

ORIGINAL RESEARCH

Self-reported Barriers to Regular Dental Care in Chennai, Tamil Nadu

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ABSTRACT

Aim: The aim of this study was to assess the self-reported barriers to regular dental care in Chennai city, Tamil Nadu.

Materials and methods: The cross-sectional study was done on 352 people, aged 18 to 60 years in Chennai, Tamil Nadu. The study included 154 males and 196 females. The samples were selected by stratified random sampling and a 10 item questionnaire was given. Level of significance was set at <0.005, with 5% alpha error and 95% confidence interval.

Results: Factor analysis revealed the factors of barriers which were daily brushing, practical reasons, unpleasant experiences, laziness and lack of appreciation. Sex showed significant correlation with reasons preventing daily brushing. The more educated the patients were the fewer barriers they had related to unpleasant experiences and factors of appreciation and laziness. The older people had more barriers relating practical reasons.

Conclusion: The most significance reasons found were lack of knowledge, lack of interest, long distance to a particular dentist, restraint work.

Keywords: Irregular dental care, Unpleasant experiences, Factor analysis.

How to cite this article: Nandhini L, Barani K, Prabu D, Manipal S, Ahmed A, Adusumilli P. Self-reported Barriers to Regular Dental Care in Chennai, Tamil Nadu. *J Orofac Res* 2013;3(3):161-165.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Regular home oral care and yearly dental check-up are best means of saving our teeth.¹ Barriers to accessing and accepting dental care could be within a 2% frame work which reflected in the dentist patient relationship.² Barriers preventing dental care also include the race, age, ethnicity, income, education and many other factors as discussed by Asuman Kiyak et al.³ The effective use of dental health service is a great importance, among factors affecting oral health status of a population.⁴ Socioeconomic inequalities in oral health are also very common and it may be related to social, environmental, and also political factors.⁵

The relationship between socioeconomic status and oral health is well-established.⁶ Donaldson et al investigated whether the association between socioeconomic status and the number of sound teeth in adults is explained by dental attendance patterns, in turn determined by the effect of socioeconomic status on barriers to dental attendance.⁷

There is a suggestion that primary dental care services should be cited locally, if those from a deprived background are to attend on a regular basis which can be an important point to progress our study.⁸ In North Carolina, only 12% had a preventive visit in 1998.⁹ In USA dental disease is the most common health problem affecting children. Less than one of every five children enrolled in Medicaid use preventive services in a given year.¹⁰

The qualitative research done by Kajsa Henning Abrahamsson et al¹¹ increases our understanding of the oral health behavior of patients and emphasizes the importance of patient-centred oral health education. A related barrier to seeking dental care is the attitude of the individual toward oral health and toward dental providers.¹² Among sources of self-efficacy that prove important in dental care are the cognitive, experiential, supportive and emotional dimensions, and beliefs and values learned in the family and at school.¹³

Higher vulnerability of children toward both general health and dental health problems has been shown to be associated with preventive dental visits.¹⁴ A higher likelihood of seeking care has been found to be associated with dental knowledge.¹⁵ Persistent and consequential oral health disparities exist and to prevent them we require awareness, research, and translation of this knowledge into action.¹⁶ Changes are needed in resource allocation, in community organization, in the provision of effective dental care, and in individual behavior.¹⁷

To make the next generation to follow proper oral health behavior it is important to know the behaviors of adults and parents.¹⁸ The factors affecting care givers to children to access include lack of knowledge among caregivers and physicians of the consequences of oral disease among children, children's dental anxiety, and negative experiences with the dental care system.¹⁹ Reducing barrier to regular dental attendance and promoting regular dental attendance for low socioeconomic group may reduce oral health inequalities by proper oral hygiene programs.²⁰

MATERIALS AND METHODS

The cross-sectional study was done by collecting 352 samples from different zones of Chennai, Tamil Nadu—South, North, East and West. The sample size was calculated from similar studies done previously. Samples aged 18 to 60 years were chosen by stratified random sampling method

out of which which 154 were males and 196 were females. Ethical clearance was obtained from the Ethical Committee of Department of Public Health Dentistry, SRM Dental College. An informed consent was obtained from the subjects and the family members to distribute and interact with the people in a family. The first version of the questionnaire consisted of 10 items. After analyzing these data for 48 persons, the questionnaire was adapted for proper statistical coding, the anamnestic questions were clarified and 4 new questions were added.

