

# Influence of Geographical and Socioeconomic Factors in Patient Inflow in Hospitals: Original Research

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## Abstract

**Background:** Socioeconomic status (SES) and geographical proximity form dental care unit has been reported to be associated with lack of concern to dental health. Therefore, the present study was conducted to assess the relationship between SES and geographical factor affecting number of case reporting to the five different dental clinics across India. **Materials and Methods:** A probability sampling was done to select dental clinic among five major cities across the north India. After selecting the dental clinic a cross sectional study was conducted to assess the relationship between SES and geographical factor affecting number of case reporting to the selected dental clinic of major cities. All the subjects were evaluated and questioned regarding locality from where they arrived, their occupation and annual income to reach to the conclusion of their geographic location from clinic and socioeconomic status. This cross sectional study was carried for a period of six months. After collecting data from all five clinics unpaired t test was done to find out the significance of the study. **Results:** a total of urban classified patient in five clinics were 2672 whereas low socioeconomic and rural patients were 666. Comparison of mean Urban and Rural OPD frequencies per month over six months in various cities was made on the basis of unpaired t tests. The mean value for different cities between urban and rural population are as follow for Jaipur urban pt. were 43.17 and rural pt. 12.67. For Ahmadabad mean value for urban pt. 87 whereas rural pt. 21.67. For Nagpur and Pune mean value for urban pt. was 95.67 and 101.67 and for urban pt. 27.50 and 23.33. Lastly for Hyderabad mean value for urban pt. was 117.83 and rural pt. 25.83. Unpaired t test for all the five centres showed p value less than 0.001 concluding the difference among the group are highly significant. **Conclusion:** The dental health care needs are very high both in rural and urban areas in spite of basic facilities available in urban areas. This study demonstrates that the notion of access is a multi-dimensional concept, whose composition varies with location, according to the facility being considered and the health and socio-economic status of the individual concerned. There is obvious disparity among the rural and urban patients mobilization for dental care needs. Lack of awareness, transport facilities or poor economic condition may provide resistance for rural patients to avail dental care facilities.

**Keywords:** Influence of Geographical and Socioeconomic Factors in Patient Inflow in Hospitals.

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## INTRODUCTION

Every society provides distinct platform for the dental health care facilities according to the affordability of seekers and locality of health provider. India is a land of civilizations, unique in factors such as social mindset, prevalent beliefs and customs. All through the ages Indian societies in its attitude toward oral health has been giving less importance as compared to general health. There has been a lack of identification of oral health deterioration by the people

and extensive acceptance of morbidity which lead to widespread prevalence of oral diseases. Awareness about oral health and its impact on general health and well-being has been over looked. This has largely been made possible by continual non-availability of oral health services in their proximity and lack of elementary education in such matters [1]. Attitude of an individual is framed by their beliefs and the common belief of most of the people has been that dental treatment is unbearably painful; this has led to people

ignoring their oral health to an extent [2]. It has been observed patients reach to dental clinic as a last resort dogging all the pain and oral health care needs. This may be because the fear of money loss and most of the time they wait for themselves to heal on their own. Due to delay in reaching a clinic, there is added morbidity to the patient which in turn leads to added costs and the vicious cycle of delay perception that the treatment is expenses continues. This attitude is more observed with dental health related behaviour. The shift of paradigm has been seen in higher socioeconomic society where proper care has been taken regarding dental problem. It might be the awareness, affordability or society pressure in matter of aesthetics or function. But it's not the case with those who stays in rural areas where dental health care is still out of reach. And it's the money who plays an important role either in travelling far to get treated or paying for same. Therefore it is a challenge to upgrade the oral health care delivery system to improve the people's oral health [3]. Regular dental attendance leads to better oral health outcomes and improves people's quality of life [4]. This study focuses on number of rural patients with low economic status vs nearby patient with average to high economic status visits to the specified dental clinic for over six months in different parts across India.

### MATERIALS AND METHOD

The undertaking to this study was adhered to the ethical regulation under which data collection, analysis and informed consent were signed. A probability sampling was conducted across India to select one clinic in five different major cities namely Jaipur, Ahmadabad, Nagpur, Pune and Hyderabad. Criteria for selection of the clinic were, it has to be well connected with transport facilities with cost regulation should be under strict mandate of dental council of

India. After selection of clinic a cross sectional study was conducted for a period of six months by comparing total number of OPD registered from rural or low socioeconomic against urban patient. A set of questionnaire was prepared for demarcating the line between rural and urban OPD. Distance been travelled to reach to clinic, whether area comes under taluka place or under gram panchayat. Urban categorization was made by asking the patient that whether his residence belongs to municipality, corporation, cantonment board or notified town area? For socioeconomic status patients occupation and annual income was questioned. After collection of data from all five clinics for a period of six months unpaired t test was conducted to find the significance of the study.

