Indian Journal of Dental Education
Volume 2 Number 4 October-December 2009

Dental education and oral health problems in India

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ABSTRACT

How will the new era signify dental practice of occupational safety, dental health education and its challenges? At present, the dental profession is confronted by an outburst of technology, population explosion, problems in dental health care delivery systems. As a result, dentists find it increasingly difficult to meet their responsibilities to patients and society. In such conditions, reaffirming the fundamental and universal principles and values of dental professionalism, which remain principles to be pursued by all oral physicians becomes important. This paper reviews dental education in India and challenges in oral health owing to issues such as lack of awareness, lack of oral hygiene, quackery etc.

Key Words: Dental education, curriculum, history, India, infrastructure, street dentistry, quackery

INTRODUCTION

India is thickly populated and has diverse climate. The size The total area is 3,287,590 sq km (1,269,345 sq mi), including 222,236 sq km (85,806 sq mi) belonging to Jammu and Kashmir; of this disputed region, 78,932 sq km (30,476 sq mi) are under the de facto control of Pakistan and 42,735 sq km (16,500 sq mi) are held by China and population is 1,065,070,607(July 2004 est). The demographic condition has considerable influence on dental health education. Hence it's advisable to assess adequacy and efficiency to provide dental care to population growing in diversity and mass. An enhanced armamentarium with high delivery costs does not ensure the deliverance of a certain standard of dental care. The options of dental management is often dictated a patient's wishes and affordability rather than by wholesome dental need. India consists of twenty nine states, and the principal unit of administration in a state is a district, which is further divided into community development blocks. There are 2,424 such blocks in India, each of which caters to a population of 80,000 to 1, 20,000. India is expected to have third largest population by 2013.

Current Population of India

1,065,070,607 (July 2004 est.)

Population Density of India

324 persons per square kilometer

A latest survey of national consumer usage and attitudes towards dental education of population was conducted across 150 cities; it discovered that dental problems in India are due to the low awareness levels and poor oral hygiene habits in people. The Survey showed that people do not correlate dental health with satisfactory oral care but associate dental problems with lifestyle associated reasons like 'improper eating habits' and 'being born with bad teeth', a perception high-flying in rural areas. The Survey also established that majority of population did not use any modern oral care products, the figure being higher in rural areas. In the urban areas usage of the modern oral care products was comparatively higher. In the rural areas people still use non-dentifrice

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products such as Neemstick (Datun), charcoal and ash due to lack of awareness. Also, in rural areas rarely people visit for regular dental checkup in contrast to urban population, where frequency of visits for regular checkup is higher. The survey also noticed that poor oral hygiene and low awareness result in a myriad of dental problems across the country especially in the rural countryside. The survey also found that more than half are unconcerned about preventing or curing the oral diseases. Study has shown that oral diseases can best be prevented through early detection and primary prevention. This means that people necessitate getting the basics oral health measures – brushing twice daily and visiting a dentist twice a year. Inculcating awareness about oral health at an early age proves to be advantageous later in life. The survey noted the lack of concern in the rural areas towards oral problems.

HEALTH INFRASTRUCTURE IN INDIA:

Indian dental health infrastructure insights the dental industry in terms of dental appliances, equipments, consumerable products. This also analyses the aspects that force the growth of the dental industry, challenges faced by the dental companies and the critical factors that will determine the success of these companies in the future. Dental Council of India plays major role here. Dental Council of India is a Statutory Body incorporated under an Act of Parliament viz. The Dentists Act, 1948 (XVI of 1948) to regulate the Dental Education and the profession of Dentistry throughout India and it is financed by the Govt. of India in the Ministry of Health & Family Welfare (Department of Health) through Grant-in-aid. The General Body of the Dental Council of India representing various State Governments, Universities, Dental Colleges, Central Government, etc. The Council is financed mainly by grants from the Govt. of India, Ministry of Health & Family Welfare (Department of Health) though the other source of income of the Council is the 1/4th share of fees realized every year by various State Dental Councils under section 53 of the Dentists Act, Inspection fee from the various Dental Institutions for Inspecting under Section 15 of the Dentists Act, 1948 and application fee from the organization to apply for permission to set up new Dental College, opening of higher Courses of study and increase of admission capacity in Dental Colleges under section 10A of the Dentists Act, 1948 as amended by the Dentists (Amendment) Act, 1993.

