



Assessment of the Status of National Oral Health Policy in India



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Abstract

Background: National oral health policy was conscripted by the Indian Dental Association (IDA) in 1986 and was accepted as an integral part of National Health Policy (NHP) by the Central Council of Health and Family Welfare in one of its conferences in the year 1995. Objectives of this paper were to find out the efforts made or going on towards its execution, its current status and recent oral health-related affairs or programs, if any.

Methods: Literature search was done using the institutional library, web-based search engines like 'Google' and 'PubMed' and also by cross referencing. It yielded 108 articles, of which 50 were excluded as they were not pertinent to the topic. Twenty-four were of global perspective rather than Indian and hence were not taken into account and finally 34 articles were considered for analyses. Documents related to central and state governments of India were also considered.

Results: All the articles considered for analysis were published within the past 10 years with gradual increase in number which depicts the researchers' increasing focus towards oral health policy. Criticisms, suggestions and recommendations regarding national oral health programs, dental manpower issues, geriatric dentistry, public health dentistry, dental insurance, oral health inequality, and public-private partnerships have taken major occupancies in the articles. Proposals like "model for infant and child oral health promotion" and "oral health policy phase 1 for Karnataka" were among the initiatives towards national oral health policy.

Conclusion: The need for implementation of the drafted oral health policy with modification that suits the rapidly changing oral health system of this country is inevitable.

Keywords: Dental Policy, Oral Health Program, Five-Year Plan, Dental Manpower, Dental Education, India

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Background

India accommodates 17.5% of the world's population, 44% of its population being in the productive age.¹ India has a robust economy and is recording a speedy growth. In recent times, economists at the World Bank and the International Monetary Fund (IMF) have tentatively suggested that within a year or two, India's economy might be growing more quickly than that of China.² In spite of its tremendous, potential manpower resource and growing economy, India stands behind in terms of education, standard of living and in particular health.³ Over decades, health in India is gaining less importance and oral health, the least.⁴ Oral diseases remained still a public health problem for developed countries and a burden for developing countries like India especially among the rural population.⁵ India is predominantly rural covering about 69% of the population.¹ Prevalence of oral diseases is very high in India with dental caries (50%, 52.5%, 61.4%, 79.2%, and 84.7% in 5, 12, 15, 35-44, and 65-74 year old, respectively) and periodontal diseases (55.4%, 89.2%, and 79.4% in 12, 35-44, and 65-74 years old, respectively) as the 2 most common oral diseases.⁶ Oral health is an integral component of general health,⁷⁻⁹ a tenet, no one can disagree with. It is well-documented that there is association of oral health with various systemic conditions like diabetes, cardiovascular

disorders, pregnancy and its impact on quality of life.⁸⁻¹⁰

As evident from previous literature, governments of many developing countries have given considerable importance to oral health.¹¹ Nairobi declaration on oral health in Kenya has laid down policies for oral health promotion and integration into primary healthcare programs.¹² National committee for oral health in China is taking care of oral health education and promotion and primary healthcare. South East Asian countries developed various oral health plans to integrate primary oral healthcare into National Health Policy (NHP).¹² Policy sets priorities and guides resource allocation. Health policies play a crucial role in successfully implementing comprehensive health programs. In general, every country develops its own health policy aimed at defined goals. Government of India (GoI) put a step forward to enhance the healthcare system by introducing NHP (1983) which was reformed to lay down a new policy structure for the speedy achievement of the public health goals in 2002¹³ and recently in 2015.¹⁴ However, to reduce the morbidity of the oral-related diseases, no much work has been done till date.¹⁵

National Oral Health Policy

Oral health policy in India, formulated way back, is a bleak picture even today. In 1984, national workshops were

