

Oral health inequalities: a call for action to improve oral health in India

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Objective: To gain insight and learning on the perceived issues and challenges facing dentists within India and to provide guidance on how the wider Indian Diaspora may be able to help solve them. **Methods:** A pilot-tested online survey, containing both quantitative and qualitative questions, was administered amongst dentists practising in India. **Results:** A total of 1,194 dentists completed the 'Indian Oral Health Survey'. The results highlighted that a significant number of individuals perceived the current state of oral health in India as 'somewhat bad' (44%) while also emphasising the pressing need for government initiatives to improve these standards (78%). Some of the key challenges that need to be addressed in the next 5 years are gum disease (19%), dental caries (18%), oral health awareness (17%) and the increasing rates of oral cancer (16%). This survey also revealed that there is a need to review and change the current state of dental education in India. Furthermore, dentists practising in India would like their Indian counterparts living overseas to give back to their country of origin via mentoring programmes (23%), support initiatives in India both through monetary support (17%) and working for charity, as well as by sharing their skills, expertise and experiences. **Conclusion:** There is currently a desperate need to improve oral health in India, especially among the underprivileged populations. The survey also revealed that the current dental education system is in need of revision and young dentists in India would like to be mentored by their counterparts overseas.

Key words: Dental professionals, Indian oral health, perceived challenges, survey

The attitude towards oral health care among developing countries is poor with relatively little knowledge about good oral hygiene aids, eating habits and behaviours that have a deleterious effect on oral health¹. A survey conducted by the Indian Market Research Bureau (IMRB) highlighted that only 51% of Indians brushed their teeth with a toothbrush and toothpaste while also revealing that Indians only approach a dentist when faced with a crisis. According to the Indian Dental Association (IDA), periodontal disease affects 90–95% of the population while dental caries affects 60–80% of children in India^{2,3}.

A large number of dentists serve the urban population in India, which has resulted in a lop-sided distribution of dentist to population ratio, magnifying the burden of oral diseases. The Indian government's Ministry of Health and Family Welfare reported that the dental treatment facilities available in rural areas are lacking the necessary infrastructure and there is an urgent need to enhance these services³. These oral health disparities are further compounded by deleteri-

ous habits practised by the Indian Diaspora, including smoking and chewing tobacco.

Furthermore, there are obvious and growing unmet dental treatment needs and significant inequalities in health-care delivery systems, as well as a huge gap in terms of community-oriented prevention systems, particularly in rural India. Although, India is a country of over a billion individuals, allocation of funds towards public health care is low, with no specific separate allocation for oral health-care¹. Hence, there is a need for non-governmental organisations to use their taskforces to improve the current state of oral health.

In light of the oral health disparities such as a poor dentist to population ratio serving the most disadvantaged population and an increased burden of disease, it is vital to assess and address the perceived issues and challenges faced by the dental health professionals in India while also providing some guidance on how the wider Indian Diaspora may be able to help solve them.

Therefore, the Global Child Dental Fund (GCD-Fund), a well-established dental charity for the world's poorest children, undertook the 'Indian Oral Health Survey' to establish an understanding and learning in four main areas: perception of the current state of Indian oral health and importance of improving; perception of the key issues in oral health and the barriers to resolving internally; perception of the current state of dental education; and guidance on how the wider Indian Diaspora of dental professionals can help.

METHODS

As the survey was intended to be completed by dentists practising throughout India, an online questionnaire survey was designed, pilot tested and implemented following a process of refining and modification. As the survey was proposed for self-completion with limited expert support, it was kept simple with limited open-ended questions to facilitate better response collation. However, where appropriate, participants also had the option of providing a more detailed qualitative response.

This study was conducted in full accordance with the World Medical Association Declaration of Helsinki. The ethical standards group of the GCDFund approved the study and written consent was obtained from all participants. The online survey was open for a period of 5 weeks from August 2012. It was advertised and distributed widely through Facebook, the IDA, Colgate-Palmolive (India) and Dentistry India (Dental Journal).

Additional measures were taken to ensure that a large number of dentists took part in the survey, such as reminder e-mails and articles in journals (short communications and news posts, were published in the *IDA Times* and *New Indian Express* as well as in journals, including *Dentistry United* and *Indian Journal of Multidisciplinary Dentistry*).

The data generated from the survey were collected and analysed. It should be noted that based on the methods employed for the distribution of the survey, response rates could not be established.

