

Oral health taking a back seat at primary health centers of Bangalore urban district, India – A situation analysis

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ABSTRACT

Background: Even though a dramatic change in pattern of oral diseases has been observed at a global level, oral health equality still remains as a dream to achieve. Studies have documented disparities in delivery and utilisation of oral health services among urban, suburban, and rural regions of India. Therefore, the aim of the present study was to conduct a situation analysis at PHCs to understand resource availability and oral health seeking behavior from perspective of medical officers of Bangalore City, India. **Materials and Methods:** A structured questionnaire was validated using Lawshe technique and was given across medical and dental officers present at 65 Primary Health Centers. Data collected was entered in Excel sheet and further subjected to Descriptive statistics using SPSS version 20. **Results:** Among 65 PHCs, about 18 PHCs had dental officers posted. In those 18 PHCs only 2 were maintained by the state government and others by Private dental college. In the 65 PHCs, only one PHC maintained a separate register for dental complaints, whereas 48 of them had maintained a combined register for both general and oral complaints. With regard to the management of tooth-related complaints, about 48 of medical officers reported that they dispense the patients affected by providing antibiotics and pain killers (analgesics) and recall, whereas 12 medical officers reported that they get the existing condition treated and refer and the rest refer the patients directly to hospitals. clinics. **Conclusion:** The results highlight the challenges experienced by nondental primary-care providers and their views on access to oral health to be improved. It is high time that the state government should put oral health policies into practice by recruiting adequate dental officers and providing separate dental infrastructure at the urban PHCs for better utilisation of dental care services.

Keywords: Health care delivery, oral health, primary care center, urban

Introduction

In 1978, the Alma Ata Conference reaffirmed the HEALTH for ALL as a major social goal of governments and stated that the best approach to achieve the goal is by providing primary health care, especially to the underserved rural population and the urban poor.^[1]

Studies have documented disparities in delivery of oral health services among urban, suburban, and rural regions of India. Residents of rural and suburban regions have increased unmet dental needs compared with people living in urban areas.^[2] This can be further substantiated by the inverse care law, which states that availability of good medical care tends to vary inversely with the need for it in the population served.^[3]

The lack of equity to health-care access can be combated by proper utilization of services at primary health centers (PHCs)

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as they serve as a basic health unit, to provide health service, as close to the people as possible, in an integrated curative and preventive manner with emphasis on preventive and promotive aspects of health.^[4] Even though a dramatic change in pattern of oral diseases has been observed at a global level, oral health equality still remains as a dream to achieve.^[2]

Several challenges are faced by the marginalized population in seeking the oral health services because of poor accessibility, affordability, and limited availability. This is operationalized into a concept in terms of “five A’s”: affordability, availability, accessibility, accommodation, and acceptability as the common factors influencing the utilization of health-care services.^[5] The health-care delivery of any state is not possible without an appropriate health-care infrastructure. Adequate infrastructure, which includes buildings, equipment, supplies, and communication equipment, forms a crucial part of the health services.^[6]

In India, PHCs along with the subcenters comprise the primary tier and provide integrated curative and preventive health care to rural, urban, and suburban population with emphasis on preventive and promotive aspects.^[7] Though community health center forms the uppermost tier, the PHCs maintained by the state government which cater for 47.4% of urban population^[2] with oral and maxillofacial complaints who are the first point of contact for these patients are the nondental primary care providers (medical officers at PHC); hence, their perspectives on oral health-care delivery through PHCs and patient utilization behavior become imperative to understand.^[8,9]

Therefore, the aim of the present study was to conduct a situation analysis at PHCs to understand resource availability and oral health seeking behavior from perspective of medical officers along with dental officers consultation (where available) in the PHCs of Bangalore urban district, India.

Materials and Methods

Bangalore urban district has been divided into 4 zones (talukas), namely, the north, south, east, and west, with 76 PHCs interspersed

amongst them. These centers are classified into urban and rural on the basis of the location and population catered by the center, former being within the limits of Bangalore metropolitan city. East zone consists of 20 PHCs (14 urban, 6 rural), north zone of 29 PHCs (17 urban, 12 rural), south zone of 13 PHCs (8 urban, 5 rural), and the west zone has 14 rural PHCs, respectively.