organized in Bombay on oral health targets for India and in the year 1986, oral health policy was conscripted by Indian Dental Association (IDA).¹⁶ Based on the recommendation of IDA, 2 more national workshops were organized, one at Delhi in 1991 and the other at Mysore after 3 years.^{16,17} Through the input of these 2 workshops, national oral health policy has been developed by Dental Council of India (DCI).¹⁷ It is the same time when World Health Organization (WHO) had given importance to dental health by selecting the theme “Oral Health for Healthy life” for global health for the year 1994.¹⁶ In continuum of this, the core committee appointed by Ministry of Health and Family Welfare, GoI accepted in principle national oral health policy as a component of NHP and moved a 10 point resolution in its fourth conference in the year 1995.¹⁸ After 3 years, National Oral Health Care Program (NOHCP), a project of Directorate General Of Health Services (DGHS) and Ministry of Health and Family Welfare was initiated and launched on a pilot basis. Later the Department of Oral and Maxillofacial Surgery, All India Institute of Medical Sciences (AIIMS) was given the charge to execute it.¹⁷ NOHCP, initiated as a “Pilot Project” in 5 states (Delhi, Punjab, Maharashtra, Kerala, and North Eastern states), in the process of achieving the goals of national oral health policy. Single district from each above-mentioned were selected to trial the strategies generated through 2 national and 4 regional workshops held in collaboration with AIIMS, New Delhi, in different areas of the country.¹⁸ The strategies of this program include oral health education with information, education and communication (IEC) materials by involving health workers, school children, teachers and mass media, formulation of basic package on rural healthcare, man power and infrastructure development, mobile dental clinic services for rural people, public health as well as research monitoring.¹⁹ Proposed plan for this program is depicted in Figure 1.¹⁸ The project was reviewed by the National Institute of Health and Family Welfare in 2004.²⁰

We explored the available literature on oral health policy pertaining to India with an objective to find out the efforts made or going on towards its execution, its current status and recent oral health-related affairs or programs if any.

Methods

Search Strategy and Eligibility Criteria

This research is based on a literature review. It was carried out both manually and electronically. We manually made a search

in the key journals available in the library of the institution. Data was retrieved electronically from the databases Google Scholar and PubMed and the search was done by a member of the research team itself (NRK). In order to define the keywords for search in databases, few seminal articles were analyzed. We found “oral health policy,” “oral health programme,” “national oral health policy” as relevant keywords and were entered into Medical Subject Headings (MeSH) controlled vocabulary. We did not find any of the later words as MeSH terms, instead the entry terms found were Health Policies; Policies, Health; Policy, Health; NHP; Health Policies, National; Health Policy, National; National Health Policies; Policies, National Health; Policy, National Health when we entered a broader term health policy. The terms like oral health, dental, India, programs were combined with the MeSH terms by Boolean ‘AND’ or ‘OR’ and entered in both PubMed and Google Scholar. Documents related to central and state governments of India were retrieved from relevant official websites (eg, <http://www.mohfw.nic.in/>, <http://nrhm.gov.in/>, <http://www.aiims.edu/>). We have excluded the documents related to anti-tobacco programs, as they were mainly designed for control of systemic cancers (eg, lung cancers). Some data was also obtained by cross checking the reference lists of the articles accessed.

Data Collection

The collected documents included original articles, reviews, editorials, guest editorials, letters to editor, interviews, short reports, and short communications. The primary search gave rise to 108 articles, out of which 50 were discarded as they were not pertinent to the topic. That is either related to health policies, oral health policies of other countries or related to oral health but not policy. A total of 58 articles were retained and thoroughly inspected. We found 24 were of global perspective oral health policies rather than Indian and hence were excluded. Final analysis was done on 34 articles.

Data Extraction and Analysis

After completing the search, the selected documents were summarized and categorized based on the topic and its implications. Finally included articles were categorized based on indexation (Table 1).

Results

All the articles considered for analysis were published within

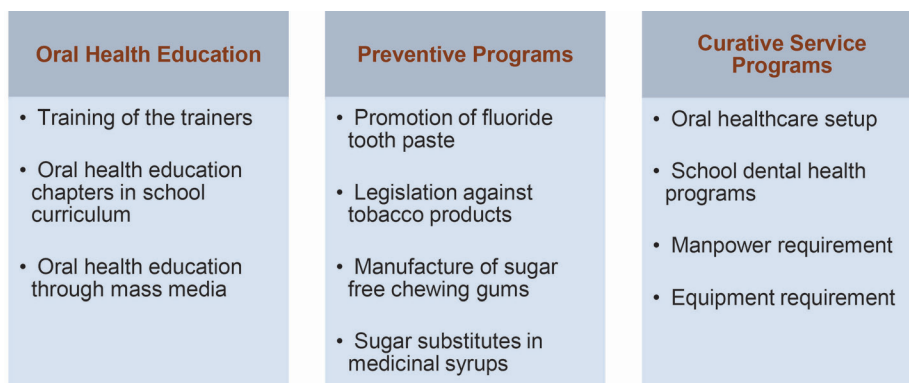


Figure 1. Proposed Plan for Oral Healthcare Program.

the past decade 2004-2014). There was an increasing trend in the number of articles and maximum number of articles were belonging to second half of the decade (Figure 2).

