

Dental Outreach Programmes-A Path to Develop Service Motive

Palli Chinna babu^{1*}, Srinivas Pachava²

Abstract

Inequitable distribution of dental work force and population ratio across rural and urban areas augmenting the need for oral health care services. In the present circumstances about 80% of dentists work in major cities in India, compared to the population where more than 68.84% Indians residing in the rural areas. To match the needs of growing population in rural areas there is a necessity of effective dental outreach programmes. In India most of the dental outreach programs were conducted by active participation of dental students with a supervision of dental teaching staff. Involvement of dental students to outreach activities at early stages of their academics will increase exposure to the real world and also increase service motive and sense of social responsibility which further motivates them to serve underserved population. Hence the review aimed to find out the role of various global dental outreach programmes in improving the dental health and service motive in dental students. Active search of literature was performed in pub med and Google scholar data bases electronically. Manually it was accomplished through key journals available in the library of institution and the search of articles was not precinct with the time frame. Most of the dental outreach activities by various cultures of the world are implementing at the first year of undergraduate level to build character among the students and the respective outreach programmes were funded by their government and colleges.

1. Postgraduate, Public Health Dentistry

2. Professor and Head of the Department of Public Health Dentistry

* Corresponding Author

Chinnababu Palli, Professor and Head of the Department of Public Health Dentistry

E-mail: dr.pallichinnababu@gmail.com

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Introduction

Oral health is not only essential for appearance and sense of well-being but also for the overall health. Poor oral health can directly affect the quality of life, appearance and self-esteem and has been linked to sleeping, as well as behavioural and developmental problems. Thus preserving good oral health includes both prevention of oral disease incidence as well as treatment of any existing conditions^{1,2}. Over the years significant advancement and importance for health has been noted. But this improvement has been distributed unequally across the population^{3,4}. One of the reasons for this conception is the presence of disparity between oral health professionals and the population they serve. About 80% of the dentists work in major cities in India, compared to the population where more than 68.84% of the Indians residing the rural areas^{3,9,10,12}. Even with a work force of 118000 qualified dentists in the country the most basic oral health education and simple interventions are also not available to vast majority of populations⁴¹. The progression of the oral diseases can be prevented by making an early identification, investigation and providing the appropriate treatment which is possible by introducing dental outreach programmes. The community based dental outreach programmes plays a very crucial role in declining the incidence of oral diseases by introducing awareness through health education and dental adumbrating services to the community members. These programs are found to be very effective for diminishing health disparity^{2,11}. An outreach program is complete entanglement between the community and the health institution or organizations. It is

an attempt by the organizing members to impart its objectives, opinions, skills and practices to the target population or general population there by generating awareness and improving oral health. Dental outreach programs are generally non-profitable organizations, which may be non-government or government and are directed towards the cost effectiveness and benefit of the community using the community itself as a resource^{2,3,6}.

Utilization of health care is a complex phenomenon and multifaceted human behaviour. The determinants of oral health care can be classified as predisposing (socio-demographic factors like age, sex, occupation, and social network), enabling (transportation, income, and information) and need (perceived health or professionally assessed illness) factors. If due to any reasons the patients cannot reach dentist, dentists must try to reach them. Outreach is an activity of providing services to populations who might not otherwise have access stationary but mobile, in other words they are meeting those in need of outreach services at the locations where those in need are^{3,5,6,7}.

To overcome the barriers pertaining to the predisposing, enabling, and need factors an effective treatment based community dental outreach programmes were in need and the success of community based dental outreach programs highly depends on the ability and commitment of dental doctors. In India most of the outreach programs were conducted by active participation of dental students with a supervision of dental teaching staff. Involvement of dental students at early stages of their academics will increase exposure to the real world and also increase their service motive. Hence the review aimed to find out the role of



various global dental outreach programmes in improving the dental health and increasing service motive in the dental students.

Materials and Methods:

1. Search Strategy

The analysis was based on a review of literature performed in pub med, Google scholar data bases electronically. Manually the analysis was accomplished through key journals available in the library of the institution and the search of articles was not precinct with the time frame. The covetable articles published in English were elected for the analysis. In addition a search was made of the articles referenced in the selected articles. The key words employed to search databases were dental outreach, community based dental education, community service, extramural dental programs, dental camps, dental visit, self medication, service learning.