All the 76 PHCs were visited by the investigator in each zone and responses were collected from 65 medical officers in charge of the respective PHCs. Medical officers at 11 centers were not available for response even after 2 repeated visits, owing to lack of time to respond at 4 centers, and nonavailability of the officer in 7 centers. Twenty-four PHCs in the north zone, 18 PHCs in the east zone, 12 PHCs in the south zone, and 11 PHCs in the west zone were part of the final study.

Among the 65 PHCs, all the 65 PHCs had medical officer; only 18 PHCs had a dental officer posted at the center. For reporting, all the dentists posted at the PHC irrespective of institutional representation will be addressed as dental officer.

Survey tools

Data were collected using a structured and prevalidated (Lawshe, C.H. 1975) questionnaire. Questionnaire was filled in the presence of the investigator by the medical officer of the PHC along with the dental officer of the PHC (if available).

Statistical analysis

The recorded data were entered into a personal computer and then transferred to an MS Excel sheet, and statistical analysis was carried out using Statistical Package for Social Sciences (version 16.0 for Windows, SPSS Inc., Chicago, IL, USA). Data were analyzed in terms of frequencies and percentages.

Results

The responses of the participants to the questionnaire are presented in Table 1. The results showed that among the 65 PHCs

Table 1: Responses of participants to the questionnaire

Sl. No.	Question	Options	n	Frequency (%)
1.	Primary health center receiving out patients with dental problems	Yes	60	(92.30)
		No	5	(7.70)
2.	Separate infrastructure (dental unit) to treat patients present	Yes		18 (27.70)
		No		47 (72.30)
3.	Officers present at the primary health center	Medical officers	65	
		Dental officers (along with medical officer)	18	
4.	Establishment and management of the dental unit is done by	Private dental college/hospital with a MoU		16 (89)
		Government dental college/hospital with MoU		1 (5.50)
		Established by the state government		1 (5.50)
5.	Equipment and staffing of the dental unit to handle dental OPD	Yes (sufficiently staffed and well equipped)		3 (16.66)
		No (insufficiently staffed and ill equipped)		15 (83.34)
6.	Maintenance of separate OPD registers	Yes		17 (26.15)
		No		48 (73.85)

that were visited, 60 (92.30%) medical officers reported that they do receive patients with oral and maxillofacial complaints, whereas 5 (7.70%) officers reported that they do not receive any patients with oral and maxillofacial complaints at their PHC. Separate infrastructure within the PHC for oral and maxillofacial needs was present at 18 (27.7%) centers, whereas 47 (72.30%) centers do not have a dedicated dental unit to treat the patients with oral and maxillofacial complaints. Out of the 65 PHCs, all the PHCs had a medical officer, whereas only 18 (27.30%) PHCs had a dental officer posted by the respective educational institutions along with medical officer (appointed by the state government).

In these 18 PHCs, most of the dental units present at the PHC [16 (89%)] were established and managed by the private dental colleges/hospital with a memorandum of understanding (MoU); only 2 (10.50%) dental units present at the PHC were established and managed by the government dental college and hospital with a MoU and the other managed by the state government. Among the reported 18 PHCs, 3 (16.66%) dental officers reported that the dental unit present at their PHC is well equipped and sufficiently staffed, whereas 15 (83.34%) dental officers posted by the institutions reported that the dental unit present at their PHCs was ill equipped and insufficiently staffed. Seventeen (26.15%) of the PHCs with dental officers posted by the institutions reported that they do maintain separate out patient department (OPD) register for the patients with dental and maxillofacial complaints, only one PHC despite having separate dental unit had a common register for the patients irrespective of their chief complaint, whereas 48 (73.85%) PHCs do not maintain any separate register for patients with dental and maxillofacial complaints. Out of the 65 PHCs analyzed, it was reported in 47 (72.30%) PHCs that the first point of contact for the patients with oral and maxillofacial-related problems was the medical officers posted there, whereas only in 18 (27.70%) PHCs, which had separate dental unit, dental officers were the first point of contact for them. When asked about the management of tooth-related complaints, about 48 (73.85%) of medical officers reported that they dispense the patients affected by providing antibiotics and pain killers (analgesics) and recall, whereas 12 (18.47%) medical officers reported that they get the existing condition treated and refer. Only three (4.60%) medical officers reported that they directly refer the patients to government hospitals/colleges and two (3.08%) medical officers reported that they directly refer the patients to private hospitals/colleges or clinics.

