

SUBSTANTIVE CONTRIBUTION OF PROSTHODONTIST IN THE GLOBAL BURDEN OF DISEASES

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ABSTRACT

The global burden of Non Communicable Diseases is significant and WHO highlighted tackling non-communicable diseases as key strategic objective in their global action plan for the prevention and control of NCD 2013-2020. India is a populous country of about 1.3 billion. Non communicable disease (NCDs) contribute to around 5.87 million (60%) of all deaths in India. Burden of non-communicable diseases and resultant mortality is expected to increase unless massive efforts are made to prevent and control NCDs and their risk factors. Based on data available cancer, diabetes, hypertension, cardiovascular diseases, stroke, chronic obstructive pulmonary disease, chronic kidney disease, mental disorders and trauma are leading cause of morbidity, disability and mortality in India. There were lot of programmes which were initiated by the Government of India to prevent and control NCDs but there has not been any considerable change in burden of NCDs. Given that many NCDs have shared risk factors, often behavioural with implications for oral and general health, dental teams are ideally placed to provide preventive advice for disease beyond the oral environment. Even the prosthodontist can play a major role in preventing NCDs like cancer and providing them with various treatment modalities like maxillofacial which will improve their quality of life. Based on data, there is need to focus on health promotion and preventive measures to reduce risk of NCDs. Public awareness programs, integrated management and strong monitoring system would be required for successful implementation of program. This article explains about a role of prosthodontist in preventing and making population aware of Non Communicable Diseases.

Keywords: non communicable disease, prosthodontist, oral health, systemic disease, global burden of diseases.

INTRODUCTION:

The Global Burden of Disease, data reveals that non communicable diseases and Injuries continue to be the main cause of death among people of all age groups in India. Primary reason as suggested by data worldwide, is raising the burden of Non Communicable Diseases.^{1,2} According to

WHO, 2005 NCDs are defined as diseases of long duration, generally progress slowly and are the major cause of adult mortality and morbidity worldwide. NCDs mainly lead by four diseases which include: cardiovascular diseases, diabetes mellitus, cancers and chronic respiratory diseases.³ In recognition of the increasing burden and

importance of chronic diseases, in 2005, the WHO released a plan for NCD prevention and control, which offers the health community a new global goal to reduce death rates from all chronic diseases by 2% per year over and above existing trends during the next 10 years.⁴ NCDs accounted for more than two-fifth(43%) of the DALYs and among this group, cardiovascular diseases, diabetes, cancers together account for 40% of the NCD-related DALYs in India. Regional studies have reported that even in rural India leading cause of death (32%) is NCDs followed by injuries and external cause of deaths (12%).⁵ Dental teams are ideally placed to provide preventive advice for diseases beyond the oral environment. In dental team, Prosthodontist plays an integral part in prevention, treatment and care and can help in controlling the Global Burden of Diseases in India

NCDs and causes of Death Survey in India⁶:

1. Overall non communicable diseases are leading cause of death in country, constituting 42% of all deaths.
2. Urban areas have a much lower number of deaths from communicable, maternal, perinatal and nutritional conditions but a higher proportion from non-communicable diseases (56%).

3. Based on available data cancer, diabetes, hypertension, cardiovascular diseases, stroke, chronic obstructive pulmonary disease, chronic kidney disease, mental disorders and trauma are leading causes of morbidity, disability and mortality.

According to data, NCDs are leading cause of death globally and responsible for 70% of deaths worldwide. In India, a total of 58,17, 000 deaths were estimated from diseases like cancer, diabetes and heart problems in 2016. Cancer, diabetes and heart diseases alone account for 55% of the premature mortality in India in the age group of 30-69 years.

Road Injuries as part of Global Burden of Diseases:

The number of deaths due to road injuries in India was projected to increase to 155,000-183,000 in 2015 on the basis of data from a nationally representative survey of causes of death in 1998.⁷ Available trends from the administrative source of data on deaths due to road injuries in India, which are known to be under reported also show an increase in the number of deaths due to road injuries.^{8,9}

Cleft lip and Palate as part of Global Burden of Diseases:

The Indian sub-continent remains one of the most populous areas of the world with an estimated population of 1.1 billion in India alone. This yields an estimated 24.5 million births per year and birth prevalence of clefts is somewhere between 27,000 and 33,000 clefts per year. India has tremendous potential to contribute by virtue of improving research expertise and a population that has genetic, cultural and socio-economic diversity. In 2008, the World Health Organization (WHO) has recognised that non-communicable diseases, including birth defects cause significant infant mortality and childhood morbidity and have included cleft lip and palate in Global Burden of Disease (GBD) initiative.¹⁰

Geriatric Mental health as part of Global burden of Diseases:

Globally, non-communicable diseases are currently the leading cause of mortality and

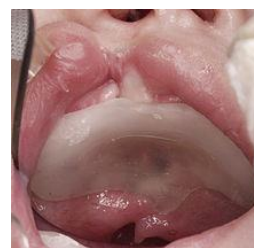
morbidity. Mental health disorders are one of the major contributors to NCD burden. They are responsible for 7.4% of global disability adjusted life years (DALYs) and 22.9% of years lived with disabilities (YLDs), making them the fifth leading cause of DALYs and YLDs.¹¹ India is witnessing a steep rise in the NCD epidemic including mental disorders. As a result of the demographic transition, the nation is also aging with nearly 104 million elderly persons (>60 years) and the proportion of elderly has increased from 5.6% in 1961 to 8.6% in 2011.¹² For a country like India, with the exponential rise in NCDs along with an increase in aging population, it is becoming increasingly important for the health care providers to quantify the burden of comorbid NCDs and mental illness, and to design a pragmatic health care delivery model.