2. Inclusion Criteria

The articles emphasizing outreach programs for oral health care were only considered.

3. Exclusion Criteria

The articles which full text not available were excluded. Articles which haven't emphasized the research objectives were excluded.

4. Data Collection

The convoked documents included original articles, reviews, editorials, cover stories and short reports. A total of 34 articles were retained and thoroughly inspected to be included in the final analysis. Finalized articles were categorized based on indexation. Out of 34 articles 16 were pub med, 18 were non pub med indexed articles. In 16 pub med indexed articles most of them were US and UK based and in non pub med 12 were Indian, 4 were US and the remaining was from Brazil.

Discussion

Dental outreach programme and teaching take place at sites outside university teaching hospitals or clinics, usually under the direction and guidance of academic departments. There are two major reasons for establishing dental outreach teaching programmes with development of an increasing number of auxiliary dental health personnel, there is a need for training the students in a setting based on utilization of oral health care work force acting as a team and to familiarise the students with real world conditions²¹. For that academic curriculum should allow the students to spend more time with the community based services rather spending within the four walls.

In this context several states of the America, and European countries were well ahead as they are enforcing several students based outreach activities in their academic curriculum and made it mandatory for the students to attend right from their freshman year of dentistry. Hence the study mainly focused to discuss various outreach activities practiced by different cultures globally to aware the students to understand about the importance, drawbacks and need of dental outreach programme.

Various outreach programs practiced by different cultures:

United States

New York state dental foundation (NYSDF) has established a student outreach scholarship to help dental students and resident participants in dental outreach programs. The maximum scholarship which is intended to be a matching fund for actual expenses incurred in attending the outreach program \$1000 per student or resident. In establishing the student outreach scholarship the NYSDF board agreed that such experiences can be vital, even life changing and could lead to future commitment to public health dentistry or volunteerism. NYSDF board likened the scholarship to a well known adage "the fact that applicants must come up with a matching sum applied to our board members; it sort of like saying, give a man a fish and you feed him for a day, teach a man to fish and you feed him for a life time"¹³.

Milwaukee (Mid western United States)

Marquette University School of Dentistry (MUSOD) has a mandatory oral health educational rotation program for all first year dental students. This rotation titled "school daze" is school based oral health education and promotion program focussed on oral anatomy, nutrition and oral health care for Milwaukee public schools, third grade children. MUSOD school daze is a student-driven program supervised by dental public health faculty members. The program is designed primarily to foster positive attitudes towards school and community based efforts among first year dental students at a formative period in their dental education. The students are responsible for contacting the school, preparing teachers and implementing a lesson plan. These activities in still a sense of ownership of the program among the students. School daze is intended to enhance the skills and experience of emerging dentists in their participation in oral health education and promotion programs. The program provides an opportunity for dental students to directly interact with youths, teachers and staff at these schools. This opportunity tends to have a positive impact on the students in terms of cultural competence and comfort level in working with the underserved population in school based settings²⁷.

Brazil

In Brazil at the school of dentistry at the university Sao Paulo, offers the unique experience of working with primitive people (Native Indians), facing a different culture and environment to promote oral health. This extra mural program is called "Huka-Katu" (which means beautiful smile in the local language) currently 4 visits have being realized every year in the *aldeias* (name given to a local indigenous community). For the Huka-Katu project dental students live for about 20 days in the middle of the jungle, promoting oral health among the members of an indigenous community. Thus students have the opportunity to visit these communities and closely a different way of life, which helps them to understand and respect other cultures²³.

San Francisco (western United States)

The University of Southern California School of Dentistry (USCSD) implemented Doctors Out to Care (DOC) and Neighbourhood Mobile Dental Van Preventive Program

(NMDVPP) and all the freshman dental students at USC school of dentistry have been required to participate in two oral health programs during their freshman year. The DOC program in which students provide a series of classroom oral health promotion programs based on the national institute of health curriculum "open wide trek" (OWT). The NMDVPP two half day clinical rotations in which the students place dental sealants and provide topical fluoride for at risk ELEMENTARY school children in the USC neighbourhoods. This programs were intended to increase the sense of social responsibility, the sense of dentist/student responsibility in caring for the underserved, the students feelings of self efficacy and their attitudes about an individual right to access dental care²⁸.

