

Oral Health: A Window to your Overall Health

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ABSTRACT

Noncommunicable diseases (NCDs) are the leading causes of death globally and are considered the number one cause of death and disability in the world. They are strongly influenced by four main behavioral risk factors: tobacco use, insufficient physical activity, harmful use of alcohol, and unhealthy diet, and four metabolic/physiological changes: raised blood pressure, overweight/obesity, hyperglycemia and hyperlipidemia. While, Oral diseases are also related to various risk factors that are common to many chronic diseases that are: cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes. In the context of the problem, oral diseases are considered as the major public health problem prevailing in the world. The Oral diseases have an impact on individuals and communities, which results in pain and suffering, impairment of function and reduced quality of life. Moreover, Treatment of the oral disease is considered extremely costly, and recognized as the fourth most expensive disease to treat. Therefore, the integration of general health into oral health, especially the control and prevention of NCDs is an opportunity to raise the oral health status. Thus, the Concerted and collaborative action needs to be mobilized, maintained and strengthened to address the high burden of NCD, oral disease and the vast inequities in access to oral health care existing within and between countries.

KEYWORDS: Non-Communicable diseases, Oral health, Risk factor, Health promotion

INTRODUCTION

Oral health and general health are closely inter-related; there is a global burden of oral diseases among the most common NCDs. On one hand, oral health is affected by a number of chronic as well as infectious diseases which show notable symptoms in the mouth. However on the other hand oral diseases can lead to infection, inflammation, and other serious impacts on overall health.^[1] For e.g. - Diabetes mellitus predisposes to the development of periodontal disease and the control of the blood glucose contributes to its treatment. Apart from its association with diabetes it is also related to the development of the cardiovascular diseases. Oral cancers, is considered world's most common cancers and the two major risk factors responsible for development are tobacco use, and excessive intake of alcohol.²

There is a strong correlation between several oral diseases and the main NCDs, diabetes, cancer, cardiovascular diseases, chronic respiratory diseases which are principally derived from the result of the common risk factors. Many chronic diseases also have oral manifestation that increases the risk of various oral conditions which, in turn, is considered a risk factor for a number of chronic diseases.³

Hence the review is aimed to discuss the burden and socio-economic impact of various oral diseases and

NCDs as well as their consequences on health and welfare of individual its integration of oral health in non-communicable diseases (NCD), with a goal to formulate policies, action plan for the control and prevention of oral diseases incorporated with NCDs.

DEFINITION AND CLASSIFICATION

Non-communicable diseases (NCDs) are defined as diseases of longer duration, usually are of slow progression and they are considered the major cause of adult mortality and morbidity worldwide.⁴

The World Health Organization (WHO) defined oral health as "a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting/chewing, smiling, speaking, and psychosocial wellbeing".⁵

According to WHO, there are four main types of noncommunicable diseases which are as follows:

- Cardiovascular diseases (heart attacks and stroke),
- Cancer
- Chronic respiratory diseases (chronic obstructed pulmonary disease and asthma)

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- Diabetes.⁶

RISK FACTORS

A major objective of any strategy is to prevent and control NCD, which includes reduction of the level of exposure of individuals and community to the common risk factors.⁷ Risk factors can be classified as 'Modifiable risk factors' and 'Non-modifiable risk factors'. Modifiable factors include the determinants that can be changed, such as community and individual influences, living and working conditions and socio-cultural factors like Tobacco, Insufficient physical activity, Harmful use of alcohol and Unhealthy diet. While, the Non-modifiable risk factors include the determinants that are beyond the control of individual, such as, age, sex, and hereditary factors. They are influenced by four key metabolic/physiological changes which increase the risk of NCDs: raised blood pressure, overweight/obesity, hyperglycemia i.e. high blood glucose levels and hyperlipidemia i.e. high levels of fat in the blood.⁸

The World Health Organization (WHO) has suggested surveillance of common risk factors with the "STEPwise" approach, which use standardized instruments and protocol for collecting, analyzing and monitoring trends for risk factors within and across countries.⁹

STEPS includes the following sequential phases: Step 1 includes the collection of information on socio-demographic variables, behavioral risk factors, i.e., alcohol use, tobacco use, diet, physical inactivity, and associated factors by means of a questionnaire ; Step 2 includes obtaining clinical measurements such as weight, height, waist circumference, and blood pressure using standardized protocols and instrument; Step 3 includes acquiring biochemical measurements such as serum total cholesterol, high-density lipoprotein (HDL) cholesterol, blood glucose and triglycerides using fasting blood samples.^{10, 11}

Thus, the STEPS approach focus on the assortment of the data on key risk factors of major NCDs at usual intervals in order to propose community-based interventions which is targeted at the decline of these risk factors and monitoring the results of community-based interventions.⁹

BURDEN OF MAJOR DISEASES

The most commonly used measure of the burden of disease is the disability-adjusted life year (DALY), which combines the number of years of healthy life lost to premature death with time spent in less than full health. One DALY can be considered as one lost healthy year of life.¹²