HISTORY OF DENTAL EDUCATION IN INDIA

Dental education in India has come a long way from the first dental college, the R. Ahmed Dental College, established by Dr. Rafidin Ahmed in Calcutta in 1928. The college, which initially offered a one-year course and subsequently restructured to four years in 1935, was a pioneering effort towards setting up a dental institution of merit along modern scientific lines. Dental education in India has shown an exponential growth in the last two decades, with the number of dental institutions growing 10 times over 200 institutions in 2007 year and over 23,000 dentists graduating every year in India.

EMERGENCE OF DENTISTRY IN INDIA

Dentistry in India is no more constrained to extracting out decayed tooth or filling up discolored teeth. There is an increasing curiosity among the youth to take up dentistry as a chosen area of profession. Education: A sizable number of dentists from India flow to US, UK, Finland, Australia, New Zealand, UAE, Saudi Arabia, and Africa both in search of job as well as for higher education. At the same time, a large number of students from US and Canada, though mostly Non-Resident Indians, fly in to study dentistry in Indian institutions, which provide them, as they believe, quality education. Lastly, there is the need for an apparent vision. The immense dental capital for dentistry in India should be appraised and projected for the next ten years. This may be channelized to carve out one of

the finest dental education system and patient care system in the world that is capable of competing with other nations effectively.

BACHELOR OF DENTAL SURGERY IN INDIA:

The new curriculum of Bachelor of dental surgery in India is competency-based, with emphasis in imparting basic skills essential to the practice of dentistry. The didactic program me teaches relevant knowledge and skills necessary to train a competent general dental practitioner. The duration of Bachelor of dentistry course is five academic years including one year of paid compulsory rotatory internship in a dental institute. There are four examinations, viz, First, Second, Third and Final. The First examination is held at the end of First year, the Second examination at the end of second year, the Third examination at the end of third year and the Final examination at the end of the fourth year.

POST-GRADUATION IN DENTISTRY IN INDIA

Master of Dental Surgery (MDS) is offered in nine specialties with course duration of three to five years in Oral-medicine, Prosthodontics, Endodontics, Conservatives, Oral-surgery, Pedodontics, Community Dentistry, Orthodontics, and Peridontics. Numerous Deemed Universities all over India also offer short- term courses such as M.Sc. and MPH (Master of Public Health) after BDS. All courses are however subject to recognition by the Dental Council of India. Programmed outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge and behavior that students acquire. Candidates achieve a high degree of clinical proficiency in the subject matter and develop competence in research. Dentistry has become very interdisciplinary. It has expanded its collaborations with the primary goal being educational and the secondary ones including knowledge of human behavior, skills in patient management, assessment and diagnosis and treatment planning.

CHALLENGES

There are over 200 dental teaching institutions in India, mushrooming out over thousands of dentists every year. Institutions are recognized by dental Council of India.

Further, graduated dentists set up their practice, they stumble on out that equipment, auxiliary and basic infrastructure costs are high. General mass awareness of the need for dental treatment is very low especially in rural, slum areas. Population's priorities and prospects also differ. Few grounds for this possibly is poor patient education on dental problems, fear of experiencing pain during treatment and the ever-increasing cost of treatment. The majority of dental problems in India are due to the low importance given to oral hygiene and impediment in treatment due to patients' negligence. Many dental camps are organized by government institutions, private practitioners; still the huge population suffers from mammoth of dental problems. Further, because of poor oral hygiene and chewing tobacco habits have increased incidence of gum diseases, major ones is oral cancer. The predisposing factors are always ignored by low income group in which the intake of smoke and smokeless tobacco is maximum and hence our country land with massive cases of oral cancer.

Another Important challenge faced by graduate dentists as well as population is Street dentistry, a form of quackery, is in practice in the rural and remote places of India. These street dentists or quakes often visit villages or cities with a bag consisting of some pliers, screwdrivers, dividers, self-acrylic materials, etc and offer quick relieving treatments at very low costs and attract uneducated or poor population who cannot afford dental treatments. Quackery is a disparaging term used to portray the deceptive falsification of the diagnosis and treatment of disease. It is the practice of unproven, ineffective dental science. Quack generally means as a "fraudulent or ignorant pretender to medical skill" or "a person who pretends, professionally or publicly, to have skill, knowledge, or

qualifications. This has greatly affected the Indian dental education standards, measures should be taken to prevent such practices in India.