United Kingdom

Cardiff model of outreach training is a community based outreach program developed by Cardiff University at St. David's hospital in 2002. Dental students of this university visit this unit throughout their dental school programme as an assistant or observer initially in, but gaining a significant amount of clinical operating experience within the unit during their final year of studies. The programme has a staff to student teaching ratio of 1:6 and to encourage further interaction amongst the dental team usually dental hygiene students operating in the same clinic simultaneously. After the end of their graduation students were asked to give a feedback, Most of the students reported that their learning experience at the St. David's outreach teaching programme had been of significant assistance in their professional development in their subsequent clinical careers²⁹.

Arizona (western United States)

In 2006, the Arizona School of Dentistry & Oral Health at A.T. Still University (ATSU ASDOH) implemented an intensive community-based education program for its inaugural fourth-year students called the Integrated Community Service Partnerships (ICSP) program. As part of the ICSP program, students spend half of their clinical experience (approximately ninety-five days) in rotations at four or five community-based clinics. More than sixty clinics in Arizona and throughout the country serve as rotation sites. The intensity, scope, and focus on service in the ICSP program are unique in that other community-based programs described in the literature have fewer total sites, **lack** sites outside the immediate region or state of the school, or are not restricted to public health sites. In addition, while students in the majority of schools spend an average of 263 hours in community sites, students at ATSU ASDOH spend 800 hours or more at community sites³⁰.

The above mentioned programmes had given a lot of working hours and opportunity, to the students to expose themselves to the real life experiences and most of the programmes were funded by their respective colleges and governments.

Community based services involving students in India

National Service Scheme (NSS), under the Ministry of Youth Affairs & Sports Govt. of India, popularly known as NSS was launched in Gandhiji's Birth Centenary Year 1969, in 37 Universities involving 40,000 students with primary focus on the development of personality of students through

community service. Today, NSS has more than 3.2 million student volunteers on its roll spread over 298 Universities and 42 (+2) Senior Secondary Councils and Directorate of Vocational Education all over the country. From its inception, more than 3.75 crores students from Universities, Colleges and Institutions of higher learning have benefited from the NSS activities, as student volunteers.

The Motto of NSS "Not Me But You", reflects the essence of democratic living and upholds the need for self-less service. NSS helps the students develop appreciation to other person's point of view and also show consideration to /other living beings. The philosophy of the NSS is well doctrine in this motto, which underlines/on the belief that the welfare of an individual is ultimately dependent on the welfare of the society on the whole and therefore, the NSS volunteers shall strive for the well-being of the society³⁹.

The Swasthya Vidya Vahini (SVV)

Government of Andhra Pradesh (AP), India has launched **Swasthya Vidya Vahini scheme** for school going children's in Andhra Pradesh. The objectives of the Swasthya Vidya Vahini (SVV) are educating the public to promote sanitation and hygiene in villages and to build a Swatch Andhra Pradesh. It also aims to educate people about preventive health care and promote a healthy living style. The students will educate mothers in Anganwadis, the schoolchildren and villagers regarding healthy living.

***Programme outline-** Teams of students are to visit villages with messages to promote health. Senior students drawn from medical, dental, Ayush, nursing and home science colleges are involved in this programme. They are attached to a Mobile Medical Unit which provides the service delivery. This is to mean that clinic on wheels and SVV programme will be held simultaneously in a village on a fixed day once in a month. The main focus of health education by SVV team will be – Anganwadi centres, schools and the level of community based on the village health profile. Each team has two students and they are fixed/attached to one gram Panchayat for a period of 10 months in academic year (sparing the April and may months for exams and vacation) and it is planned in such a way that each student will involve in this programme for only one fixed day to a fixed village in a month³⁷.*

Government of Andhra Pradesh has taken an initiative by implementing Swatch Vidya Vahini for health promotion to improve the health literacy of rural population by addressing the social determinants of health at the community and school environments. Along with the government organisations, students from private medical, dental, ayush nursing and home science colleges are involved in this program.