In case of trauma-related complaints, most of the medical officers [47 (72.31%)] reported that they always provide initial emergency care and then refer the trauma cases, whereas 12 (18.47%) reported that they directly refer the patients to government hospitals/colleges and 6 (9.23%) medical officers reported that they directly refer the patients to private hospitals/colleges or clinics.

In PHCs where the dentists are posted along with medical officers, 58 (89.23%) reported that they do receive patients

with the complaint of dental and maxillofacial complaints who seek symptomatic relief (with medication) repeatedly and only 7 (10.77%) officers reported that the patients with the dental and maxillofacial complaints visiting the PHC do not seek any symptomatic relief (with medication) repeatedly. The most common reasons according to the medical officer for this were as follows: most of the officers [30 (46.15%)] reported nonavailability/inaccessibility for dental treatment; 14 (21.52%) officers reported that lack of awareness about importance of oral health can be a reason for seeking symptomatic relief and only 2 (3.07) medical officers reported anxiety and apprehension. Of the 65 PHCs, most of the medical officers [32 (49.23%)] recommended to set up a separate dental unit with dedicated and sufficient dental workforce within the center; 12 (18.46%) medical officers recommended to increase awareness about importance of oral health and utilization of existing facilities at the center and only 3 (4.62%) medical officers recommended for public-private partnership with colleges or hospitals, whereas the existing 18 (27.69%) dental officers posted recommended upgradation of the existing dental unit.

Discussion

Health is a universal human need across all cultures and groups. It has been established beyond doubt that optimal health cannot be attained or maintained independent of oral health. Oral health service is a multifactorial phenomenon, and its utilization depends on various factors, such as oral health conditions, socioeconomic conditions, attitude, financial conditions, and social factors, that are important as shown in various models.^[3]

So far from the literature search, very few studies have assessed the perceptions and knowledge of the medical officers regarding oral health.^[2]

This study included 65 PHCs and it was reported by 92.30% medical officers that they received patients with dental and maxillofacial complaints. In a study done by *Pewa et al.*, the dental attendance was 72.7% among the Haryana adult population; 52.4% in rural areas and 47.4% in urban areas are catered by PHCs.^[10] Hence, it is a common practice for patients to visit the PHC for oral and maxillofacial complaint/symptoms.

The study revealed that among the 65 PHCs, only 18 (27.70%) medical officers reported that they have a separate infrastructure with dentist to treat patients with dental and maxillofacial complaints at their PHC. In a study by *Tandon et al.*, the oral health-care facility was lacking, and their study reported that only four of the six community health centers had dentists and two of the PHCs had mobile health-care units at Udupi district, Karnataka.^[5]

Among the 18 PHCs, most of the dental units present at the PHCs [16 (89%)] were established and managed by the private dental colleges/hospital with a MoU and the remaining

2 (10.50%) were managed by government dental college and state government, whereas in the study done by Vashist *et al.*, all the dentists were recruited by state government which shows a need for Karnataka state government to recruit dental officers at all PHCs to achieve optimal oral health-care delivery.^[6]

Of the 18 PHCs, only 3 (16.66%) dental officers reported that the dental unit present at their PHC is well equipped and sufficiently staffed and 15 (83.34%) dental officers reported that the dental unit present at their PHCs was ill equipped and insufficiently staffed. This was in contrary to the findings reported by Vashist *et al.* that more than 80% of the health centers in Haryana had well-equipped dental instruments.^[9]

The study reflected dismal percentage of record keeping of patients with oral and maxillofacial complaints; of the 65 PHCs, 17 (26.15%) PHCs reported that they do maintain a separate OPD registers for the patients with dental and maxillofacial complaints, whereas in 48 (73.85%) PHCs do not maintain any separate register for patients with dental and maxillofacial complaints at their PHC. In a study by Pawa *et al.* and Vashist *et al.*, 100% patients in a PHC of Jodhpur reported maintenance of record for such a complaint.^[9,10]

For this region and population, our study attempted for the first time to elicit the first point of contact for patients with oral and maxillofacial problems; it was reported that the first point of contact for the patients with oral and maxillofacial-related problems is the medical officers [47 (72.30%)], and in only few PHCs, 18 (27.70%) medical officers reported that the first point of contact for such patients was the dental officers posted. This situation can be elucidated by the fact that number of dental officers posted were less compared with the medical officers posted and this is in agreement with study done by Barnett *et al.*, who confirms that people access oral care through medical officers if the center lacks a dental officer.^[8]