ORAL HEALTH PROBLEMS IN INDIA

Oral health problems comprise Indian subcontinent's poor standards of oral and dental health. Oral diseases comprise oral cancer, periodontal diseases. Periodontal disease affects 90-95% of our population, and dental caries affects 60-80% of our children. Malocclusion of teeth is also common among 50% of school children. Consumption of tobacco products even among children is causing serious concern and is manifesting itself as oral submucous fibrosis—a precancerous condition. Oral cancer accounts for almost 40% of the total diagnosed cancer cases in India—considered to be one of the highest. Oral cancer is the sixth commonest cancer in the world. Its incidence is particularly high in India, especially in low income group where smoking and alcohol drinking are major risk factors and literacy rate is low. In India, chewing and smoking of tobacco products are available in various forms and accounts for high incidence of cancer. The World Health Organization (WHO) has estimated that 90% of oral cancers in India among men were attributable to chewing and smoking habits. About 48.2% of cancers in men and 20.5%, of cancers in women are related to tobacco, of which a major proportion is in the oral cavity, pharynx, larynx, esophagus (74.7%), while lung cancers account only for 15%,. Control of cancers of the head and neck, lung, cervix and breast which account for 50-55% of the cancer load in India will have a maximum measurable effect on the incidence of cancer. Oral squamous cell carcinoma develops through a multi-step process of genetic, epigenetic and metabolic changes resulting from exposure to carcinogens. The initial presence of a precursor subsequently developing into cancer is well-established in oral cancer. Oral leukoplakia and submucous fibrosis are two major known precursor lesions. Only 8-10% of these lesions ultimately turn into malignancy. Ability to clinically predict malignant transformation is limited and routine histopathological diagnosis has limited its prognostic value. The presence of epithelial dysplasia is one of the important parameters used in prognostication of leukoplakia. However, there are limitations for its use such as, the diagnosis is essentially subjective, all lesions exhibiting dysplasia do not eventually become malignant and some may even regress, and carcinoma can develop from lesions in which epithelial dysplasia was not diagnosed in previous biopsies. Therefore, it is necessary to develop awareness and basic dental education among general population for predicting the malignant potential of pre-malignant lesions and its preventive measures. Alcohol use is another high-risk activity associated with oral cancer. There is known to be a strong synergistic effect on oral cancer risk when a person is both a heavy smoker and drinker. Their risk is greatly increased compared to a heavy smoker, or a heavy drinker alone. Though, oral cancer occur at a site which is accessible for clinical examination and amendable to diagnosis by current diagnostic tools, the nitty-gritty of the problem is that majority of the cases report late to the dental health care facility and ignored by general mass population due to lack of awareness especially in rural countryside.

HEALTH PROMOTIONS IN INDIA

Health Promotion can be well thought-out as the grouping of educational, organizational, economic and environmental supports for behavior conducive to health. Dental Health Promotion is the development of enabling individuals and mass communities to increase control over the determinants of dental health and thereby improve their oral health. Health promotion represents a mediating strategy between people and their environment, combining personal choice and social responsibility for creating a wiser and healthier future (WHO 1984). (The determinants of health are not always under an individual's control and may be categorized as biological, environmental, lifestyle, and health care services - see Ashley and Allen, in Burt and

Eklund). More of educational camps and free regular dental checkups should be planned in rural areas imparting basic necessity and measures to clean oral cavity and various demonstrations should be carried out to make illiterate population learn techniques of cleaning.

CONCLUSION

Dentistry faces severe problems on the subject of accessibility of its treatments to all. The major missing connection grounds this unfortunate condition in a country like India is the nonexistence of a primary health care approach in dentistry especially in rural areas. This might be attributable to significant geographic imbalance in the distribution of dental colleges; hence lack of awareness in general population, also a great variation in the dentist to population ratio in the rural and the urban areas which further accounts this problem. The Government and Indian dental council should put forward a strong policy to culminate dental education. This might play a vital role in creating a better, healthier India.