In the context of dentistry Swatch Vidya Vahini is one of the unique programs where for the first time public health dentist has directly involved as one of the organising committee members in a government based community health schemes. The head of the public health dentistry is responsible for allocating dental student teams to particular villages as per the schedule and plays a pivotal role in developing students character towards service motive.

Most of the colleges are implementing outreach activity at first year of undergraduate level to increase service motive and sense of social responsibility, thus they are encouraging and building character among the dental students at early stages of their academics²⁹. And the students who attend outreach programmes were funded by the government¹³. In

India the undergraduate dental training programme leading to BDS degree shall be of 5 years and the students were posted in Public Health Dentistry department right from the third year, even though their academic examination will be given in fourth year of BDS. Though students were exposed to outreach activities from third year of under graduation, the time spent by individual really doesn't give enough exposure to build sense of social responsibility among them. So the government and management of dental colleges should support implementing outreach activity at early years of academic curriculum.

Recommendations:

1. Implementing national level students outreach fund by which the students who are attending national level outreach activity have to be funded by the government¹³.
2. Enforcing outreach activity in the first year of under graduation²⁸.
3. Promoting treatment based community health services⁶.
4. The government should include oral health in family welfare programs as in countries like Brazil and Netherlands⁵.
5. Since high cost is one of the main barriers to utilization of oral health care, social and economic upliftment through policies addressing the issues of sickness and rehabilitation benefits, maternity and child benefits, unemployment benefits, housing policies, health care facilities, and women empowerment is crucial for the successful delivery of oral health services¹.

Conclusion

Dental outreach activities are necessary in the present scenario to provide basic health care to the rural and underserved population. Lack of sufficient workforce and infrastructure augmenting the need of community based health services. To meet the growing population needs we need to increase the dental work force in rural areas but increasing the number of dentists is merely helping, as they are highly potential to migrate to urban areas on account of lack of resources, but inculcating social sense in dentists from undergraduate level develops responsibility among them is highly capable to meet the rural needs. In order to insert sense of social responsibility in to the dentists, Through Public health dentistry, Dental Council and Government of India should act collectively to execute the outreach activity in early years of undergraduate academics. Since high cost is one of the main barriers to utilization of oral health care, social and economic upliftment through policies addressing the issues of sickness and rehabilitation benefits, maternity and child benefits, unemployment benefits, housing policies, health care facilities, and women empowerment is crucial for the successful delivery of oral health services.

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Conflicts of interest

There are no conflicts of interest.