The questionnaire included four items on reasons preventing daily home oral care and 10 on reasons preventing yearly dental check-ups. These questions were put forward as: lack of knowledge, experimental rejection, situational, personal reasons and suspended judgment. It was difficult however to find reasonable connections between the items, so factor analysis was done to correspond better to dental care. The subjects were also asked about their participation in oral hygiene instructions and details of their previous dental care including questions about the time of last dental visit. The sampling was done by stratified random sampling method.

In the pretesting phase the questionnaire was analyzed by means of correlation coefficient. Factor analysis was performed. Five principal components namely daily brushing (Factor 1), practical reasons (Factor 2), unpleasant experiences with dental care (Factor 3), laziness (Factor 4) and lack of appreciation (Factor 5) were analyzed against 14 independent variables that were perceived by individual patients as barriers relating to dental care. the analysis was done to evaluate the usefulness of the scale and factor scores were calculated. The connections between the factor scores and the background variables (sex, age, education, time of last dental visit and participation in oral hygiene instruction) were analyzed. The study was conducted during the month of January and February, 2012. Level of significance was set at <0.005 , with 5% alpha error and 95% confidence interval. After filling up the questionnaire, data collected was entered into a spread sheet, SPSS version 15.0 was used for data analysis.

RESULTS

Kaiser-Meyer-Olkin test value is 0.786 which is extremely allowable to go on factor analysis and shows that the questionnaire measures the causes of defective dental care in a homogeneous manner.

The questions dealing with daily brushing of the teeth formed the first factor in the factor analysis (I: daily brushing); the second consisted of practical, concrete reasons (II: practical reasons) and the third of unpleasant experiences

with dental care (III: unpleasant experiences). Questions concerned with symptomless cases and laziness formed the fourth factor (IV: laziness), and the fifth factor referred to the seriousness of dental diseases (V: lack of appreciation). The factor pattern and factor loadings for the scale are presented in Table 1.

From Table 1, rotated component matrix is exercised to find the maximum loading variable and the minimum acceptable factor loading value is 0.30. The component 1 has the maximum factor loadings for the variable lack of knowledge and lack of interest which has highly positive correlation on factor 1 (daily brushing). Likewise practical reasons, such as long distance to a dentist and patient having no symptoms that prevents dental visit were the components that had correlation with factor 2 (practical reasons). Restraint work was the component related to practical reasons. Lack of time and lack of seriousness were related to the factor lack of appreciation.

From Tables 2 to 6 when the factor scores based on the five factor solution were related to the background variables, sex showed significant correlation with daily brushing ($p = 0.021$). Women had fewer barriers to brushing their tooth daily. Age was the main barrier related to practical reasons ($p = 0.017$). The lower the education the more the participants had barriers related to unpleasant experiences ($p = 0.012$), laziness ($p = 0.004$) and lack of appreciation ($p = 0.024$).

Age was least significant pertaining to unpleasant experiences, laziness and practical reasons when compared to daily brushing and lack of appreciation. Older people had fewer barriers related to practical reasons such as time, expenses, fear, arranging appointment to a particular dentist when compared to younger people. Age factor did not carry any importance relating to unpleasant experience. Lack of appreciation in particular, forms distinctly smaller barriers among younger age groups and they also had fewer barriers related to daily brushing.

The logistic regression model supported the results in that sex was the most significant variables related to factor 1 (daily brushing). Further education was the variable which had an independent explanatory power for factor 3 (unpleasant experiences) and factor 4 (laziness). One of the most significant results was that the more education the subjects had, the fewer barriers to appreciation they had.

Sex had no effect on practical reasons and lack of appreciation but that due to laziness, daily brushing and unpleasant experiences were statistically significantly lower compared to other factors.

DISCUSSION

Subjective and personal reasons are mainly concentrated to restrict regular dental care because the individual himself

Table 1: Principal component method comparing all variables with 5 factors

Variables	Factors				
	1	2	3	4	5
Lack of Knowledge	0.666				
Lack of meaning	0.426	0.356		0.311	
Lack of time (morning or evening)	0.598			0.37	-0.37
Lack of interest	0.715		0.311		
Lack of time			0.315	0.605	
Difficulty in arranging the appointment		0.403	0.312	0.501	
Fear of dental procedure	0.396	0.526			
Expensive		0.508	0.379		
Long distance to a dentist		0.617			0.39
Restraint			0.808		
Laziness		0.337	0.467		
No symptoms		0.623			
Lack of seriousness				-0.686	0.83
Unpleasant experience	0.591				

Table 2: Principle background variables related to daily brushing

Factor 1	Variable	B	SE	WALD	df	p	Exp(B)
	Age	0.001	0.01	0.019	1	0.891	1.001
	Sex	0.517	0.223	5.356	1	0.021	1.677
	Education	0.619	0.278	4.956	1	0.26	1.858

