Provisioning of dental health in public hospitals: A case study of District Jalandhar, Punjab

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ABSTRACT

Background: The Government of India is increasingly emphasizing the provisioning of dental services in public hospitals, but the rural and deprived sections are struggling to get basic dental procedures done in public hospitals.

Aim: To study variations within and across public hospitals for provisioning of dental health settings in Jalandhar district of Punjab.

Settings and Design: The study area consisted of four Community Health Centers (CHCs) and District Hospital situated in Jalandhar, Punjab, India.

Materials and Methods: The dental infrastructure and dental procedures performed in the public hospital were checked with the help of a checklist as listed in the Indian Public Health Standards 2012 for CHCs and district hospital, and then, the variations within and across these public hospitals were compared.

Statistical Analysis: Percentages were used to make comparisons within and across the public health institutions.

Results and Conclusions: The results showed that out of total outpatient department (OPD) of the public hospitals, dental OPD formed 5%–10% in public hospitals and extraction was the most frequently performed procedure. There is no availability of prosthodontic and orthodontic procedures in the public hospitals. There were no dental auxiliaries in the CHCs, and there was lack of proper dental materials needed in the dental clinics.

Key words: Community health center, dental health, Indian Public Health Standards, public hospitals

India is second to China in population comprising 17.5% of the population of the world, out of which 68.84% live in the rural areas and 31.16% in the urban areas. The magnitude of dental diseases in Indian population as per the World Oral Health Atlas shows that 83% (upper limit) of 6–19 years of people in India are affected with dental caries (2003) and 19% of persons aged 65 and above are edentulous (2005). To address the needs of rural population for general and oral health, National Rural Health Mission was launched in the year 2005 which subsequently led to an increase in the number of subcenters, primary health centers, and community health centers (CHCs) during the sixth 5-year plan to eleventh 5-year plan. However, the building up of the infrastructure necessarily does not mean that the rural population has adequate access and willingness to visit the public sector for seeking health care. Despite dental workforce being available in India, the utilization of services is low due to the high costs involved in oral health care, thereby widening the oral health gap between various socioeconomic classes. This increase in the number of dentists in the private sector with public sector offering less vacancies increases the cost of the treatment. To address these issues of provisioning of oral health, the core strategies in the twelfth plan (2012–2017)
included the upgradation and strengthening of CHCs as the Per Indian Public Health Standards (IPHS), and provisioning of staff and equipment for oral health care are also envisioned in the plan.[7] The researcher’s aim was to study the variations within and across the public health institutions in Jalandhar, Punjab.

MATERIALS AND METHODS

Jalandhar is divided into ten blocks and each block has one CHC. The IPHS 2012 mentions the presence of dentists and dental infrastructure only at the level of CHCs. Therefore, four CHCs (Kala Bakra, Kartarpur, Adampur and PAP) were chosen purposively from the list of the CHCs available in Jalandhar. Prior permission was obtained from the hospital authorities for the study in the dental wings of the hospitals. The district hospital, Jalandhar, was chosen to understand the elaborate procedures in oral health being performed in a public sector hospital. The checklist enumerating the requirements set up by the IPHS 2012 for the dental clinic in the CHC and district hospital was prepared. It enlisted the availability of the equipment and workforce (dentists, dental hygienists, and dental technician) at district hospital and CHCs. The duration for data collection was from November 2014 to December 2014. This period involved collecting the quantitative information regarding the total dental outpatient department (OPD) and the dental procedures performed in the hospitals.

Statistical design

The data collected were analyzed by establishing the percentages out of the collected data, and subsequently, the similarities and variations across public hospitals in Jalandhar were analyzed.

RESULTS

The district hospital has three electrically operated dental chairs in the dental wing, each of which is in working condition. The dental staff consists of two oral surgeons, one dental hygienist, and one dental technician. Of all the dental procedures done, the procedures of prosthesis and treatment of malocclusion as mentioned in the IPHS 2012 are not performed in the district hospital. The cases of oral prophylaxis (6.18%) and root canal treatment (RCT) (4.12%) are low when compared to other procedures being carried out in the district hospital [Table 1].

The patients who are provided treatment for dental diseases are 50% of the total patients visiting the dental OPD. These are the patients on whom any form of dental treatment is performed and does not include the patients who are provided medicines and asked to revisit the department [Table 2].

The number of teeth extracted is more than the number of restorations done in the dental department in CHCs, except at CHC Kala Bakra where restorations form a major part of the dental treatment. Oral prophylaxis forms a small part of the daily procedures carried out in dental wing of the CHCs. There is complete lack of partial and complete denture construction in routine OPD in the CHC. There is no dental technician in all the four CHCs in Jalandhar, and the dental material for denture construction is not routinely available [Table 3].

The patients on which any dental procedure is performed vary from 19% to 60% in the CHCs [Table 4].