RESULTS

Demographic characteristics

The survey was completed by 1,194 Indian dentists, of whom 73% were male; 70% were aged between 26 years and 40 years and 97% were currently practising in India; 54% and 39% completed their Bachelor's in dental surgery and Master's, respectively, with a small fraction having completed a PhD. When asked what group of patients, dentists treated based on socio-economic status, 1,764 responses were gener-

ated; only 7.4% of individuals represented the low socio-economic status.

Quantitative findings

Indian dentists described the oral health of the local Indian population as 'somewhat bad', while a large majority of 78% emphasised that it was 'very important' for the government of India to fund community-based oral health initiatives in order to improve the oral health conditions of the Indian population. Dentists believed that it was vital to prioritise and address gum disease (31%), dental caries (29%), oral cancer (29%) and oral health awareness (17%) as key national focal points in the next 5 years.

Participants revealed some of the obstacles that currently prevent them from achieving their full potential. These included low priority for oral health amongst patients (19%), high treatment cost (16%), low levels of patient education (15%), common misconceptions associated with routine procedures such as extraction and scaling (14%) and lack of routine oral hygiene practice (brushing, flossing, etc.) (10%). Other reasons are listed in *Figure 1*.

While the majority of dentists thought that both the Indian Government (16%) and the IDA (15%) could do more to improve the oral health conditions among Indians, respondents also felt that oral health-care companies (12%), the dental council of India (12%) and dental schools (11%) could also join forces to contribute towards enhancing current oral health status.

A majority of 42% dentists believed that new dental graduates were 'somewhat prepared' to cope with the challenges of current oral health in India; however only a small fraction (6%) said that they were 'very prepared', highlighting the uncertainty and lack of confidence among new graduates while also emphasising the importance of undergoing additional training.

Dentists believed that the best way of equipping newly qualified dental professionals to rise to the present day oral health challenges in India would be through more 'real-life' training in dental surgeries (26%), additional short courses to enhance and build both communication and people skills, as well as emphasise the importance of confidentiality and ethics in practice (20%), and mandatory rural postings during internship (13%).

Dentist opinions on the perceptions of additional training showed a mixed response. While 33% reported that good training was easily available, 31% stated the opposite. Although 30% of respondents strongly agreed that undertaking additional training was often expensive, 41% highlighted that additional training was current and up-to-date. Dentists also believed that training was relevant to clinical problems encountered during day-to-day practice.

