REVIEW ARTICLE

ORAL HEALTH CHALLENGES IN PAKISTAN AND APPROACHES TO THESE PROBLEMS

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ABSTRACT

The aim of this article is to investigate the oral health challenges faced by Pakistan and to present novel approaches to address these problems. The primary oral health concerns of the population include dental caries, periodontal diseases and oral cancer. The lack of public policies, low human development in the country, cultural restrictions, competing health priorities, changing dietary patterns, limited resources of the health sector and cheap availability of betel quid and areca nut have been identified as the causes of the diseases.

Upstream approach of tackling the wider determinants of health is being advocated. The principles of Primary Health Care Approach and Ottawa charter are being discussed and novel methods such as forming oral health policies, proportionate universalism, women empowerment, improving literacy, mutlisectoral approach to prevention, regulation and accountability of health services are being suggested as the main mechanisms to bring a positive improvement in the oral health of the population.

Key Words: *Oral health problems, upstream approach, proportionate universalism, women empowerment*

INTRODUCTION

Pakistan is facing enormous oral health and socio-political challenges in the 21st century. In order to decrease the burden of oral disease on the scarce resources of the country, there is a need to move away from curative care. In this essay an approach is being presented to address these problems from a broader perspective such as tackling the wider determinants of health first, which are the real causes of disease, using the principles of Primary Health Care Approach[1] and Health Promotion.[2] By utilizing an upstream approach[3], resources and efforts spent can be minimized, while the improvements attained can be long-term, sustainable and beneficial for the entire population.

METHODOLOGY

Literature review of recently published data of the oral health status and challenges of Pakistan was conducted. Medline, ISI web of knowledge and Google Scholar were used to search the databases. Published Data and information from reliable websites of government, non-government organizations and newspaper articles was collected. Unpublished data and blogs were excluded. Approaches to the oral health problems were investigated using the major public health interventions being successfully propagated around the globe. Only the reliable and tested public health interventions were included. These interventions were then modified to address the local oral health problems.

RESULTS

Data about Pakistan's population demographics was collected and is presented in Table 1. General indicators of the health status of the population and status of health care services were researched and results are presented in Table 2. It was found that the health and social sector of Pakistan is one of the most neglected sectors in the country due to various geo-political factors.

Health care services in Pakistan are inadequate to address the needs of the population. The poor, the rural population, women and children are generally

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ignored by health care sector[6]. Approximately 55-85% of population has access to health care, and wherever health care is available, it is treatment focused; therefore it is not able to cope with rampant diseases.[7] Availability of health care services is minimal with 0.6% of hospital beds per 1000 people. Only 2% of GDP is spent on health sector, thus resources are scarce. Even neighbouring country India spends 4.9% of its GDP on health. PMDC, the regulatory body of health sector does not recognize the role of alternative medicine which is increasingly being preferred by the people. Most of the medical practice is shifting from public to private sector which is not so tightly regulated and is expensive.[8] Pakistan does have a strong force of 70,000 lady health workers who work at community level to provide primary health care. Table 3, shows the health care sector infrastructure in Pakistan.

The situation of dental caries is that 12 year DMFT is estimated to be 1.38 according to 2004 estimate.[10] The incidence is not too dramatic when compared with some other countries, but the amount of treatment available is quite low. Filled teeth according to 2004 DMFT in 12 year olds were only 0.08 thus showing treatment provided is quite low. Incidence of dental caries is on the rise and according to last reported data 12 year DMFT increased from 0.9 in 1999 to 1.38 in 2003. 12 year old DMFT is shown in Table 4.

Periodontal disease is the most common oral disease in Pakistan. Less than 28% of 12 year old children have been found to have healthy gingiva. Among women, 22% have been found to have bleeding gums. More than 95% of over 65 year old population has some form of gingival or periodontal disease.[7]

Oral cancer is the second most common form of cancer among men and women and constitutes about 10% of all malignant cancers.[11] Use of tobacco, betel quid and areca nut is the most common cause of oral cancer. A study found use of areca nut in 74% of primary school children in Pakistan.[12] Cultural acceptance and cheap availability of betal quid and areca nut are major reasons for prevalence of this habit.