Table 3: Principle background variables related to practical reasons

Factor 2	Variable	B	SE	WALD	df	p	Exp(B)
	Age	-0.029	0.012	5.699	1	0.017	0.971
	Sex	0.052	0.265	0.039	1	0.844	1.054
	Education	1.325	0.299	19.603	1	0	3.7761

Table 4: Principle background variables related to unpleasant experiences with dental care

Factor 3	Variable	B	SE	WALD	df	p	Exp(B)
	Age	-0.003	0.01	0.07	1	0.792	0.997
	Sex	0.24	0.223	1.161	1	0.281	1.271
	Education	0.702	0.28	6.267	1	0.012	2.018

Table 5: Principle background variables related to laziness

Factor 4	Variable	B	SE	WALD	df	p	Exp(B)
	Age	-0.005	0.01	0.294	1	0.588	0.995
	Sex	0.265	0.222	1.426	1	0.232	1.304
	Education	0.786	0.276	8.135	1	0.004	2.195

Table 6: Principle background variables related to lack of appreciation

Factor 5	Variable	B	SE	WALD	df	p	Exp(B)
	Age	0.014	0.01	2.196	1	0.138	1.014
	Sex	0.038	0.225	0.028	1	0.866	1.039
	Education	-0.641	0.284	5.086	1	0.024	0.527

is responsible for regular brushing and dental attendance.¹ Ruth Freeman developed the ideas for purpose of analyzing patient factor that forms a barrier to regular dental care. These ideas include many aspects which could also be used when analyzing barriers to dental care which focused on

adolescents and children, their parent attitude, two person endeavors between doctor and patient.²

More people are retaining their natural teeth and based on several studies it has been showed that dentate individuals utilize dental services than edentulous patients.³ More

awareness, training and health promotions should be done to make them seek dental care.⁴ Our study emphasises on taking dental health programs.

Žana Sakalauskien et al⁵ says the current cohort of elders varies widely in its use of dental services, from regular preventive users to nonusers who report that they have not been to a dentist in more than 20 years where availability of dental and medical insurance, urban vs rural residence, physical access to a dental office, and systemic and functional health plays major roles.⁶ Since, our country does not provide dental insurance for most of the common people we do not consider insurances as a major factor.

Research in medical and dental service utilization offers insights into the relative predictive ability of these variables. Dental providers can also be potent enablers or barriers to older adults' access to dental care.⁷ As per our study, dental providers are not potent barriers.

Mahyar Mofidi et al⁸ says the main reasons to access dental care were filling, extraction, denture, orthodontic treatment, and scaling and gum treatment. They have insisted on doing further research consisting of attitude, dental behavior and belief which has been included for our research.

Higher social class people, women, and individuals over 6 and fewer than 40 years tend to procure dental care most frequently.⁹ It was noted, through the review of a group of studies, people feel dental problems are not very serious, and that they seem to believe that taking dental action is not very salient.¹⁰ People who answered favoring lack of appreciation in our study had also same reasons. No conclusive data were found to demonstrate that the failure to seek dental care can be explained either by situational barriers or by psychological barriers.¹¹

Saunders CP, Roberts GJ¹² says besides gender and socioeconomic factors, oral health status, is related to dental attendance habits. In present study, oral health was measured by the self-reported number of teeth lost. The results confirmed a strong association between preventive dental attendance habits and the reported number of teeth lost.¹³

Jeannette F Rayner¹⁴ says the finding that the leading reason for not seeing a dentist within the preceding 12 months was a lack of a perceived need. Adults may not yet appreciate the interrelationship between oral health and general health.¹⁵ Despite an increased risk for other health problems compared with the general population and the possible impact of periodontal inflammation on glycemic control, dentate adults with diabetes are less likely than other people to have seen a dentist within the preceding year.¹⁶ Though systemic diseases were not considered in our study, it was found that people did not find any symptoms to visit a dentist was a major factor that formed a barrier.

Syrjälä et al¹⁷ says persistent direct relationship to socioeconomic status and number of sound tooth is explained by pathway; socioeconomic status – barriers to dental attendance-number of sound tooth. Kawamura M, Iwamoto Y¹⁸ suggests that reducing barrier to regular dental attendance and promoting it for low socioeconomic group may reduce oral health inequalities. By proper oral hygiene programs this could be effectively done which is evidently proved in our study were people who attended dental health programs were regular dental visitors than people who did not attend any program.