DISCUSSION

The IPHS 2012 guidelines for a 500-bedded district hospital recommend three dentists and three dental technicians in the dental wing, which is lacking in Jalandhar. Currently, in the IPHS 2012, the dental services in CHCs have not been included under the assured services, but an optional dental clinic in the OPD is documented. Compulsory oral health needs to be provided at the level of CHC, and all these basic services in dental OPD are provided in the four CHCs surveyed in Jalandhar. The presence of equipment needed in the dental wing of public hospitals in Jalandhar as mentioned in the IPHS 2012 presents a positive picture as far as the infrastructure is concerned. A facility level study and report in 2008 by the Punjab Health Systems Corporation showed that Jalandhar out of ten districts surveyed showed the presence of proper infrastructure in public hospitals.[8]

Cost is an important determinant in accessing oral health in the public facilities and fear, stress, and relation with dentist are other important factors.[9] The health spending of Punjab

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Table 1: Dental procedures in district hospital, Jalandhar

| Procedure          | September 2014 | October 2014 | Percentage of dental procedures performed |
|--------------------|----------------|--------------|------------------------------------------|
| Total hospital OPD | 32,331         | 29,266       |                                          |
| Dental OPD         | 1037           | 902          |                                          |
| Extractions        | 197            | 144          | 17.58                                    |
| Fillings           | 150            | 150          | 15.47                                    |
| Scaling            | 60             | 60           | 6.18                                     |
| RCT and surgeries  | 40             | 40           | 4.12                                     |
| Operations         | 110            | 103          | 10.98                                    |
| Total patients treated | 557          | 497          | 54.35                                    |

Source: District hospital, dental wing OPD register, 2014. OPD=Out patients department, RCT=Randomized controlled trial

Table 2: Percentage of patients on which dental procedure performed in district hospital

|                      | District hospital, Jalandhar |
|----------------------|-----------------------------|
|                      | September 2014 | October 2014 |
| Dental OPD           | 1037           | 902           |
| Total patients treated | 557           | 497           |
| Percentage of the total patients on which dental procedures performed | 53.71 | 55.09 |

Source: District hospital, dental wing OPD register, 2014. OPD=Out patients department

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in public health infrastructure is 0.79% of the gross domestic product when compared to 0.99% of the national average.[10]

The failure of the government to provide finances for health is visible in the field of public health in Jalandhar where the government has fallen short of creating vacancies of dental hygienists and technicians.

The presence of dentists, instruments, and dental chairs in Jalandhar does not mean that provisioning of oral health services is good. The public hospitals lack class four employees, dental auxiliaries, and pharmacists, which indirectly affects the working of the dentists in public hospitals in Jalandhar. A study available on public hospitals stresses that main challenges to be addressed in public health are scarce workforce, infrastructure, and increasing patient load. The presence of infrastructure does not mean that the services being provided are sufficient to meet the demands of the patients. Various others factors such as paramedical staff and provisioning of water and electricity also control the provisioning of services.[11]

The lack of dental auxiliaries in public hospitals in Jalandhar compromises oral health services. The Professionals Complementary to Dentistry (PCD) are those who can help dentist deliver the services and reduce workload of the dentists. These include dental auxiliaries and medical officers who can play an important role and provide basic oral health education. The clinical cases are delivered by the PCDs, and the rest are referred to professional dentists for treatment. There are studies revealing that PCDs can screen for oral diseases as effectively as dentists. They can also carry out health promotion activity in remote areas where there are no practicing dentists.[12]

The dental procedure performed when pain is experienced because the tooth becomes infectious is RCT or extraction. The private sector with its advanced technology offers RCT in single sitting, but in public sector, it requires minimum of three visits. The lack of dental laboratory for crown building leaves the dentist and patient with no choice but to restore the tooth with filling after RCT without any crown. The patients and the dentists both opt for extraction making the numbers of extractions carried out in public hospitals more than the number of restorative treatments. A similar study showed that patients received more of extraction services than preventive or restorative services in public hospitals. The long waiting time and appointments add to further deterioration of oral health and tooth has to be extracted.

The public health sector and its service provisioning determines patient attitude to oral health. Their behavior is limited by the public health system and the way it addresses the problems of building negatives or positives in the minds of the patient.[13]

The diseases of the teeth can be prevented with patient education and treating disease in the early stages. The branch of public health dentistry which deals with prevention at various levels of diseases is not seen with equal respect as it is a nonclinical branch with lesser prospects than clinical practice and very few dental graduates opt for it. The reason for choosing dentistry as a career by young professionals is job opportunities where they can open and run their own clinics and economics. They want to choose the branches of orthodontics, endodontics, and oral surgery as specialties in dental education and establish their private practice.[14]

The public hospitals do not provide orthodontic services in the regular OPD. In a study, the presence of malocclusion