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References

1. Vashisth S, Gupta N, Bansal M, Rao N.C. (2012). Utilization of services rendered in dental outreach programs in rural areas of Haryana. *ContempClin Dent.* 3:164–6.
2. RushabhDagli , Amarpreet Singh, Dental Outreach Program – How Effective it is in Reaching Out to the Community, *Journal of International Oral Health* 2015; 7(5): 1-2.
3. HimanshuAeran, Sujata Saxena, Gagan Sharma, Ethics In Dental Outreach Program: Need Of The Day, *Guident*; 2015, 68 – 70.
4. Abhinav Singh, Bharathi M. Purohit, Addressing oral health disparities, inequity in access and workforce issues in a developing country, *International Dental Journal* 2013; 63: 225–229.
5. Singh Abhinav, Purohit M Bharathi, dental public health a mistaken identity, *advances in life science and its applications* 2012, 1(3), 58-60.
6. [http:// www.incisorsandmolars.com/ dentalarticles/ outreachprogram.html/](http://www.incisorsandmolars.com/dentalarticles/outreachprogram.html/) accessed on 22/05/2017.
7. [UmashankarGangadhariahKadaluru](#), [Vanishree Mysore Kempraj](#), [PramilaMuddaiah](#), Utilization of oral health care services among adults attending community outreach programs, *. Indian J Dent Res* 2016, 23 (6), 841-842.
8. [Arun K Simon](#), [Ashwini Rao](#), [Gururaghavendran Rajesh](#), [RamvaShenoy](#), [Mithun B. H Pai](#), Trends in self-medication for dental conditions among patients attending oral health outreach programs in coastal Karnataka, India, *Indian J Pharmacol* 2015; 47; 524- 529.
9. HarshitaPawar , SabyasachiSaha , GV Jagannath , MintiKumari , RidhiNarang , Ekta Singh, Effectiveness of Outreach Program: A Three Year Follow-Up Study Among 12 Years School Students in Lucknow, *Journal of Clinical and Diagnostic Research.* 2015 Jan, Vol-9(1): 35-38.
10. Kailash Asawa, Nikhil V. Bhanushali, MridulaTak, Dola Rama VenkataKumar,MuhammadFurqon Bin Abd Rahim, Obaid Abdullah Alshahran, DarshanDevangDivakar, Utilization Of Services And Referrals Through DentalOutreach Programs In Rural Areas Of India.A Two Year Study. *RoczPanstwZaklHig* 2015;66(3):275-280.
11. VaibhavVashishtha, BasavarajPatthi, Ashish Singla, Ritu Gupta, RavneetMalhi, Venisha Pandita. Patient satisfaction in outreach dental programs of a DentalTeaching Hospital in Modinagar (India), *Journal of Indian Association of Public Health Dentistry* 2015; 13(3), 324- 327.
12. Shrestha A, Doshi D, Rao A, Sequeira P. Patient satisfaction at rural outreach dental camps-a one year report. *Rural Remote Health*,2008;8:891.
13. <http://nyshealthfoundation.org/resources-and-reports/resource/donated-dental-services>
14. M. Smith, M. A. Lennon and P. G. Robinson, RCT Of The Effects Of Block Absence For Outreach Placements On Dental Students' Finals Grades, *Eur J Dent Educ* 13 (2009) 28–30.
15. Simon Sweetnam, Dental Students Reach Out To Nepal, *Journal Of The Irish Dental Association*, 2012, Volume 58 (5), 234
16. Michael H. Walter et.al, Oral Health Related Quality Of Life and Its Association with Sociodemographic and Clinical Findings in 3 Northern Outreach Clinics, *jcd* 2007, 73 (2), 153a-153e.
17. Smith M, Lennon MA, Brook AH, Blinkhorn AS, Robinson PG. A randomized controlled trial of effect of outreach placement on treatment planning by dental students. *Br Dent J* 2006;Suppl: 27–31.
18. Mugleston, Cody. “[Giving Back and Changing Lives: The Impact of Dental Outreach.](#)” *Dental Economics.* Dentistry Network, 13 Nov. 2015. Web. 3 Dec. 2015.