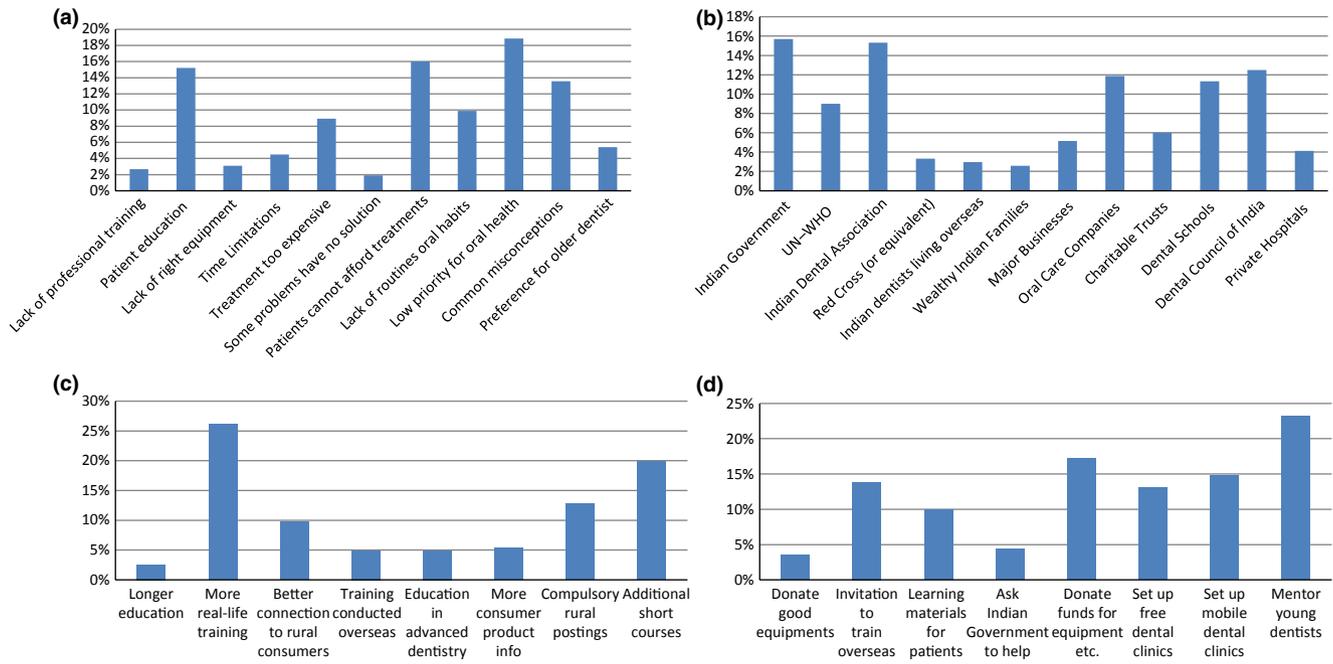


Figure 1. Quantitative findings from the Indian Oral Health Survey. (a) When it comes to your personal work, what obstacles do you believe exist that prevent you from being as effective as you would like in helping to solve oral health issues? (b) Which of the following organisations or people do you personally think could do more to help improve the oral health of the local Indian population? (c) Which of the following statements would help newly qualified dental professionals be better positioned to cope with oral health challenges in India? (d) If an Indian dental professional who is living outside of India asked you ‘how can I help improve the Oral Health of the Local Indian Population’, what would be your first answer?

When asked how Indian dental professionals from overseas could help improve oral health among the Indian population, 23% stated mentoring young dentists followed by donating funds for new equipment, remuneration for dentists, etc., especially in remote areas (17%), setting up mobile dental clinics (15%), inviting dentists to work/train in their location (14%) as well as setting up free dental clinics (13%).

Qualitative findings

The qualitative data (displayed in *Table 1*) dovetailed well with and enriched the quantitative findings. Some of the issues raised by dentists were the importance of maintaining good oral health, tobacco use and its deleterious effect on health, with a special reference on tobacco lobbying, attention to special populations, including paediatric and geriatric dental health care, and aspects around infection control and safety among practising dentists, as this is thought to be low priority.

In addition to the quantitative results, dentists reported a range of obstacles when it came to achieving their full potential – in particular, poor patient attitude in terms of a holistic approach to oral health care. Some others were: limited patient knowledge, awareness, motivation and low priority for oral health; correcting and retreatment done by ‘quacks’

(unregistered individuals working as dentists); high treatment costs for patients and high cost of dental equipment (i.e. digital radiography and microscopes) for dentists; the complete lack and/or limited government initiatives; bureaucratic hurdles; incompetent national level dental associations; and the lack of effective policy implementation and foresight.

A significant number of dentists believed that as a community of dental healthcare professionals, it was their duty and responsibility to improve the oral health status of the Indian population. It was reported that the key to improving current oral health conditions of the population was through awareness programmes, particularly in schools in order to emphasise the importance of oral health at a young age, organising treatment and oral health camps via mobile dental clinics. In addition, dentists considered tapping resources from charitable organisations (such as Lion’s Club and Rotary Club) as they are well-positioned and accepted widely in the community. Respondents were also of a view that dental insurance schemes would motivate individuals to seek treatment at least in the urban population.

A majority of respondents believed that the Dental Council of India, along with dental schools, could work more effectively and consistently to produce dentists that are better equipped and prepared to handle the changing patterns of dental diseases and its distribution. These individuals stated that the only

Table 1 Qualitative findings from the Indian Oral Health Survey, as reported by respondent**Oral health issues that need improvement in the next 5 years**

Apart from caries/gum diseases, the dental professionals will have to create a platform to fight strong tobacco/gutka lobby.
 Government must stop fully the sale of tobacco in any form, be it for smoking or chewing
 Habit of chewing pan, masala, betel nuts
 Inculcating regular brushing and flossing habits in patients
 Oral health for the elderly is neglected

Obstacles that prevent you from being as effective as you would like to be in resolving oral health issues?

Patients prefer piecemeal solutions over comprehensive treatment
 Bureaucratic hurdles; incompetent national level dental association; lack of policies and foresight
 Even though most people can afford dental treatment, patients are reluctant to get treatment done
 The oral health service in India is urban-centric. Regulatory mechanism does not help to improve quality of treatment and education
 Patients are careless, even showing them their oral condition by intraoral pictures, they do not bother to get treated
 Lack of awareness of the importance of good oral health. Expensive equipment for dental treatment, e.g. RVG, microscope

Organisations/people who could do more to help improve the oral health of the local Indian population?

