leads to the Bachelor of Dental Surgery degree (21–23).

Despite the number of dental graduates in the country, the proportion of dentists to the population remains low (24). As of 2008, there were 8,169 dental surgeons' registered with Pakistan Medical and Dental Council (PMDC) (25). According to Talati and Pappas (26), emigration of healthcare professionals to other developed countries is a critical factor contributing to the health manpower shortage (26).

The PMDC establishes minimum standards for education, licensure and relicensure for medicine and dentistry, and sets standards for the instructors in Pakistani medical/dental colleges. The PMDC inspects the medical/dental colleges to ensure that they are following the Council regulations, criteria and Code of Medical Ethics. The PMDC designs medical and dental national board examinations and sanctions those who practice below the accepted standards of the medical and dental profession. The PMDC system of accreditation has been reviewed by the National Committee on Foreign Medical Education and the US Department of Education and found to be comparable to the evaluation systems of the United States, Canada, and United Kingdom (25).

Dental hygiene

Dentists are the only licensed oral healthcare providers in Pakistan and they are reluctant to use 'middle-level personnel,' i.e., dental hygienists. According to the *Oral Health in Pakistan A Situation Analysis* (1),

'the reason for the objection [of dental hygienists] in Pakistan is that in previous attempts the operating auxiliary providers

[dental technicians] have consistently taken advantage of the inadequate supply and mal-distribution of dental surgeons to perform procedures not within their job description' (1).

Currently, two dental hygiene diploma programs are offered in Pakistan, each graduating approximately 15–20 dental hygienists per year with the Diploma of Dental Hygiene (DDH) (1). The dental hygiene curriculum takes approximately 2 years to complete (four-semesters lasting 18 weeks each), following 2 years of intermediate level education (4 years total) (27) (Table 1 here). There is no legally defined scope of practice or job opportunities for dental hygienists in the public or private sectors (1). Furthermore, the dental hygiene programs lack formal accreditation and standardized curricula. Thus far, no record of a dental hygienists' professional association, minimal educational standards or a model for dental hygiene education exists in Pakistan.

Dental technology

Dental technicians (similar to dental laboratory technicians) are non-clinical operating personnel whose scope of practice includes fabricating oral prostheses under the direction of the dentist. There are four dental laboratory technician programs in Pakistan (1). As tertiary healthcare is not offered in public oral health facilities, employment as a dental technician is limited to private dental practices. Dental technicians are often mistaken for dentists because many dental technicians have opened their own clinics, performing procedures beyond their scope of practice and training (1). When dental technicians are referred to as 'doctors', they may not correct the misconception. According to *Oral Health in Pakistan A Situation Analysis* (1), an estimated 40,000 non-qualified dental practitioners are practicing dentistry in underserved populations in remote locations (1).

Dental hygiene profession in Pakistan – a vision

Definition and mission

The discipline of dental hygiene focuses on the management of behaviors necessary to promote oral health and prevent oral diseases. It focuses on the client, environment, health/oral health, dental hygiene actions, their relationship and the factors that affect them. As a clinician practicing in collaboration with other health professionals, a dental hygienist uses preventive, educational, and therapeutic methods to promote oral health and prevent and control oral diseases (17). The mission of the dental hygiene profession is to promote a high standard of dental hygiene practice. The profession is dedicated to improving the public's overall health by ensuring that dental hygienists are properly educated to provide the best quality oral healthcare within their scope of practice, and that the public, including the most vulnerable, indigent, and rural, have access to primary oral healthcare; and hence an improved quality of life (28).

Dental hygiene goals (28)

Dental hygienists improve society's oral and systemic health by:

1 Increasing public awareness of oral disease, its prevention, treatment, and relationship to systemic disease.

2 Increasing access to quality oral healthcare.

3 Creating collaborative professional relationships with other healthcare providers.

4 Utilizing evidence-based decision-making to solve clinical problems.

5 Providing preventive, educational and therapeutic oral health services in various settings to control oral diseases.

6 Practicing ethically, safely, and legally within a defined scope.

7 Enhancing dental hygiene practice through continuous quality improvement measures.

8 Continuing to provide the most current, evidence-based concepts and techniques to those in their care.

Dental hygiene vision

The dental hygiene profession's vision is to attract competent members who can collaborate with other health professionals to improve general and oral health and quality of life for all. Given this vision, the profession foresees the development of strong academic programs for dental hygienists, effective rules and regulations that govern practice, and mechanisms to ensure quality practice over the dental hygienist's lifetime (28). To successfully utilize dental hygienists and improve the oral health of Pakistan's citizens, the roles and competencies of the dental hygienist must be clarified and implemented. Properly educated and employed, dental hygienists assume roles as clinician, educator, administrator, consumer advocate, and researcher.

Dental hygiene education model

United States, Canada, and some European countries have advanced and developed systems of dental hygiene education.

