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RESEARCH ARTICLE

ROLE OF PRIMARY HEALTH CENTRES IN DELIVERING ORAL HEALTH CARE IN INDIA

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ABSTRACT

India is the developing country with a population of 1.21billion. 70% of the Indian population resides in rural areas with little health care facilities and the major share of health facilities is taken up by the urban areas where only 30% of the population resides. Therefore, India has a universal health care system run by the local (state or territorial) governments. Universal health care is health care coverage for all eligible residents of different regions and often covers medical, dental and mental health care. There is a structured referral system involving primary health centres (PHC), district hospitals, and tertiary health care Institutions. Primary Health Centres (PHCs) comprise the second tier in rural healthcare structure envisaged to provide integrated curative and preventive healthcare to the rural population with emphasis on preventive and promotive aspects.

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INTRODUCTION

The primary health care is the first level of contact with individuals, the family and community with the national health system, where Primary health care ("essential" health care) is provided. This level of care is close to the people, where most of their health problems can be dealt with and resolved. It is at this level that health care will be most effective within the context of the area's needs and limitations. (Chandrashekar *et al*., 2014) In India, the primary health care is provided by the complex of primary health centres and their sub centre's through the agency with multipurpose health workers, health guides and trained dais. Besides providing primary health care, the village "health teams" bridge a cultural communication gap between the rural People and organized health sector. The anganwadi worker in the Integrated Child Development Services (ICDS) scheme also provides important health related services at village level. Since India opted for 'Health for All" by 2000 AD, the primary health care system has been reorganized and strengthened to make the primary health care delivery system more effective. WHO defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. According to the World Health Organization (WHO), Oral health is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the oral cavity. (Operational Guidelines National Oral Health Program, 2012-17) The risk factors for oral diseases include unhealthy diet, tobacco use, harmful alcohol use, and poor oral hygiene. Though the dental diseases are non-communicable diseases and rarely life threatening, they do impact the quality of life; as a result of this the dental problems can cause severe pain, loss of man days & morbidity. Thus dental diseases are a significant public health burden in India.

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Burden of oral health diseases in India

The prevalence of oral diseases is very high in India with the prevalence of dental caries being (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 being (55.4%, 89.2%, and 79.4% in 12, 35-44, and 65-74 years old, respectively) as the 2 most common oral diseases. (Vikram Niranjan, 2015) The prevalence of malocclusion in India is estimated to be 30% in school-age children. Around 66% of primary school and 59% secondary school children suffer from at least one chronic disease. According to estimates, about 50% of schoolchildren are suffering from dental caries and more than 90% of adults are having periodontal diseases. (Vikram

Niranjan, 2015) About 17 states of India are fluorosis endemic on account of the excess of fluoride in ground water. Surveys in various states revealed that 17% were edentulous, 78.3% had missing teeth, 1.5% were using denture, and only 3.2% had intact teeth. Smoking-related oral diseases are commonly prevalent, while the prevalence of edentulism in India according to the WHO report was 19%among 65-74 age groups. (Nandita Rani Kothia *et al*., 2015) In 35-44 years and 65-74 years, higher prevalence of 100% was reported for gingival bleeding from the states Orissa, Rajasthan. (Nandita Rani Kothia *et al*., 2015)

Health care systems in India (Gaurav Solanki *et al*., 2014)

It is represented by 5 major sectors:

(A) Public Health Sector

- Primary Health Care: Village level, primary health centres.
- Hospital/Health Centres: Community health centres, rural hospitals.
- Health Insurance Schemes: Employee's state insurance scheme, central government health scheme.

B) Private Sector

- Private hospitals, nursing homes, dispensaries and clinics.