### RESULTS

Present study included 666 rural and low socioeconomic patients and 2589 urban patients in five different clinics across India over six months. There was a huge difference recorded in general OPD between rural and urban population. In Jaipur clinic out of 335 patients only 76 belonged to low socio and rural area. In Ahmadabad out of 652 patients 130 belonged to low socio and rural residency. While Nagpur and Pune combined 1489 OPD were done out of which only 305 patients belong to low socio and rural area. Lastly in Hyderabad maximum OPD of 862 was recorded but only 155 belonged to low socio and rural area. Unpaired t test was conducted to come to a conclusion of study whether it was significant to predict rural population were still lagging behind in terms of dental health care or not? Unpaired t tests results happened to be significant with p value less than 0.001 confirming the conclusion that rural patient need to more responsive and concern about oral health care.

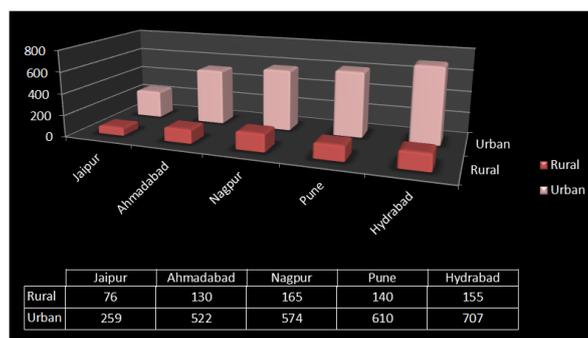


Chart-1: OPD of rural, low socio and urban patient in different cities

Table-1: Comparison of mean urban and rural opd frequencies per month over one year in various cities across the country

City	SES				p-value
	Urban		Rural		
	Mean	SD	Mean	SD	
Jaipur	43.17	6.43	12.67	6.89	<0.001
Ahmedabad	87.00	16.20	21.67	3.98	<0.001
Nagpur	95.67	12.36	27.50	7.06	<0.001
Pune	101.67	20.27	23.33	4.41	<0.001
Hyderabad	117.83	12.27	25.83	7.55	<0.001

## DISCUSSION

The results of this study indicated consistently higher incidence of OPD for oral-health-related conditions among the urban patients, compared with the rural. This trend remained consistent over a period of six months, and also remained consistent when analysed at other four centres of India. This finding clearly reflects the poorer oral health concern of groups in the population at the lower end of the socioeconomic scale. Oral health problems are a major health issue with a greater disease burden in India. Unfortunately these problems are often overlooked. Not only do these problems affect oral health but also compromise the quality of life. When it comes to consulting a dentist, several factors are considered by the patient before he/she chooses a dental service provider [5, 6]. A retrospective study was conducted to evaluate the type of patients, disease pattern, and services rendered in dental outreach programs in rural areas of Haryana, India [7]. A total of 1371 individuals attended the outreach program seeking the treatment. The results of the study indicated that utilization of dental services was found to be more if females than in males. The utilization of dental services was found to be influenced by the socio - demographic characteristics of the population like age, education, occupation, etc. The study concluded that there was need to motivate people giving them information but paying attention to the individual reasons which restricted their behaviour [8]. Results of another cross-sectional survey [9] conducted to investigate and compare the influence of social and cultural factors as access barriers to oral health care amongst people from various social classes in Pimpri, Gujarat indicated that irrespective of the social class difference, 88% participants wished to seek only expert/professional advice for the dental treatment. Unavailability of services on Sunday, going to dentist only when in pain, trying self-care or home remedy, inadequate government policies, and budgetary constraints were among the major access barriers which proved to be an obstacle in utilization of dental care. Whereas a World Health Survey (WHS) conducted in 2003 Overall, 28% of respondents reported oral health problems in India. West Bengal (42%) has the highest proportion of respondents with oral health problems. Respondents treated for oral health problems ranges between 21% and 28%, except West Bengal. Prevalence of oral health problems does not systematically vary by residence, insurance status, and by income quintiles [10]. Of those who were diagnosed with oral health problems, 51% have been treated. The percent of respondents treated for oral health problems is highest in Karnataka (72%) and lowest in Assam (26%). Prevalence of oral health problems is higher among females than in males. However, the percentage who received treatment for oral health problems do not vary much by sexes. A higher percentage of urban and higher income quintile respondents received treatment for oral health problems [10]. Talking about the study

outside India previous surveys have emphasised the higher levels of dental caries and lack of treatment concern in Australia among those who are lower on the socioeconomic scale [11, 12]. Numerous studies have demonstrated this social gradient, not just in Australia [11, 13-15] but it is a worldwide phenomenon [16] The study results also indicate that for many, poor oral health ultimately result in hospital admissions, meaning that the condition is not possible to be managed in the primary care system.