Except for a very few documents reporting the drafted oral health policy in India, all were demanding for sound oral health policy and were either criticizing or making suggestions or recommendations with regard to development of a sustainable oral health policy for the nation (Figure 3).

Suggestions or recommendation that could help in improving the oral health of the nation, given by different authors were summarized in the Table 2.

Recent Affairs

In 2006, a collaborative program between GoI and WHO was held and this workshop suggested methods to expand the role of dental work force in NRHMs.⁴⁰ Apart from these, National Cancer Control Program, National Tobacco Control Program, National Rural Health Missions, and School Health Program are giving negligible importance to oral health.²⁰ “Model for infant and child oral health promotion” proposed by Jawdekar³⁴ in 2013 and “Oral health policy phase 1 for Karnataka” (one of the southern states of India) by Panchmal³⁹ were among the initiatives towards national oral health policy and later was the only paper that could give practical recommendations. Oral health policy phase 1

Table 1. Distribution of Articles Based on Indexation

Indexation	No. of Articles
PubMed	18
Non-PubMed	15
Unindexed	1

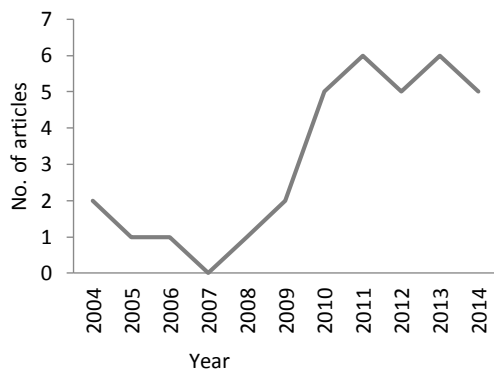


Figure 2. Year Wise Distribution of the Articles.



Figure 3. Categorical Wise Distributions of the Articles.

was initiated with an objective to provide free dentures to the needy senior citizens of Karnataka who were below poverty line and a draft was prepared proposing 5 recommendations. It was implemented in March 2014.³⁹

Dental Education

The misdistribution of the increasing number of dental colleges is significantly leading to neglected rural oral health.³⁷ Uniform spread of medical and dental colleges, quality of education is needed with more practical orientation. The basic training program during BDS and Master of Dental Surgery (MDS) levels must be in a way to prepare the future dental persons to pay attention towards the preventive and promotive aspects of oral health programs. Community dentistry departments in the country are not rooted in the community, rather confined to hospitals.²⁰ Community Dentistry Department should carry out periodic routine oral screening programs by selecting few field practice areas in harmony with the colleges in proximity.⁴¹ Changes in syllabi, curricula, teaching methods and assessment system should be made in order to acquire necessary technical knowledge and managerial skills by the medical and dental graduates as well as allied health professionals.⁴²

Dental Workforce

India is ahead in the world with 301 dental colleges, 25 270 BDS and 5014 MDS positions.³⁷ Even with this unrestricted growth of dental colleges from decades, oral health progress in this country did not reach to the expectation. The surplus production of dental surgeons in the past 10 years made a current figure of 117 825. Even with a dentist to population ratio of 1:10271 which is less than that recommended by WHO for rising nations (1:7500), the budding dental surgeons in India get it hard to establish a private practice.³⁵ The geographical disproportion of dental colleges, erroneous dentist-population ratio, uneven specialist training, lack of dental auxiliaries, and insufficient dental workforce in rural areas and immigration and migration of dental workforce are restricting the dental care providers from fulfilling the dental needs of the people. There is faulty development of the manpower and no forecasting for the prospective changes in the disease pattern.⁴³ Private practitioners can be involved to ensure regular school health services by giving area wise responsibility in an urban set up. Legislature will be ineffective if there is no communal support and demand for such change.¹⁶ In order to assess the true health manpower availability, the Central Bureau of Health Intelligence (CBHI) started gathering appropriate district-wise data on the number of medical, dental, Indian System of Medicine and Homeopathy (ISM & H) professionals, nursing and para professionals and institutions (government, private or voluntary sector).⁴⁴

Primary Oral Healthcare

Primary oral healthcare, without any barriers is still missing in several countries across the globe, particularly in low- and middle-income countries (LMIC) like India.⁴⁵ Not even 20% of the rural PHCs around the country have a dentist.⁴³ The proposed plan of placing no less than a single dental graduate per PHC to cover 30 000 populations is a practicable goal.