Many factors revealed aspects which have been shown earlier reasons to restrict dental care, but reasons such as laziness, restraint because of work, is a striking new feature in this respect.¹⁹ The results support the idea in order to motivate people successfully one, not only has to give them individual reasons which restrict their behavior but also educate them on regular dental care.²⁰

CONCLUSION

It has been proposed that factors combine together to construct barriers reducing the patient's ability to access dental health care. For adult patients the barriers include dental anxiety, financial costs of dental treatment, and perceptions of dental need and lack of access. For younger children their barriers to dental care will be affected by parental attitude and anxieties. For preadolescents and adolescent's dental attendance and compliance with preventive advice will be influenced by their stage of psychological development. Irrespective of the category of barrier to accessing dental care it is the place of the dental health professional to acknowledge that barriers exist and within the two-person endeavor which is the dentist-patient interaction, assist their patients to access and accept dental health care. More efforts are needed to better establish preventive oral health care habits in the community and among dental professionals.

REFERENCES

1. Syrjala AH, Knuutila ML, Syrjala LK. Reasons preventing regular dental care. *Community Dent Oral Epidemiol* 1992 Feb; 20(1):10-14.
2. Freeman R. The psychology of dental patient care: barriers to accessing dental care: patient factors. *Br Dent J* 1999;187:141-144.
3. Asuman Kiyak H, Reichmuth M. Barriers to and enablers of older adults' use of dental service. *Journal of Dental Education* 2005 Sep;69(9):975-986.
4. Stephen Kegeles S. Why people seek dental care: a review of present knowledge. *American Journal of Public Health and the Nations Health* 1961 Sep;51(9):1306-1311.
5. Žana S, Mačiulskienė V, Vehkalahti MM, Kubilius R, Murtomaa H. Characteristics of dental attendance among Lithuanian

- middle-aged university employees. *Medicina (Kaunas)* 2009;45(4):312-319.
6. Tomar SL, Lester A. Dental and other health care visits among US adults with diabetes. *Diabetes Care* 2000;23(10):1505-1510.
 7. Donaldson AN, Everitt B, Newton T, Steele J, Sherrieff M, Bower E. The effects of social class and dental attendance on oral health. *Journal of Dental Research* 2008;87(1):60-64.
 8. Mofidi Mahyar R, Rozier G, King RS. Problems with access to dental care for Medicaid-insured children: What caregivers think. *American Journal of Public Health* 2002;92(1):53-58.
 9. Harris Rebecca V, Haycox A. Public health: the role of team dentistry in improving access to dental care in the UK. *Br Dent J* 2001;190(7):353-356.
 10. Syrjälä, Hannele AM, Knuutila MLE, Syrjälä LK. Self-efficacy perceptions in oral health behavior. *Acta Odontologica* 2001;59(1):1-6.
 11. Abrahamsson, Henning K, Berggren U, Lillemor RM, Hallberg, Carlsson SG. Ambivalence in coping with dental fear and avoidance: a qualitative study. *Journal of Health Psychology* 2002;7(6):653-664.
 12. Saunders CP, Roberts GJ. Dental attitudes, knowledge, and health practices of parents of children with congenital heart disease. *Archives of Disease in Childhood* 1997;76:539-540.
 13. Patrick Donald L, Lee RSY, Nucci M, Grembowski D, Jolles CZ, Milgrom P. Reducing oral health disparities: a focus on social and cultural determinants. *BMC Oral Health* 2006;6(Suppl 1):S4.
 14. Rayner, Jeannette F. Socioeconomic status and factors influencing the dental health practices of mothers. *American Journal of Public Health and the Nations Health* 1970;60(7):1250-1258.
 15. Kelly Susan E, Binkley CJ, Neace WP, Gale BS. Barriers to care-seeking for children's oral health among low-income caregivers. *American Journal of Public Health* 2005;95(8):1345-1351.
 16. Edelstein BL. Dental care considerations for young children. *Spec Care Dentist* 2002;22(3):11S-25S.
 17. Syrjälä, Anna Maija H, Knuutila MLE, Syrjälä LK. Obstacles to regular dental care related to extrinsic and intrinsic motivation. *Community Dentistry and Oral Epidemiology* 1994;22(4):269-272.
 18. Kawamura, Makoto, Iwamoto Y. Present state of dental health knowledge, attitudes/behaviour and perceived oral health of Japanese employees. *Int Dent J* 1999;49(3): 173-181.
 19. Christensen, Boge L, Petersen PE, Krusturup U, Kjøller M. Self-reported oral hygiene practices among adults in Denmark. *Community Dent Health* 2003 Dec;20(4):229-235.
 20. Garcha V, Shetiya SH, Kakodkar P. Barriers to oral health care amongst different social classes in India. *Community Dent Health* 2010 Sep;27(3):158-162.

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