## CONCLUSION

Results of the present study show that socioeconomic status and geographical factors does influence the break of patient to the dental clinic. Patient who belongs to panchayat or taluka place doesn't travel far to city to get treated. Other factors like treatment cost, lack of proper knowledge and absence of travel facilities also plays its role. Although it can be very superficial to predict that only these factors governs incidence of patients reporting to dental clinic. There are many confounding factors which can alter the result because this is a subjective study and have numerous variables which can influence turning up of rural population to hospital. The influence of socioeconomic determinants of health is evident when analysing these hospitalisations. Although the importance of social determinants in oral health is now widely acknowledged, public policy seems to still be focused largely on individual behaviour. Recognition, however, those lifestyle choices are severely restricted among the most marginalised and disadvantaged groups in the population can no longer be ignored in attempts to reduce health inequalities.

## REFERENCES

1. [http://www.who.int/governance/eb/who\\_constitutio\\_n\\_en.pdf](http://www.who.int/governance/eb/who_constitutio_n_en.pdf) (last accessed on 16 Nov 2012).
2. "National Oral Health Survey and Fluoride Mapping." (2002):03.
3. <http://www.census2011.co.in/census/state/haryana.html> (last accessed on 16 Nov 2012)
4. Varenne, B., Petersen, P. E., & Ouattara, S. (2004). Oral health status of children and adults in urban and rural areas of Burkina Faso, Africa. *International dental journal*, 54(2), 83-89.
5. Singh, G. P., & Soni, B. J. (2005). Prevalence of periodontal diseases in urban and rural areas of Ludhiana, Punjab. *Indian J Community Med*, 30(4), 127-9.
6. Rao, C. N., & Metha, A. (2010). Dentition status and treatment needs of 12 year old rural school children of Panchkula district, Haryana, India. *J Indian Dent Assoc*, 4, 303-5.
7. Arora, G., & Bhateja, S. (2015). Prevalence of dental caries, periodontitis, and oral hygiene status among 12-year-old schoolchildren having normal occlusion and malocclusion in Mathura city: A

- comparative epidemiological study. *Indian Journal of Dental Research*, 26(1), 48.
8. Vashisth, S., Gupta, N., Bansal, M., & Rao, N. C. (2012). Utilization of services rendered in dental outreach programs in rural areas of Haryana. *Contemporary clinical dentistry*, 3(Suppl 2), S164.
  9. Garcha, V., Shetiya, S. H., & Kakodkar, P. (2010). Barriers to oral health care amongst different social classes in India. *Community dental health*, 27(3), 158.
  10. World Health Organization, & International Society of Hypertension Writing Group. (2003). 2003 World Health Organization (WHO)/International Society of Hypertension (ISH) statement on management of hypertension. *Journal of hypertension*, 21(11), 1983-1992.
  11. Slade, G. D., Spencer, A. J., & Roberts-Thomson, K. F. (2004). Australia's dental generations. *The national survey of adult oral health*, 6(2007), 274.
  12. Healthy Mouths. (2004). *Healthy Lives: Australia's National Oral Health Plan 2004–2013* Prepared by the National Advisory Committee on Oral Health. South Australian Department of Health: Adelaide, SA, Australia.
  13. Australian Institute of Health and Welfare. (2014). *Oral health and dental care in Australia: key facts and figures trends 2014*.
  14. Harford, J. E., & Islam, S. (2013). *Adult oral health and dental visiting in Australia: results from the National Dental Telephone Interview Survey 2010*. Australian Institute of Health and Welfare.
  15. Chrisopoulos, S., Luzzi, L., & Brennan, D. S. (2013). Trends in dental visiting avoidance due to cost in Australia, 1994 to 2010: an age-period-cohort analysis. *BMC health services research*, 13(1), 381.
  16. Locker, D. (2000). Deprivation and oral health: a review. *Community Dentistry and Oral Epidemiology: Commissioned review*, 28(3), 161-169.