Table 3: Dental procedures performed in community health centers, Jalandhar

| Procedure          | CHC Adampur | CHC Kala Bakra | CHC Kartarpur | CHC PAP |
|--------------------|-------------|---------------|---------------|---------|
|                    | September 2014 | October 2014 | September 2014 | October 2014 | September 2014 | October 2014 | September 2014 | October 2014 | September 2014 | October 2014 |
| Total hospital OPD | 8244        | 7166          | 4343          | 3794      | 7596          | 6350          | 2179           | 1491        |
| Dental OPD         | 426         | 397           | 302           | 372       | 559           | 444           | 206            | 148         |
| Extractions        | 37          | 24            | 51            | 76        | 107           | 47            | 32             | 26          |
| Fillings           | 33          | 37            | 54            | 101       | 64            | 35            | 34             | 24          |
| Scaling            | 14          | 13            | 1             | 34        | 24            | 36            | 13             | 9           |
| RCT and surgeries  | 13          | 4             | 10            | 15        | 6             | 11            | 10             | 6           |
| Treated patients   | 97          | 78            | 116           | 226       | 201           | 129           | 89             | 65          |

Source: Dental OPD registers of the respective CHCs, 2014. CHCs=Community health centers

Table 4: Percentage of dental patients on which dental procedure performed in community health centers

| Procedure          | CHC Adampur | CHC Kala Bakra | CHC Kartarpur | CHC PAP |
|--------------------|-------------|---------------|---------------|---------|
|                    | September 2014 | October 2014 | September 2014 | October 2014 | September 2014 | October 2014 | September 2014 | October 2014 |
| Dental OPD         | 426         | 397           | 302           | 372       | 559           | 444           | 206            | 148         |
| Total patients on which dental procedure performed | 97 | 78 | 116 | 226 | 201 | 129 | 89 | 65 |
| Percentage of the patients on which dental procedure performed | 22.7 | 19.64 | 38.41 | 60.75 | 35.95 | 29.05 | 43.2 | 43.9 |

Source: Dental OPD registers of the respective CHCs, 2014. OPD=Outpatient department, CHCs=Community health centers
in Punjabi children of mixed dentition was found to be 19.6%–37.52%. With such high rates of malocclusion, it becomes very important for the state government to provide the services in the public hospitals in Punjab.\textsuperscript{19} With the evidence available, the orthodontic procedures become very significant and need to be carried out in the public hospitals in Jalandhar.

\textbf{Recommendations from the study}

Oral health provisioning has been mainly curative and preventive, and promotive efforts to check the spread of oral diseases are largely missing. The government should provide incentives for the students joining the Department of Community Dentistry in Dental Colleges. Moreover, dental research should focus more on the preventive approaches to oral health, and the researchers should make efforts to provide the government with innovative ideas for preventive approach to oral diseases. For conceptualization of the problem, data are required and there are no formal and uniform data available for the oral health care needs of population in India. No oral health surveys are conducted in a comprehensive manner and the failure to generate adequate data does give an impression of all is well to those involved in planning. Efforts should be made to generate data and conduct oral health surveys and tailor the provisioning of services in accordance with the regional differences. With the advancement in technology and public sector still relying on providing basic procedures for oral health, oral health services suffer in public sector. Technology reaches least to those who need it the most. Vigorous efforts are required by the government to improve the status of oral health by improving technology as well as the workforce needed to handle it.

\textbf{CONCLUSION}

Workforce and economics play an important role in the way the oral health services are provided and how the patients seek them. The treatments which demand more economic investment are not available in regular OPD in the public health settings. The recruitment process in the government sector needs to be more tailored and specific to address the concerns of oral health. With increased workforce, the dentists can offer difficult procedures even in the public sector and increase the OPD of the dental wing further leading to more procedures in the same time frame. The generation of vacancies in the public sector and stricter laws for quackery can help raise the status of oral health. The indirect costs of procuring oral health services need to be recognized to make the authorities realize the gravity of the situation. Motivation is required on the part of government to address the issue of oral health in an enthusiastic manner. The oral health initiatives should involve community in the same way it involves the care providers and policymakers. The oral health education needs to be revolutionized to solve the problem in a more comprehensive manner.

\textbf{Limitations of the study}

Despite prior appointments with the dentists, there was limitation of time to carry out the discussion in detail. The inflow of patients and the clinic environment was not very favorable to the researcher. There was no separate place to interview the dentists and the patients were not ready to talk due to lack of time. The researcher felt that the hospital staff and the dentists themselves were reluctant to talk openly about the loopholes of the services being provided.

\textbf{What this paper adds}

The paper draws the focus on oral health and its interaction with public health, which has never been addressed in a dynamic manner. Although the subject of lack of infrastructure in public hospitals has been discussed through various facility level studies, reducing it to the dental department in this study is of great significance. The study acts as a foundation for building up more research in area of oral health services being provided in public hospitals in India. The recommendations provided by the study can help the Indian government to add measures of improvement in oral public health.

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\textbf{Conflicts of interest}

There are no conflicts of interest.

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