Cardiovascular diseases are the leading noncommunicable disease; nearly half of the 36 million deaths due to noncommunicable diseases (NCDs) are caused by CVDs and 10% of the global disease burden (DALYs) is attributed to CVD. CVDs are responsible for 151 377 million DALYs, of which 62 587 million are due

to coronary heart disease and 46 591 million to cerebrovascular disease.¹³

BURDEN OF ORAL DISEASES

According to the World Health Report-2003, oral diseases are qualified as major public health problems due to their high incidence and prevalence in all regions of the world. The greatest burden of oral diseases is on disadvantaged and socially marginalized populations. The existing global and regional pattern of oral disease largely reproduce discrete risk profiles across countries which are associated with their living conditions, lifestyles and the execution of preventive oral health systems. In developed and increasingly in developing countries it is being noted that the burden of oral diseases and the need for the care are highest amongst the poor or disadvantaged population groups.¹⁴ Oral diseases such as dental caries, periodontal disease, tooth loss, oral mucosal lesions and oropharyngeal cancers, dental trauma are considered as the major public health problems worldwide.¹⁵

ECONOMIC IMPACT OF ORAL DISEASE

Oral diseases have a considerable impact on the quality of life of individuals, their contribution in the society and economic efficiency as well as on health systems, making oral diseases a major public health concern. Currently there is no comprehensive data on economic costs of oral diseases worldwide, the WHO estimate that they are considered as the fourth most expensive condition to treat – if a curative approach is taken, rather than focus on prevention. The expenses on dental care as percentage of total health expenditure is usually lower than 6% and can reach to 0.5% in Mongolia when compared to 8% in the United States (Spends more than 100 billion US\$ on oral health care in 2009).^{2,16}

Oral diseases were recognized as one of the concerned health conditions because, in later on stages, periodontal diseases and dental caries cause rigorous pain, and they are expensive to treat. This translates into a loss of man-hours which has a significant negative impact on economic productivity. Lastly, in terms of disability-adjusted life years (DALYs) lost, oral diseases represent 0.5% of India's overall disease burden – with 1,247,000 total lost DALYs and this number was anticipated to increase by 25% in the last decade.¹⁷

STRATEGIES AND APPROACHES IN ORAL DISEASE PREVENTION

The key concept underlying the integrated common risk approach is to promote general health by controlling various risk factors which have a major impact on number of diseases at a lesser cost, greater efficiency than disease-specific approaches.¹⁸ Development of an integrated approach which will target major common risk factors of cardiovascular diseases, diabetes mellitus, cancer and chronic respiratory diseases is the most cost-effective way to prevent and control them. This overlying

approach respond not only to the need of intervention with the plan of reducing premature mortality and morbidity of chronic non-communicable diseases, but also the need to incorporate primary, secondary and tertiary prevention, health promotion, and associated programmes across sector and different discipline.¹⁹

Thus, oral health promotion and oral disease prevention should be integrated and termed as “**THE COMMON RISK FACTOR APPROACH**”, leading to the integration of oral health promotion into broader health promotion. The common risk approach recognizes that chronic noncommunicable diseases such as obesity, heart disease, stroke, cancers, diabetes, mental illness and oral diseases share a set of common risk conditions and factors. For example a poor-quality diet, tobacco smoking, inadequate hygiene, stress, and trauma are factors associated with the development of major chronic conditions including oral diseases.^{18,20}

ORAL HEALTH PROMOTION IN NON-COMMUNICABLE

Good oral health is achieved through a blend of optimal biological, social, environmental and behavioral factors. Therefore, Oral health promotion is planned effort to create supportive environments, build public policies, develop personal skills, strengthen community action, or reorient health services in ways that will manipulate these factors.³

Oral health promotion ought to be based on the principles of the Ottawa Charter, which recommend that the population needs to be implicated in directing action towards the causes of ill health.²¹

The WHO Oral Health Programme applies the philosophy "think globally- act locally". The improvement of programmes for oral health promotion in targeted countries focuses on:

- Recognition of health determinants; mechanism in place to improve ability to design and execute intervention that promotes oral health.
- Implementation of community-based revelation project for oral health promotion, with particular reference to poor and underprivileged population groups.
- Building ability in planning and evaluation of national programmes for promotion and evaluation of oral health interventions in action.
- Development of method and tools to evaluate the outcomes and processes of oral health promotion interventions as element of national health programmes.
- Establishment of alliances and networks to reinforce national and international actions for oral health promotion.^[22]

Thus, the promotion of health in the place where people live, work, learn and play is evidently the most cost-effective way of improving oral health and, in turn, the quality of life.

CONCLUSION

The compartmentalization concerned in viewing the mouth discretely from the rest of the body must come to an end because oral health affects general health by causing substantial pain and suffering and by altering what the individuals eat, their verbal communication and their quality of life and well-being. Due to the failure to tackle social and material determinants and integrate oral health into general health promotion, millions of the individuals undergo poor quality of life.

Thus, by integrating oral health into strategies for preventing, promoting and prolonging general health and by assessing oral needs in socio-dental ways, health planners can greatly enhance both general and oral health of an individual.

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