Poor oral hygiene is also a major public health problem. Approximately 8% of population never cleans their teeth while 36% clean their teeth every day.[13]

There is no public policy on oral health in Pakistan. There is a national health policy of health 2009,

TABLE 1: GENERAL INFORMATION ABOUT PAKISTAN (CIA. THE WORLD FACTBOOK, 2012)[4]

Population	190,291,129 (July 2012 est.)
Area	796,095 sq km
Ethnic groups	Sindhi, Punjabi, Balouchi, Saraiki, Pathan, Hazara, Mohajir. total population: 54.9%
Education(Literacy)	male: 68.6%female: 40.3% (2009 est.)
Work force	agriculture: 21.6%industry: 24.9%services: 53.4% (2011 est.)
Real GDP growth rate	3% (2011 est.)
Geographical location	South Asia
Urban population	36% of total population (2010)
Gross national income per capita	$2,800 (2011 est.)

TABLE 2: GENERAL HEALTH FACTS-PAKISTAN[5]

Under 5 mortality rate: 2010 est	87/1,000.
Life expectancy: 2010 est	Men 62 yrars. Women 64 years.
Total expenditure on health as percentage of GDP.(2010)	2.2%
Access to health care.	85% - 55% (2003 est-)
Common causes of death due to disease.	64% communicable 26% non-communicable 9% injuries.

TABLE 3: HEALTH CARE SECTOR.[9]

Hospitals	965
Dispensaries	4,916
Basic Health Units (BHUs)	4,872
Maternity & Child Health Centres	1138
Rural Health Centres (RHCs)	595
Hospital Beds	105,005
Doctors (registered)	107,835
Dentists (registered)	7879
Nurses (registered)	43,646

TABLE 4: 12 YEAR DMFT IN PAKISTAN[10]

12 year DMFT (2004)	1.38
Decayed	1.06
Missing	0.24
Filled	0.08

but it does not address oral health. Only one document on oral health has been published with the collaboration of WHO, "oral health in Pakistan, a situation analysis".[7] Because of these reasons, there is very little reliable data documenting the actual needs. There is no record available of annual public expenditure on oral health. Dental care is considered part of health structure therefore estimated expenditure on oral needs will be much less than the 2% GDP spent on health. Concept of absence of tooth ache persists and there is a lack of dental awareness amongst the society.[14] Majority of people visit dentist only as a last resort and regular dental treatments are unheard of. 90% of oral diseases are untreated.[15] More than 90% of available care at government hospitals is treatment oriented including surgical extractions of teeth.

Pakistan ranks at 145 out of 187 countries and territories in human development according to human development index report 2011.[16] This report uses health, education, income, inequality, poverty, gender, sustainability and human security as the indicators of human development. All of these factors are interrelated and can be termed the wider determinants of health. This clearly shows that Pakistan ranks quite low in sectors which determine the health of the population. Under five mortality rate of poorest 20% is twice that of richest 20%.[5] Considerable oral health inequalities are also found to be persisting among the population. Oral health of rural population, the women and the poor is much worse than urban population, the men and higher socioeconomic groups.

Due to cultural restrictions, access of women to dentists is quite low as compared to men. Only 35% of dentists are women in Pakistan, so there is an issue of decreased utilization of oral health services in Pakistan. Studies have also shown that there is a correlation between periodontal diseases in women and low birth weight among children in Pakistan.[17] Oral health of children is also dependent on the oral health of mothers, since mothers are the main caretakers of children in Pakistani population.

Changing dietary patterns of the population to more refined carbohydrate diet from more fibre based traditional diet are resulting in increased incidence of caries. Per capita consumption of sugar has increased from 21.2 to 26.6kg in 15yrs from 1991.[10] Urbanization, industrialization and westernization are the main causes of changes in dietary patterns.

DISCUSSION

Following interventions are being suggested to mitigate the oral health problems of the country. Fundamental prerequisites to health are peace, food, clothing, shelter, education, income, sustainable resources and stable eco-system.[2] Besides being the fundamental prerequisites, these factors are also the wider determinants of health that affect the entire mental and physical health of a person. It is suggested that in order to address the oral health problems of the country, first emphasis needs to be given to improve the social and economic conditions. As and when the general conditions of people in the country improve, the social and health status of the country will also improve.

Developing an oral public health policy will provide a road map to navigate all the resources to where they are needed the most. In order to produce reliable and efficient oral public health policy training in conducting research is needed.[18] The Pakistan Medical and Dental Council needs to recognize the public health degrees of world renowned universities. It needs to drop its prejudice, so that trained public health specialists can help in improving the oral health of the people. Attention needs to be paid to scientific collection of reliable data from epidemiological studies and recordkeeping at public and private dental practices.