C) Indigenous Systems of Medicine

- Ayurveda, Unani, Siddha, Homeopathy

D) Voluntary Health Agencies
E) National Health Programs

Primary health care systems in India (Bhaumik, 2014)

Primary health centres

PHCs are established and maintained by State Governments under the Minimum Needs Programme (MNP)/Basic Minimum Services Programme (BMS). A medical officer is in charge of the PHC supported by fourteen paramedical and other staff. It acts as a referral unit for six sub-centres. It has four to six beds for inpatients. The health care system in India is a mix of public and private sector with the nongovernmental Organizations playing small yet important role. The public health system in India is primarily under the purview of State Governments, with the Central Government providing broad policy guidelines, technical assistance, and additional resources. The rural health system in India is well structured. A sub-centre facility is the most peripheral health service delivery point in the health care infrastructure. A primary health centre (PHC), the next level, caters to a population of 30,000 and oversees 6-8 sub-centres. A PHC is staffed by one or two physicians, a lady health visitor and one or more auxiliary nurse midwives. For every 3-4 PHCs there is a provision for community health centres (CHCs), the total of which is 2953 nationwide. PHCs in India do not have dental clinics. Only a few CHCs have dental clinics; unfortunately, these are not well equipped in accordance with the required standards and specifications for the practice of conventional dentistry for caries control. (RamyaShenoy *et al*., 2014)

Strengthening Primary Health Centres (PHCs) (Rural Health Statistics, 2014-15)

Mission aims at strengthening PHCs for quality preventive, promotive, curative, supervisory and outreach services, through:

1. Adequate and regular supply of essential quality drugs and equipment (includingsupply of auto disabled syringes for immunisation) to PHCs
2. Observance of Standard treatment guidelines & protocols.
3. Untied grant of Rs. 25,000/- per PHC for local health action and annual maintenance grant of Rs. 50,000/- per PHC and Rs. one lakh to Rogi Kalyan

Samiti (RKS) to undertake and supervise improvement and maintenance of physical infrastructure is provided.

Staff for new primary health centre (Rural Health Statistics.2014-15)

1. Medical Officer..... 1
2. Pharmacist..... 1
3. Nurse Mid-wife (Staff Nurse) ..... 1 + 2 additional Staff Nurses on contract
4. Health Worker (Female)/ANM..... 1
5. Health Educator 1
6. Health Assistant (Male) 1
7. Health Assistant (Female)/LHV 1
8. Upper Division Clerk 1
9. Lower Division Clerk 1
10. Laboratory Technician 1
11. Driver (Subject to availability of Vehicle) 1
12. Class IV 4

Primary oral health care

More than 25 years ago, the Alma – Ata conference, organized by the WHO and UNICEF, gave for the first time priority to local, simple curative and preventive care addressing the needs of the population; in contrast to expensive western-oriented health care which remains largely restricted to hospitals and private clinics. (Leiyu Shi, 2012) Delegating tasks to auxiliaries in Community Health Centres and using simple but effective approaches are important components of primary health care. During the last few decades, PHC has been the basis of health care in many low and middle-income countries. In dentistry however, this change has not been actively pursued, but for a few exceptions. Oral health care remains largely the domain of dentists in private clinics and hospitals in urban areas. Simple oral health care, combined with information and preventive activities for the majority of poor and disadvantaged populations, delivered by assistants or health care workers in the community, rarely became a reality. (Huda *et al*., 2014)

Statement 1.