Table 2. Suggestions or Recommendations Given by Different Authors Pertaining to the Improvement of Oral Health in India

Authors	Year	Suggestions/Recommendations
Shah ²¹	2005	Dental curriculum should be in a way to modify student's attitude to have a positive behavior towards elderly.
Pandve ²⁰	2009	Government should take initiatives to make oral health affordable especially for the rural poor.
Agarwal et al ¹⁰	2010	As oral healthcare is a component of healthcare system, a basic knowledge of oral diseases must be compulsory to all medical professionals.
Chaturvedi and Gauba ¹²	2010	There is a need enticing the next generation to work in primary care settings and bridging the professional gaps and confront barriers in the way of integrating care.
Nanda Kishor ¹⁹	2010	The current oral health policy needs urgent revision.
Raju ²²	2010	Dental insurance can appreciably manage the increasing costs of oral healthcare, and it eliminates many reasons for neglecting oral health.
Phulambrikar et al ²³	2011	Smoking cessation counseling can be merged into other public health programs like tuberculosis, HIV/AIDS, family planning and maternal health programs.
Mohanty and Parkash ²⁴	2011	ASHAs under the NRHM can be utilized for oral health education.
Ahuja and Parmar ²⁵	2011	Redirection of dentists to population ratio by cutting down the number of dental schools, encouraging rural dental practices to make dental care accessible and reduction of importation tax on dental products to increase its affordability by a greater number is necessary.
Mazumdar ²⁶	2011	<ul style="list-style-type: none"> • The future dental graduates needs to be trained both in genuine dental research as well as in an ideal dental clinical practice. • State governments should incorporate dental health planning in their agenda. • Revision in dental course contents and curricula should be taken up every 3 years.
Sehgal and Lal ²⁷	2011	Varieties of PPP can be thought in terms of promotive, preventive and curative oral healthcare to achieve the millennium development goals.
Chavan et al ²⁸	2012	PPP (one of the health reform strategies given by World Bank report 1993) play a pivotal role in overcoming mutual shortcomings and plan in a more efficient way to arrest oral health diseases.
Datta and Sood ²⁹	2012	Dental education should be in such a way to modify student's behavior increasing their inclination towards systemically compromised elderly and comprehensive gerontological oral health programs.
Abhinav et al ³⁰	2012	The government must include oral health in family welfare programs as in countries like Brazil and China or can follow the NHS, safety net by CDS as in the United Kingdom or NHI as in The Netherlands.
Singh and Purohit ¹⁵	2012	India, a country with adequate dental manpower urgently needs to add dental safety net in government healthcare delivery and government need to focus on people's health irrespective of their economic status.
Thomas ³¹	2013	Policy-makers and public healthcare systems should come up with revolutionary policy-making and suitable planning and it is required to modify and augment the geriatric curriculum of future oral healthcare professionals.
Dhankar et al ³²	2013	Education on geriatric population, diploma, certificate in geriatric dentistry, provision of various preventive and curative treatments for various oral diseases of the elderly.
Gupta et al ³³	2013	Indian government should vote for superior policy strategies based on common risk factor approach, multisector approach, and diagonal approach to treatment and prevention prioritizing primary care for oral cancer in India.
Jawdekar ³⁴	2013	Existing machinery of successful public health campaigns such as the "Pulse Polio" and the "Mid-Day-Meals Scheme" of the government and the model "Fit for School" program in Philippines which is viable and cost-effective can be used for oral health promotion for children.
Vundavalli ³⁵	2014	An organized workforce strategy at national level is a prerequisite to balance the manpower supply and demand.
Gaurav ³⁶	2014	Government, private and nongovernmental organizations jointly overcome disparities between rural and urban areas through innovative prevention strategies.
Jaiswal et al ³⁷	2014	<p>Oral health policy can control</p> <ul style="list-style-type: none"> • Escalating number of dental professionals with misdistribution across rural and urban. • Increasing number of dental colleges and increasing privatization to protect the fate of future dentists.
Yadav ³⁸	2014	Recommended to DCI to make the mobile dental van mandatory for each and every dental college, mandatory recruitments of public health dentists in each and every dental college and BDS curriculum should include mandatory postings of dental interns in mobile dental vans.
Panchmal ³⁹	2014	<ul style="list-style-type: none"> • Distribution of free fluoridated tooth paste and brush twice-thrice in a year to all primary school children in government schools in Karnataka. • Government should give permission to all the 45 dental colleges to adopt at least 5 primary health centers (PHCs). They should also be permitted to install dental chairs/park mobile dental van units in the premises of these PHCs to render free dental care. • To appoint a public health dentist in each district hospital. • To provide clean drinking water in endemic fluorosis areas. This can be achieved by making arrangements for repairing the nonfunctioning defluoridation units. Alternative methods of water supply to these villages. Encourage rain water harvesting units with modern techniques and easy maintenance. • To reinforce the laws for successful gutka ban in Karnataka.