Among all the PHCs, most of the medical officers reported that the most common complaint or problem related to the dental and maxillofacial region among the patients visiting the PHC was toothache [62 (92.53%)] followed by bleeding gums [30 (44.77%)]. Almost an equal number of the medical officers reported bad breath [16 (23.88%)], tooth stains, and swelling [15 (22.38%)] to be the most common dental and maxillofacial-related problem, whereas only 9 (13.43%) medical officers reported the most common complaint to be trauma. Similarly, Qiu *et al.* and Viveka *et al.* reported that the most common complaint of the patients visiting PHC was toothache (59%) and bleeding gums (37%).^[11,12] Khemka *et al.* reported that the most common dental problem was pain (61.8%) followed by difficulty of chewing (17.9%) and bad smell in mouth (7.6%). Only 6.4% were come for the routine check-up.^[13]

Among the 65 PHCs, most of the medical officers [48 (73.85%)] reported that they dispense the patients with tooth-related problems by providing antibiotics and pain killers (analgesics) and

recall, whereas 12 (18.47%) medical officers reported that they get the existing condition treated and refer. Only three (4.60%) medical officers reported that they directly refer the patients to government hospitals/colleges and two (3.08%) medical officers reported that they directly refer the patients to private hospitals/colleges or clinics. In a study done by Tandon *et al.*, the various services are provided to study subjects according to diagnosis majority of which includes restoration (39.4%).^[14]

In case of trauma-related complaints, most of the medical officers [47 (72.31%)] reported that they always provide initial emergency care and then refer the trauma cases, whereas 12 (18.47%) reported that they directly refer the patients to government hospitals/colleges and six (9.23%) medical officers reported that they directly refer the patients to private hospitals/colleges or clinics. This was in line with study done by Fernandes *et al.* who reported that the majority of the medical officers [98 (68.4%)] provide emergency care and then refer the trauma to the nearby dental clinics.^[15]

Fifty-eight (89.23%) medical officers reported that they do receive patients with the complaint of dental and maxillofacial complaints who seek symptomatic relief (with medication) repeatedly and only seven (10.77%) medical officers reported that the patients with the dental and maxillofacial complaints visiting the PHC do not seek any symptomatic relief (with medication) repeatedly. This scenario can be justified by the fact that prevalence of self-medication among the marginalized is higher because of lack of awareness and ease of access to over-the-counter drugs.^[16]

Most of the medical officers [32 (49.23%)] recommended to set up a separate dental unit with dedicated and sufficient dental workforce within the center followed by 18 (27.69%) recommended upgradation of existing dental unit; 12 (18.46%) medical officers recommended to increase awareness about importance of oral health and utilization of existing facilities at the center and only 3 (4.62%) recommended for public-private partnership with colleges or hospitals. In the studies done by Jain *et al.*, Tandon *et al.*, and Gupta *et al.*, most of their study population recommended setting up of a separate dental unit.^[9,14,16] Pawa *et al.* reported mobile dental clinic to be an affective adjunct or facility for answering the treatment needs of individuals with oral diseases and can also be affectively used for imparting oral health-care education to the needy groups of population.^[10]

Among the 65 PHCs, there were 18 PHCs in the east zone, 24 PHCs in the north, 12 PHCs in the south, and 11 PHCs in the Anekal Taluk.^[16]

Among the 14 PHCs in the Anekal Taluk, the mean number of patients visiting in 1 day was reported to be 5.15 ± 0.2 . A study done by Fotedar *et al.* reported 7.2 ± 1.6 mean number of patients visiting the PHCs in Shimla which was higher than the present study.^[16,17]

This study attempted to elicit the perception of nondental primary-care providers (medical officers) who are first point of contact for greater number of the population. Oral health is yet to achieve awareness among this population; hence, medical officers' awareness and attitudes (in the absence of dental officers in PHCs) along with the infrastructure availability to deliver efficient oral care becomes important.^[18]

Conclusion

The results highlight the challenges experienced by nondental primary-care providers and their views on how oral health may be improved in rural/remote areas.^[18] In Bangalore urban district, primary health centers cater to a population of around 40%, providing sufficiently equipped and well-staffed medical officers appointed directly by state government to these centers. It is high time that the state government should put oral health policies into practice by recruiting adequate dental officers and providing separate dental infrastructure at the urban PHCs which would decrease the burden of oral diseases in this community as well as create an awareness of the need for utilization of oral health-care services independent of medical services.^[19]

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Conflicts of interest

There are no conflicts of interest.

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