NUMBER OF SUB-CENTRES, PHCs & CHCs FUNCTIONING

S. No.	State/UT	2005			2015		
		Sub Centre	PHCs	CHCs	Sub Centre	PHCs	CHCs
1	Andhra Pradesh	12522	1570	164	7659	1069	179
2	Arunachal Pradesh	379	85	31	286	117	52
3	Assam	5109	610	100	4621	1014	151
4	Bihar	10337	1648	101	9729	1883	70
5	Chhattisgarh	3818	517	116	5186	792	155
6	Goa	172	19	5	209	21	4
7	Gujarat	7274	1070	272	8063	1247	320
8	Haryana	2433	408	72	2569	461	109
9	Himachal Pradesh	2068	439	66	2065	500	78
10	Jammu & Kashmir	1879	334	70	2265	637	84
11	Jharkhand	4462	561	47	3957	327	188
12	Karnataka	8143	1681	254	9264	2353	206
13	Kerala[1]	5094	911	106	4575	827	222
14	Madhya Pradesh	8874	1192	229	9192	1171	334
15	Maharashtra	10453	1780	382	10580	1811	360
16	Manipur^	420	72	16	421	85	17
17	Meghalaya	401	101	24	428	110	27
18	Mizoram	366	57	9	370	57	9
19	Nagaland	394	87	21	396	128	21
20	Odisha#	5927	1282	231	6688	1305	377
21	Punjab	2858	484	116	2951	427	150
22	Rajasthan	10512	1713	326	14407	2083	568
23	Sikkim	147	24	4	147	24	2
24	Tamil Nadu	8682	1380	35	8706	1372	385
25	Telangana				4863	668	114
26	Tripura	539	73	10	1017	91	20
27	Uttarakhand	1576	225	44	1848	257	59
28	Uttar Pradesh	20521	3660	386	20521	3497	773
29	West Bengal	10356	1173	95	10357	909	347
30	Andaman & Nicobar Islands	107	20	4	122	22	4
31	Chandigarh	13	0	1	16	0	2
32	Dadra & Nagar Haveli	38	6	1	56	7	1
33	Daman & Diu	21	3	1	26	3	2
34	Delhi	41	8	0	27	5	0
35	Lakshadweep	14	4	3	14	4	3
36	Puducherry	76	39	4	54	24	3
	All India	**146026**	**23236**	**3346**	**153655**	**25308**	**5396**

Note: *^data for 2013-14 repeated*

Some of the reasons for the huge gap in oral health status and availability of oral health care are

1. Low priority for oral health in relation to other diseases
2. Lack of professional and political advocacy for oral health and for redistributing resources
3. Absence of living conditions and health determinants conducive to good oral health
4. Dominance of the restorative approach and western treatment and education models as well as inadequate workforce planning

5. Lack of integration of oral care into PHC
6. Resistance of the dental profession to delegate tasks to non-dental personnel together with failure to address the problems of quackery
7. Services not based on community needs and demands.

The Basic Package of Oral Care (BPOC)

The Basic Package of Oral Care (BPOC) developed by the WHO Collaborating Centre in Nijmegen, describes a package of basic oral care activities which can be provided within the framework of the existing first line care, the Primary Health Care System. (Hiramath, 2011)

Rationale of BPOC

The situation in most non-EME (non-established market economy) countries and in disadvantaged communities in EME (established market economy) countries calls for a change in approach. Traditional western oral health care should be replaced by a service that follows the principles of PHC. This implies that more emphasis should be given to community-oriented promotion of oral health. (Hiramath, 2011)

Components of BPOC

- Oral Urgent Treatment (OUT)
- Affordable Fluoride Toothpastes (AFT)
- A traumatic Restorative Treatment (ART)

1. *Oral urgent treatment (out) for the emergency*: Refers to management of oral pain, infections and trauma. This discusses services targeted at the emergency relief of oral pain, management of oral infection and dental trauma through (OUT). An OUT service must be tailored to the perceived needs and treatment demands of the local population.