Abbreviations: ASHA, Accredited Social Health Activist; NRHM, National Rural Health Mission; PPP, public private partnerships; NHS; National Health Service; CDS, Community Dental Service; NHI, National Health Insurance; BDS, Bachelor of Dental Surgery; DCI, Dental Council of India; PHC, primary health center.

However, appointing a dental specialist at every community health center (CHC) looks like a distant dream as government is struggling to ascertain CHC's basic infrastructure and as half of the CHCs are not functional.¹⁶ The energies, talent and precious time of dental surgeons posted in PHCs and CHCs with limited dental materials is underutilized in some states. The CHC should be available for emergency care as well as dental care.⁴⁶

Geriatric Dentistry

"Geriatric medicine" is an emerging branch and "geriatric dentistry" does not exist in India. Indian government has declared that medical and dental colleges will only be sanctioned if they were set in proximity to deprived areas to counter the barrier of distance to utilize the dental services especially by the rural elderly.²¹

Dental Insurance

Health insurances must persuade the coverage of dental treatments. Employees' State Insurance (ESI), 1948 is such a scheme by the Indian government which includes dental health.⁴⁷ It was recommended that insurance companies or any other independent agents should not be allowed to procure medical services on behalf of the public sector.⁴⁶ India should come up with schemes like unified health system, 1988 in Brazil, National Health Insurance (NHI), 1995 in Taiwan, Social Health Insurance (SHI) in Germany and National Social Health Insurance Fund (NSHIF), 2004 in Kenya, that covers oral procedures under hospital care.⁴⁶

Discussion

Historic evidence suggests that dental care existed in India about 3000 years ago during the times of great Indian surgeon Sushruta.⁴⁸ Changes in socio-economic conditions over the ages have resulted in a shift of food habits leading to rise in dental diseases. Oral health has been considered as an individual responsibility since the early civilizations in India. The role of social determinants and governmental responsibility in health in general and oral health in particular has not received due attention. Now, it is clearly established that one's oral health is not entirely in one's control; social determinants have received a greater emphasis in health promotion.⁴⁹

The increasing trend in the number of articles related to oral health policy depicts the professionals' increasing focus in this facet. Authors of most of the articles discussed about the prevailing burden of dental diseases, challenges that are being faced in the field of dentistry, and suggestions to overcome those. Many opined that the time has come in its peak with an urgent need to implement oral health policy beyond pilot project. But none of the papers except 'oral health policy phase 1 for Karnataka,' established a practical approach to be followed if oral health policy has to be implemented.³⁹ However, its sustainability is yet to be determined. Even after extensive literature search, we would have missed some programs or policy statements at state level because of non-documentation of such.

Besides the resolutions by the Health and Family Welfare Department in its fourth Meeting in 1995,⁵⁰ the integration of oral health with general health is confined to text as evident

from the recent NHP 2015,¹⁴ which repeated the past mistakes of NHP 2002.¹³

Five-Year Plans

Manpower, material, and money are the 3 basic requirements for any program to flourish. By anticipating the need for dental manpower, planning commission of GoI continued suggesting the multiplication of dental colleges and succeeded in increasing the number of dentists but failed to achieve their evenly distribution between urban and rural areas.⁴⁴ This led to inadequate oral health services to the rural India. It is equally important to utilize the dentists effectively in addition to increase their number. Planning commission recognized the necessity for the training of sufficient number of dental auxiliaries like oral hygienists and dental lab technicians, but no successive efforts were made in that direction and all dental colleges do not contain courses for dental hygienists and dental technicians even today as recommended by Ministry of Health and Family Welfare. In order to inflate dental services it was suggested that medical personnel adjoined to different levels of rural health delivery system, need to be prepared for dental emergency as well.⁵¹ Lack of equipment, machinery, and material is the major problem in providing dental services in district hospitals. Even where the equipment exists, its poor maintenance affects service delivery.⁴ As there is an inequitable distribution of dental schools across the nation, in the 11th 5-year plan it was proposed to set up new dental colleges in the underserved areas.⁵² In the 12th 5-year plan no major discussion was made on oral health except for that at present no more dental colleges are required.⁵² In the fourth 5-year plan, the total outlay for both medical and dental education and research was only 13.92 million dollar.⁵³ In the 11th plan, the budget allocated for oral health schemes or programs is 4.07 million dollars.⁵⁴