19. Strauss RP, Stein MB, Edwards J, Nies KC. The impact of community-based dental education on students. *J Dent Educ* 2010;74(10 Suppl):S42–55.
20. CJ Lautar , FY Miller, Service-Learning and Dental Hygiene: A Literature Review, *Journal of Dental Hygiene*,2007, 81(3), 1 – 10.
21. H. M. Eriksen, M. Bergdahl, L. Byrkjeflot, C.-G. Crossner, E. Widstro, A. Tillberg, Evaluation of a dental outreach teaching programme, *Eur J Dent Educ* 2011, (15), 3–7.
22. Michael Carabash, Mission Accomplished! 2015 Jamaica Dental Outreach Project: Ontario Dentists, Hygienists, And Dental Students Volunteer In Jamaica, *Oralhealthgroup.Com | Oral Health Office | October 2015*.
23. [Alexandre FaveroBulgarelli](#), [Renato Cassio Roperto](#), [Soraya FernandesMestriner](#), [Wilson Mestriner](#), Dentistry students' perceptions about an extramural experience with a Brazilian indigenous community, *Indian J Dent Res [serial online]* 2012, 23 (4), 498- 500.
24. A.Bhayat, M.S. Mahrous, B Pharm, Impact of outreach activities at the College of Dentistry, Taibah University, *Journal of Taibah University Medical Sciences* 2012, 7(1), 19–22
25. Mithun. Pai. RamyaShenoy, Rajesh G.,VijendranathNayak, Ashwini Rao, Informed Consent In a Dental Outreach Program - What patients want to know before their dental treatment?, *International Journal of Advanced Research* (2014), Volume 2, Issue 1, 537-543.
26. Ali Sahlabadi, FiroozehNilchian , MasoomehSkini, Portable Dental Chairs and Their Role in Assisting the Community Outreach Program- a Qualitative Approach, *Journal of Dentistry, Tehran University of Medical Sciences*,2013; 10 (.3), 233- 239.
27. David Gundersen, D.D.S., M.P.H.; Pradeep Bhagavatula, B.D.S., M.P.H., M.S.; Jessica E. Pruszyński, Ph.D.; Christopher Okunseri, B.D.S., M.Sc., F.F.D.R.C.S.I.Dental Students' Perceptions of Self-Efficacy and Cultural Competence with School-Based Programs. *J Dent Educ* 2012;76(9):1175–1182.
28. Holtzman JS, Seirawan H. Impact of community-based oral health experiences on dental students' attitudes towards caring for the underserved. *J Dent Educ* 2009; 73(3):303–10.
29. Christopher D. Lynch, Peter J. Ash, Barbara L. Chadwick, Ailish Hannigan, Evaluation of a U.K. Community-Based Clinical Teaching/Outreach Program by Former Dental Students Two and Five Years after Graduation, *J Dent Educ* 2010; 74(10):1146–1152.
30. Kathleen M. Mathieson, Michelle L. Gross-Panico, Wayne W. Cottam, Janet L. Woldt, Critical Incidents, Successes, and Challenges of Community-Based Dental Education, *J Dent Educ* 2013,77(4):427–437.
31. P. Waterhouse, A. Maguire, D. Tabari, V. Hind and J. Lloyd, The development of a primary dental care outreach course, *Eur J Dent Educ* 12 (2008) 8–16.
32. [Kittu Jain](#), [M Pramila](#), [Archana Krishnamurthy](#), [GK Umashankar](#), [S Rangnath](#), [S Geetha](#), Patient satisfaction at outreach dental program and dental institution - A comparative study, *JIAPHD*. 2013;11 (2): 34-39.
33. MariyaVolvovsky,DmitryVodopyanov, Marita R. Inglehart, Dr. phil. Habil, Dental Students and Faculty Members' Attitudes Towards Care for Underserved Patients and Community Service: Do Community-Based Dental Education and Voluntary Service-Learning Matter?, *J Dent Educ* 2014,78(8):1127–1138.
34. Okeigbemen S. Ajimen, Nnawuihe C. Ukachi, Oral health trends and service utilization at a rural outreach dental clinic, *Udo, Southern Nigeria, J IntSoc Prevent Communit Dent* 2015;5:S118-22.
35. https://www.ada.org/~media/ADA/Member%20Center/Files/cdc_sterilization.ashx/accessed on 21/05/2017
36. <http://health.bih.nic.in/Docs/Guidelines/Guidelines-PHC-2012.pdf> /accessed on 22/05/2017
37. <http://www.aponline.gov.in/apportal/Index.asp>,http://govinfo.me/swasthya-vidya-vahini_school-students-andhra-pradesh/ accessed on 23/05/2017.
38. http://censusindia.gov.in/2011provresults/paper2/data_files/india/Rural_Urban_2011.pdf/accessed on 24/05/2017.
39. https://en.wikipedia.org/wiki/National_Service_Scheme/ accessed on 24/05/2017
40. Rossella Ferrari, Writing Narrative Style Literature Reviews, *Medical Writing*2015, 4, 230-235.
36. <http://health.bih.nic.in/Docs/Guidelines/Guidelines-PHC-2012.pdf>/accessed on 22/05/2017
37. <http://www.aponline.gov.in/apportal/Index.asp>,http://govinfo.me/swasthya-vidya-vahini_school-students-andhra-pradesh/ accessed on 23/05/2017.
38. http://censusindia.gov.in/2011provresults/paper2/data_files/india/Rural_Urban_2011.pdf/accessed on 24/05/2017.
39. https://en.wikipedia.org/wiki/National_Service_Scheme/accessed on 24/05/2017
40. Rossella Ferrari, Writing Narrative Style Literature Reviews, *Medical Writing*2015, 4, 230-235.
41. Tandon S. Challenges to the oral health workforce in India. *J Dent Educ* 2004; 68; 28-33.