The three fundamental elements of OUT comprises of:

- Relief of oral pain
- First aid for oral infections and dento-alveolar trauma
- Referral of complicated cases

2. *Affordable fluoride toothpaste:* Affordable Fluoride Toothpaste (AFT) is an efficient tool to create a healthy and clean oral environment. The WHO states that fluoride toothpaste is one of the most important delivery systems for fluoride. The availability and affordability of effective fluoride toothpaste is essential for every preventive Programme. Rationale for using Affordable Fluoride Toothpaste (AFT): The anti-caries efficacy of fluoride toothpaste has been proven in an extensive series of well-documented clinical trials. The widespread and regular use of fluoride toothpaste in non-Emerging Market Economy countries would have an enormous beneficial effect on the incidence of dental caries and periodontal disease. Governments should recognize the enormous benefits of fluoride toothpaste to oral health and should take the responsibility to reduce or eliminate the tax burden on this product. Affordable fluoride toothpaste with anti-caries efficacy should be made available to all to ensure that all populations are exposed to adequate levels of fluoride by the most appropriate, cost-effective and equitable means. The Fluoride toothpaste that meets recommended standards for efficacy should be tax-free and classified by governments as a therapeutic agent rather than a cosmetic.

3. *Atraumatic restorative treatment (ART)* the preventive methods, such as affordable fluoride toothpaste continue to make a large impact on the level of caries, some carious lesions inevitably progress to capitations. ART is a novel approach to the management of dental caries that involves no dental drill, plumbed water or electricity. The ART approach is entirely consistent with modern concepts of preventive and restorative oral care, which stress maximum effort in prevention and minimal invasiveness of oral tissues. Appropriately trained dental auxiliaries, such as dental therapists, can perform ART at the lower level of the health care pyramid such as in health centres and in schools. This makes restorative treatment more affordable, while simultaneously making it more available and accessible. ART therefore meets the principles of PHC. Effectiveness of the ART approach, survival of ART restorations, ART restorations vs. conventional restorations and the acceptability of ART restorations are some of the issues to be considered prior to placement of ART restorations. The ART approach is consistent with modern concepts of preventive and minimally invasive restorative oral care. ART is particularly suitable for school children and can be provided within a school dental care system. By treating small cavities premature extractions are avoided.

Problems with existing oral health care approach

1. Limited financial and material resources in both developed and developing countries
2. The goal of the system is providing treatment rather than encouraging oral health
3. Determinants of health are narrowly defined with little emphasis on social and environmental factors
4. Distance between dental professionals and the people who often need dental care.

Service provided at the primary health centres (Textbook of national oral health policy)

Dental Health Care Workers (DHCW's) should be able to provide preventive, promotive and curative dental treatment and should include

1. Filling of carious teeth using Silver amalgams and composites etc.
2. Should be able to restore defective fissures with fissure sealants /Atraumatic Restorative Technique (ART).
3. Scaling and polishing of teeth with root planning etc.
4. Should be able to provide topical application of fluoride, Should conduct oral health education.
5. Should participate in the School Health Education Programme.
6. Should guide Multiple Health Workers& Female Health Workers and Anganwadi workers for imparting preventive and promotive oral health education strategies.

Conclusion

Health is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal. This realization requires the action of many other social and economic sectors in addition to health sector. The existing gross inequality in the health status of the people particularly between developed and developing countries as well as within the country is politically, socially and economically unacceptable. Though the Indian population has largest health care delivery systems in the world, people of country still suffer from a multitude of preventable and treatable general and oral health problems To overcome such situation of dental workforce, solutions will almost certainly involve a oral health and public health care professionals, representatives from minority interests, insurers and other payers such as businesses, consumers, and most importantly, central and state legislatures. In the role of primary care in global health, the continuity and doctor-patient relationships offered by family oriented primary care, alongside the patient education, early intervention and treatment, chronic disease management, counselling and reassurance offered to patients would be impossible to provide in a secondary care setting. (Lyn *et al*., 2011) A health system built on a strong foundation of public health and primary care must be synergized with public policies that promote critical intersectoral approaches. (Yeravdekar *et al*., 2013) Therefore high quality care is the only way in the epidemiological spectrum to achieve good health for all. (Lyn *et al*., 2011) The primary health care is thus a broad concept within the realms of public health, clinical services and health system that requires optimal performance from various inter-related sectors acting in tandem to achieve the goal of providing essential health care to all citizens. (Yeravdekar *et al*., 2013)

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