For example, in USA, in 2008, there were 296 accredited entry-level dental hygiene programs, 33 of which were baccalaureate, and 22 master's level programs (29). Most entry-level programs have competency-based curricula that define the skills dental hygienists must possess (30, 31). Most accredited dental hygiene entry-level programs in USA are associate degree or baccalaureate degree programs (32). An associate degree in dental hygiene prepares students to practice only as clinicians; baccalaureate degree programs prepare students for understanding research, managerial, and advocacy roles and 'to adapt to new roles in an ever-changing environment' (17). The master's degree in dental hygiene is currently the terminal degree in USA. Although, master's degree programs vary, most prepare dental hygienists for leadership roles in higher education, research, or administration (17, 32). Subsequent to the successful completion of dental hygiene education from an accredited dental hygiene program, dental hygienists are required to pass a national board examination as a prerequisite for the licensure examination. Along with the national examination, dental hygienists are required to successfully complete a clinical examination, which assures the public that dental hygienists are qualified to provide reliable, effective and safe dental hygiene services to the public (33).

Dental hygiene regulation

Professional regulation is the responsibility of a profession to monitor the behavior of its members according to the laws established by the government. The main purpose of professional regulation is to protect the health, safety, and welfare of the public by licensing healthcare professionals and monitoring their practice for violation of the practice act (28, 34). The P*ractice Act* is the state law that regulates the practice of dentistry and dental hygiene (17). Regulations are the specific interpretations of the various laws that determine how the law is implemented. Due to overwhelming responsibilities, the government delegates regulatory authority to boards consisting mainly of members of the regulated profession and consumers, a responsibility known as self-regulation. Given this authority, the regulatory board interprets and ensures consistent application of the practice act (28). With s*elf-regulation*, the profession establishes its own educational requirements, licensure requirements, and scope of practice. Within the framework of the practice act, self-regulation gives a profession the responsibility to protect the public from harm or unsafe practitioners while maintaining and encouraging professional practice (35, 36). Self-regulation consists of several elements that demonstrate the following accountability to the public: setting of professional standards; development of a code of ethics (37); peer review; participation in professional activities and continuing education; research to advance the knowledge base; professional publications; developing and monitoring practice; and the credentialing and certification process. The components of self-regulation are designed to verify that the practitioners are meeting society's trust and maintaining expected standards of practice (28, 38). Under self-regulation, the dental hygiene licensure system would similarly be managed by dental hygienists. Dental hygienists, the experts in dental hygiene, should be granted the responsibility to design, implement, and evaluate dental hygiene licensure system instead of dentists (39). Gurenlian (40) reports that dental hygienists in control of their profession would greatly benefit the profession of dental hygiene. Self-regulation would allow dental hygienists to focus on the profession and control licensure requirements (40).

Access to oral care is an enormous public health issue both in the United States and Pakistan. Millions lack access to oral care due to lack of insurance, inadequate distribution of dental providers in their areas, or lack of dentists willing to accept indigent people. The majority of the rural, indigent people lack preventive oral health services and far more need restorative oral health services (41). Restrictive dental hygiene supervision laws are one of the major barriers in accessing oral healthcare services. Supervision laws hinder dental hygienists' ability to provide preventive and therapeutic services throughout the community unless a dentist is present or has authorized the care. A self-regulated dental hygiene profession would allow dental hygienists to reinterpret laws to allow greater access to the indigent, homebound, schoolchildren, and people in long-term facilities (39).

Proposed recommendations for the regulation of dental hygienists in Pakistan – the beginning of a plan

As of 2008, there were 8,169 dentists registered with the Pakistan Medical and Dental Council (25), which is inadequate for a population of 152 million (3) people. Consequently, an estimated 40,000 non-qualified dental practitioners (dental technicians) are providing dental services in underserved areas of Pakistan. The burden of oral disease is extensive while preventive oral healthcare services and effective oral self-care behaviors are lacking. Oral diseases such as dental caries, gingivitis, and periodontitis are preventable with increased awareness, oral health therapies,

and regular oral screenings. Cancer prevention education and tobacco cessation programs are essential in reduction and elimination of oral cancer incidence in Pakistan. Pakistani citizens lack optimum, consistent levels of fluoride in their water supply as well; therefore, they need infrastructure and education to support fluoride therapies and informed on various supplemental fluoride sources available to reduce caries. The need for dental treatment may be overwhelming for the low ratio of dentists to population; therefore, standardized, formal training of dental hygienists can be used to help meet the oral needs of the public. There is an extensive need for evidence-based and community-based dental health interventions and a philosophical change from disease-oriented and pain management care to primary preventive care across the lifespan. Thus, dental hygiene is one strategy that could be used by the Ministry of Health to address the ongoing oral health crises in Pakistan. The approach to oral healthcare delivery in Pakistan could be changed to a model where the dental hygienist is a primary care provider of oral health services in rural and public health clinics. Through dental hygienists working collaboratively with dentists, other health professionals and the Ministry of Health, the public could receive oral health education, interventions to control disease and disease progression, and referrals when possible. The oral health of the citizens of Pakistan can be improved cost-effectively by adopting this collaborative model. In response to the enormous unmet oral health needs, the inadequate supply of dentists, and the current unstructured dental hygiene curriculum, recommendations for a new model of dental hygiene in Pakistan are proposed. Recommendations are predicated on the establishment of a new office within the Pakistan Ministry of Health, called the Pakistan Dental Hygiene Council.