As recommended by WHO, health for all is possible only when every country spends 5% of gross national product (GNP) for healthcare but India is spending only 3%.⁵⁵ Health expenditure by the GoI is amongst the lowest in the world where as that by the private sector is one of the highest.⁴⁶ As per the recommendations of High Level Expert Group (HLEG), government need to more or less double the public expenditure on health by the end of 12th 5-year plan and to increase it to a minimum of 3% of gross domestic product (GDP) by 2022 from 1.2% of GDP in 2011 with a decrease in private expenditure to 2.1% by the end of 12th 5-year plan and to 1.5% by 2022 from 3.3% of GDP (2011).⁴⁶ Even if the current level of collective expenditure on health continues to be 4.5% of GDP, there will be rise in per capita annual public health spending (from around \$10.6-\$11.42 in 2011-2012 to \$55.48-\$57.11 by 2021-2022) with a corresponding decline in nongovernmental spending from around \$29.37-\$30.18 in 2011-2012 to \$27.74-\$28.55 by 2021-2022.⁴⁶ But however, till today, there is no separate budget allocation for oral health in national or in most of states' health budget.⁴⁰ No less than three-fourths of the funds allocated for health should be directed towards primary healthcare. The coverage of indispensable preventive care services for oral health remains inadequate even after dental health is integrated into general health.⁴⁶ The dental institutions must have specific funds allotted for community primary prevention procedures.⁴⁰

Challenges

Educating all including those in most deprived areas with “facts of oral health” remained a challenge even today.¹⁶ Production of eligible dental healthcare planners with necessary training is one of the challenges for expanding oral healthcare. Other challenges include absence of surveillance of oral healthcare services which is helpful to direct planners; lack of dentists in the government decision-making bodies, inability to generate manpower of good quality according to the changing needs of the society.⁴³ It is very much essential to provide the new dentists with adequate, reputable, and good salaried job opportunities devoid of rural-urban inequality which appear to be the root of all issues the dental profession is facing today in India.⁴³ Barriers in rural health promotion include least priority to oral health by policy-makers, possibility of negligible risk to human life because of oral diseases, inadequate information about burden of orodental problems, expensiveness of oral treatments, lack of awareness in dental graduates in their responsibilities towards the society, underutilization of internship program by dental colleges, lack of resources to the fastest growing population, overlooking of geriatric population.¹⁹ Interventions must reach the most deprived to accomplish universal dental care. Programs must not just address apparent behavioral factors but socio-economic contexts as well.⁴⁵

Need for Oral Health Policy

- For oral health promotion through prevention considering the fact that oral diseases are almost preventable by simple and cost effective means.⁵⁶
- To decrease the burden of oral diseases.⁶
- Taboos, myths or misconceptions need to be eradicated.⁵⁷
- Water fluoridation, one of the preventive measures for dental caries was recommended in the 12th 5-year plan without any proposed strategies for its implementation.⁵²
- As there is inaccessibility, non-affordability of oral healthcare services and deficiency of dental manpower in PHCs.³⁷
- To narrow the rural-urban gap in oral healthcare.⁵⁸
- As there is lack of proper public oral healthcare infrastructure.¹⁶
- There is no organized data recording system.³⁷
- For quality dental education.
- Definite budget allocation for oral health, seen in developed countries⁵⁹⁻⁶¹ is lacking in India.

Conclusion

It is time that the responsibility of oral healthcare of citizens are to be in the hands of governments. For discharging their obligation of assuring healthy smiles to their public, governments require a policy. All the queries in attaining oral health for all can be answered by oral health policy. As many authors suggested, the need for implementation of the drafted oral health policy with modification that suits the rapidly changing oral health system of this country is inevitable. Indian government needs to set up a committee by involving dental professionals to plan to reduce the oral disease burden of the country in a more comprehensive and practical approach. Political, social, organizational (both government and nongovernmental), professional dedication and support

are needed to make oral health of this country comparable with general health.

Ethical issues

Not applicable

Competing interests

Authors declare that they have no competing interests.

Authors' contributions

Conception and design: NRK and SP; acquisition of data: NRK and VSB; analysis and interpretation of data: NRK, SS, and SP; drafting of the manuscript: NRK, SP, TD, and SS; critical revision of the manuscript for important intellectual content: SP, NRK, and NRV; administrative, technical, or material support: SP and SR; supervision: SP.

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