Every dentist practicing in India can help more
 An independent organisation to create awareness and explain the problems and give detailed knowledge of solutions
 Availability of dental insurance will go a long way in motivating at least the urban population to seek treatment
 Dental institutions, schools
 Government must focus on the school health programmes of India; can include private insurance sector
 Health is a state subject. Initiatives have to be facilitated by the respective state governments/non-governmental organisations doing social work

How can newly qualified dentists be better positioned to cope with oral health challenges in India?

A practitioner is not born training on phantom heads. It is real time affair; real mouth and the patients' disease experiences
 Better selection process for dental schools, standardisation of education throughout the country
 Better training facilities and more exposure to patients while doing their course in dentistry
 Emphasis should be more on practical approach rather than old conventional methods
 Mandatory CDE programmes; evidence-based practice; problem-based learning needs to be incorporated
 Training should be followed by a comprehensive management of all strata of patients, which should include doing it by themselves

How can Indian dentists living abroad help improve the oral health of the local Indian population?

A combination of coming themselves to work (in India), bringing along work ethic/equipment/materials and encourage talented locals to come abroad
 Assist/advice to formulate better plan; update Indian system of dental education and help only in policy formulation not money
 Be open-hearted enough to share the ideas and the way they are managing practical situations, by direct training and advice
 Donate to a reputable chain of dental clinics/hospital, who will provide free dental care to the needy through the funds donated
 Join the Indian dentists on a non-profit-making perspective to hold demonstrations, conferences and lectures, etc.
 Set up mobile clinic/unit which will educate patients and their family place to place and provide treatments at lower cost
 Should come to India at least once in a year and treat and educate the poor in villages

CDE, continuing dental education; RVG, radiovisio-graphy.

way forward would be to put in place a better selection process for dental schools to ensure that they are better equipped, follow current practice instead of old conventional methods, have a better flow of patients for real-life experience and regular staff. In addition there should be standardisation of education nationally and revision, renewal and improvement of current curriculum to make it competency based, with more emphasis on practice management skills, ethics, etc. Respondents also considered it essential to implement continued dental education post-qualification, while also having a scheme in place that allows and encourages senior practitioners to mentor, guide and motivate new graduates.

A substantial number of respondents wanted overseas dentists of Indian origin to 'give back' to their home country by donating their time, money or equipment, in particular to help in remote areas and people who have barriers accessing oral health care. These dentists considered using a reputable and genuine charity to do this via mobile dental clinics, increasing awareness around the importance of oral health as well as recommending Indian overseas dentist to participate in these charitable events at least

once every year. Respondents also stated that they would like the opportunity to hear about and have conferences with Indian dentists living abroad in relation to sharing knowledge, skills and experiences (e.g. scheme for dental insurance) either in person or via video conferencing. Another important aspect was the need to have input from individuals practising overseas to learn and gain from their experience to ultimately improve the current system of dental education in India by incorporating essential aspects of the international education system, and by introducing effective policies as well as the experiences of implementing these policies successfully at ground level.

DISCUSSION

This survey establishes the perception of Indian dentists on the current state of Indian oral health and how challenges encountered in oral health can be resolved through both internal and external channels.

The survey results highlighted that a significant number of dentists perceived the current state of oral health in India as 'somewhat bad' while also

emphasising the pressing need and importance for government initiatives to improve these standards. Some of the key challenges that need to be addressed in the next 5 years are gum disease, dental caries, oral health awareness and oral cancer. This survey also revealed that there is currently a need to review and change the current state of dental education in the country. Furthermore, dentists practising in India would like their Indian counterparts living overseas to 'give back' to their country of origin via mentoring programmes, support initiatives in India, both through monetary support and working for charity, as well as by sharing their skills, expertise and experiences with dentists living in India.

Although there has been some research done on the oral health status and treatment needs in special populations^{4,5}, to the best of our knowledge, this is the first survey conducted amongst Indian dentists on this topic. An important strength of this survey was that both qualitative and quantitative findings echo and complement one another, strengthening the findings of the survey. Limitations of the survey include the short 5-week period for completing the survey and the online method of survey administration. However, the short time-period was compensated by widely distributing the survey, with additional reminders. Although unlikely, the online method employed may have caused little bias.

As there is an inverse distribution of practising dentists, resulting in higher burden of dental diseases in the community, there is an urgent need to reorient dental services at all levels, especially to the underprivileged and marginalised. This survey reports a clear need for charitable organisations such as the GCDFund to facilitate programmes to channel assistance (monetary, equipment and manpower) in order to provide local dental provision for the most disadvantaged communities in India.

The development of future oral health promotion and intervention programmes should consider and implement the results of this survey to benefit from a more comprehensive, robust and successful outcome.

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Conflict of interest

None declared.

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