One Piece Hollow Obturator



Ocular Prosthesis



Cleft Palate Prosthesis

Contribution of Prosthodontist in Global Burden of Diseases:

1. India is the second most populous country of the world and 8% of the total population of India constitutes geriatric population. This percentage is expected

to rise to approx. 10-12% of entire population.¹³ Prosthodontists are taking care of overall health and wellness of older adults which are related to their oral health and are also ensuring provision of quality oral health care for the elderly patients and maintaining inter sectoral coordination so that all the health needs of the elderly are met under one roof. Geriatric health is now being included in the curriculum and focus is more on awareness of maintaining Geriatric health. Oral health care providers must be trained to address the issues concerned to geriatric oral health and participate actively in the dynamic practice environment. There is much need to address specific geriatric issues related to cultural and ethnic background along with psychological and social perspectives in addition to preventive and promotive oral health care.¹⁴

2. Oral cancer is major public health problem in the Indian subcontinent, where it ranks among the top three types of cancer in the country.¹⁵ The difference in incidence and partner of oral cancer can be due to an overall effect of ageing of population as well as some regional differences in the prevalence of specific risk factors.¹⁶ The low income groups in India are affected most due to a wide exposure to risk factors such as tobacco

chewing and insufficient exposure to newly diagnostic aids, resulting in a delay in reporting of oral cancer.^{17,18} Prosthodontist diagnose edentulous patients and are counselled about returning for prescribed, regular recall examinations. The Prosthodontists are instrumental in helping patient to quit smoking either by direct counselling or by referral to a smoking cessation program.¹⁹ Geriatric alcoholism is rising, so Prosthodontist is influential in advising patients of the necessity of limiting their alcohol intake, especially if there are intraoral signs of alcohol abuse.^{20,21}

The other aspect of Prosthodontist is to rehabilitate the patients who have undergone extensive post surgical defects and disfigurement after management of oral malignancy.²² The Prosthodontist is involved in diagnostic examination, restoration, maintenance of oral functions, comfort, esthetics and health of patients who are undergoing surgery, chemotherapy and/or radiotherapy for head and neck cancer. Services of maxillofacial Prosthodontist are providing splints, stents, radiation stents etc. which can improve their quality of life.^{23,24}

3. In 2015, there were about five lakh road accidents in India, which killed about 1.5 lakh people and injured about five lakh

people²⁵. The WHO has noted that road accidents are a major public health problem as crashes kill more than 1.25 million people and injuries about 50 million people a year, with 90% of such casualties occurring in developing countries.²⁶ The patient with maxillofacial defects resulting from motor vehicle will have numerous soft tissue and hard tissue injuries ranging from neurologic involvement to fractures and/or avulsions of the temporomandibular joint, maxillae, mandible, teeth, and supporting structures. The prosthodontist plays an important team role by anticipating the increased functional demands that may be placed on the required prosthesis and by anticipating the preprosthetic procedures and counselling that may be necessary to assist in the total treatment.

4. In 2008, the World Health Organization (WHO) has recognised that non-communicable diseases, including birth defects cleft lip and palate in Global Burden of Disease (GBD) initiative.¹⁰ In the era of super specialization, with the boon of advanced knowledge and modern technology, there is a bane of developing a tunnel vision to our fields. Multidisciplinary approach is definitely the most ideal way of treating cleft lip and palate patients and Prosthodontist is an important and integral part of a team.

Prosthodontist help the plastic surgeons in providing treatment to cleft lip and palate by providing feeding plates to neonates in pre surgical phase and providing palatal obturator to patients prior to surgery and then providing immediate post surgical prosthesis /obturator. In case of cleft lip and palate patients, prosthodontics treatment plays an important role right from time, the child is born, till such a time that the individual is totally rehabilitated and becomes a normal human being, in state of total health.

CONCLUSION:

Prosthodontists are in unique position to significantly impact patient's overall health, not only via their expertise in the art and science of prosthodontics but also by virtue of their access to patients. They play very important role in complete rehabilitation of patients of cancer, cleft lip and palate, road injuries / accidents while spreading awareness of geriatric issues among population. They can reduce the Global Burden of Diseases as being part of medical team. Prosthodontist should extend more of their knowledge and services to the medical field for betterment of patients and help them to enter the mainstream of the society.

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