In order to reduce inequalities in oral health, the concept of "Proportionate universalism"[19] can be utilized. By making this concept a part of public policy, gradiant of inequalities in health can be reduced by universal actions but by the scale and intensity that is proportionate to the level of disadvantage. Basic strategy of Ottawa charter is to advocate all the dimensions that are affecting health. By reducing social, geographical, gender and economic inequalities, oral health of society can be improved.

The health care issue of women in the country can be alleviated by women empowerment. Enabling populations so that they have control over the determinants of their own health is one of the basic strategies of Ottawa Charter. Already the contribution of health care services to health in Pakistan is low; therefore it

is essential that women remain healthy. If the women are healthy, then the next generation of Pakistanis will be healthy. There is evidence to suggest that empowering is effective in improving health.[20] Once these wider determinants of health are improved, oral health of women and children will also show improvement.

Improving literacy rate will show improvements in oral health. As people will become literate, they will become more aware of themselves and their self reliability will increase, thus the health of population will increase.[21] This will also result in increased capacity to develop personal skills to gain control over their own oral health as championed by Ottawa Charter. The use of community participation is suggested to increase the aspirations of population regarding their oral health conditions.

In order to tackle the change in dietary patterns, causes need to be tackled. If industrialization is resulting in increased sugar consumption, the same industrialization can be used to produce locally made, affordable Flouride toothpaste and tooth brushes. Major water plants are found in big cities of Pakistan, therefore water fluoridation can be introduced wherever there is availability of tap water. Plus in the last 10 years, an increase in mineral bottled water consumption has been seen.[22] Multisectoral approach by involving private drinking water manufacturing firms to Incorporate Flouride in mineral water produced in water purification plants can be easily done if a public policy exists. This is a preventive approach to tackle the increasing incidence of caries in a country where quality of available health care is already low.

Strengthening of public health sector can be achieved by increasing regulation of services and increasing accountability. It is important that public spending on health and dentistry in particular is increased but at the same time spending is tightly monitored.

Improvement is needed in the dental work force. This can be done by training Dental Care Professionals in larger numbers so that access to dental care is improved and qualified dentists can move towards specialization to improve the quality of services provided.

Private dental sector needs to be regulated in terms of quality of dental services provided and cost of their services. In order to reduce exploitation of resources, community action is appropriate. Social pressure from members of community and religious leaders will force the authorities to maintain audit systems and ensure monitoring.

Reorientation of services from curative to preventive, needs to take place. "Atraumatic Restorative Treatment"[23] needs to be used to tackle issues such as lack of electricity and expensive equipment. Since there is an existing workforce of lady health workers and midwives, they can be trained for promoting oral health among the women. Also a strong force of polio vaccination workers of 90,000 immunization[24] teams can be trained to promote oral health when visiting people on a door to door basis.

Multisectoral approach is needed to tackle the public health issue of oral cancer. The government at federal, provincial and local levels needs to regulate the sale of betel quid and areca nuts products. This can be done by imposing taxation on their sale. So far ban on sale of these products has been ineffective in reducing their use. Border Agencies and other agencies at air ports and docks need to prevent smuggling of these products as much as illegal drugs. There is a need to create supportive rehabilitation programmes for those who want to quit. Community participation is also mandatory to create family and social pressure to regard this habit as inappropriate and health damaging among the society.

CONCLUSION

Oral challenges of Pakistan are enormous but they are all linked to the broad social and economical conditions of the country. Oral diseases like dental caries, periodontitis, oral cancer and poor oral hygiene are all preventable conditions. Tackling the wider determinants of health by providing basic living necessities such as food, shelter, clothing to people, education, awareness, creating social security nets and women empowerment will lead to improvements in oral health of people along with general health. Along with improving the general health conditions of the society, strong oral health public policy building, reduction in inequalities, women empowerment, im-

proving literacy rates, focus on prevention, increased regulation of health services, reorientation of health services, and reduction in betel quid and areca nut use are the interventions being suggested to improve the oral health conditions of the country. These approaches are made from a wider perspective, following an up-stream approach to tackle the wider determinants of oral health in Pakistani population.

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