Pakistan Dental Hygiene Council

The Pakistan Dental Hygiene Council is envisioned to function similarly to the Pakistan Medical and Dental Council and be responsible for regulation of dental hygiene, establishment of educational standards, requirements and scope of practice, licensure granting and renewal, and disciplinary actions against dental hygienists. The Pakistan Dental Hygiene Council would include representatives from all aspects of dental hygiene education and practice and do the following:

- Promulgate a dental hygiene scope of practice in variety of public health settings.
- Adapt specific standards of dental hygiene practice in accordance with a practice act, code of ethics (37), and dental hygiene clinical practice standards (42) as guides for quality practice and as benchmarks for disciplinary action against those who contravene the laws and standards.
- The Dental Hygiene Council could develop educational standards for entry-level dental hygiene programs and guidelines for competency-based dental hygiene curricula.

Dental hygiene education and practice is envisioned to include

- Dental hygiene licensure candidates who are graduates of a competency-based accredited, entry-level, dental hygiene education program (30).
- Since the baccalaureate degree is crucial to improving dental hygiene's service role to society, Pakistan dental hygienists could be urged to complete the baccalaureate degree in dental hygiene.
- Given the enormous shortage of dental professionals in Pakistan, dental hygiene programs could continue to graduate qualified dental hygienists well into the future.
- Dentists could be instructed in dental schools and via continuing education on the utilization of dental hygiene professionals to enhance their productivity.
- Dental hygienists would follow dental hygiene practice standards (42).
- Dental hygienists would practice collaboratively with dentists and other healthcare professionals to meet the needs of patients.

Pakistanis National Board Dental Hygiene Examination

- Prior to licensure, dental hygiene program graduates would be expected to successfully pass a national examination that evaluates their knowledge and problem solving ability for practice.
- The Dental Hygiene Council could be responsible for writing and implementing the national examination.

Clinical competence

- Rather than using a clinical examination, dental hygiene programs could verify initial clinical competence.
- The Pakistan Dental Hygiene Council could register newly graduated dental hygienists with temporary licensure for 6 months. Dental hygienists with temporary licensure will practice as trainees in public oral health care facilities such as Rural Health Centers or Basic Health Units.

- Following 6 months of continuous full time practice as trainees, the clinical competence could be confirmed in a letter from the public oral healthcare facility director to the Council.
- Upon consideration of the Council, a multiple-year license could be issued by the Pakistan Dental Hygiene Council.

Practice act and scope of practice

- Dental hygiene practice regulations could be passed into law thereby protecting the citizens of Pakistan from unqualified dental hygienists.

Summary and conclusion

Mounting evidence suggests that the burden of oral problems in Pakistan is overwhelming. The lack of preventive care and political turmoil is responsible for the oral health problems currently faced by the citizens of Pakistan. There is a tremendous need to augment the oral health knowledge and self care behaviors of the people so that oral diseases can be prevented. Inequity exists in the provision of oral healthcare in Pakistan; the majority of people do not have access to quality oral health services. Consequently, caries, periodontal diseases and oral cancer are prevalent. The number of dentists currently practicing is extremely low for the increasing Pakistan population. The number of formal dental hygiene programs is limited and their curriculum appears varied and unstructured, e.g., lacking specified clinical hours and radiology. In response to the unmet oral health needs in Pakistan, a new dental hygiene curriculum, and a new administrative office within the Pakistan Ministry of Health, with full authority to regulate dental hygiene education, practice, and licensure has been proposed. This document provides dental hygienists and the Pakistan Ministry of Health with foundational practices to consider that can protect the health and welfare of the population, strengthen the profession of dental hygiene, and increase the number of qualified dental hygienists to meet the needs of the Pakistani population. Increasing the number of community-based dental hygienists could improve the Pakistani public's oral health knowledge, prevent oral diseases, and help maintain oral health and wellness. Moreover, this paper proposes mission, goals, and vision to guide the profession of dental hygiene in Pakistan. Since the baccalaureate degree in dental hygiene provides the most comprehensive entry-level competencies for an ever changing environment, Pakistan dental hygienists should strive to earn baccalaureate degrees as a minimum for entry into practice. Dental hygienists in Pakistan should have the authority to regulate the dental hygiene profession in order to protect the health, safety, and welfare of the public from incompetent practitioners. Through self-regulation, the proposed Pakistan Dental Hygiene Council could guide dental hygiene education, licensure, and practice; and have the authority to develop, implement, and periodically evaluate educational standards for continued quality improvement. It is anticipated that the Pakistan Ministry of Health and the Pakistan Dental Association will collaborate with the dental hygiene profession. Together, both professions can raise the health and quality of life of all Pakistani citizens.

Since the completion of this manuscript, the number of dental hygiene programs in Pakistan has increased. Some of the programs do have radiology courses implemented in their curricula. However, a stantadized published dental hygiene curriculum is still lacking.

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