Common Oral Health Problems and Related Health Seeking Behavior among Young Adolescents in an Urban Resettlement Colony, East Delhi, India

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Abstract

Introduction: Oral health is an integral component of general health and poor oral health has a profound effect on the whole body. Oral health is indispensable for the wellbeing and good quality of life. India, a developing country, faces many challenges in rendering oral health needs of a community. The current study is conducted with objective 1) To assess the common oral health problems of 5-15 years young adolescents in a resettlement colony and 2) to study the related health seeking behavior among study subjects.

Methods: A community based cross-sectional study was conducted in a resettlement colony of East Delhi, India. Simple random sampling method was used to select the blocks and for selection of households from each block. Data collection was done using a pretested interview schedule and a complete oral cavity examination was done of all the subjects.

Results: Around half, that is 227 (49.3) of the subjects had one or more oral health problem, at the time of examination, while average oral health problem per child was 0.87. Common oral health problems found were problems of teeth 169 (36.8%), problems of gums 155 (33.7%), problems of lips 50 (10.8%), problems of oral cavity 24 (5.2%) and problems of tongue 5 (1.1%). Only 24 (10.5%) subjects have taken prescribed treatment, while others have not consulted for any oral health problem.

Conclusion: Oral health problems are present in half of the study population. The disease burden is large and oral health care received is very negligible. Awareness about the oral health and regular dental check-ups remain an important intervention for maintaining and promoting oral health.

Keywords: Delhi, Oral health problems, Young adolescents

Introduction

The WHO defines oral health as a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal diseases and other disease and disorders that affect the oral cavity.¹ Oral health is an integral component of general health and poor oral health has a profound effect on the whole body.
body. Oral health problems are the most common non-communicable diseases globally. Research has shown that there is a significant link between oral diseases and other health problems, such as diabetes, renal diseases, cardiovascular diseases including stroke as well as adverse birth outcomes such as pre-term deliveries and low birth weight babies.

Globally 60-90% of school aged children and nearly 100% of adults suffer from dental caries. The prevalence of caries is 60-65% in general population and that of periodontal diseases is 50-90%. Prevalence of caries is about 60-80% in children. About 16-40% of children are affected by dental trauma due to unsafe playgrounds, unsafe schools, road accidents or violence. Additional oral health problems during adolescents arise due to faulty dietary practices, substance abuse and interests like tongue or lip piercings.

Traditional treatment of oral diseases is extremely costly; it is the 4th most expensive disease to treat in most industrialized countries.

Oral health services are mainly limited to pain relief and emergency care and majority of them are provided by private dental practitioners. Children and adults suffering from severe tooth decay, teeth are often left untreated or are extracted to relieve pain or discomfort. Also there is lack of awareness and affordability to the dental facilities available. Preventive oral health care is very limited and needs to be strengthened. Oral health education and promotion is considered as a priority for school-children since they are at a high risk for dental diseases predominantly dental caries and gingival diseases; at the age of mixed dentition. A good understanding of barriers to health care utilization in the field of oral health is necessary while implementing a new program to bridge the gap between unmet needs and the amount of care sought. Despite great achievements in the oral health of populations globally, problems still remain in many communities around the world, particularly among underprivileged groups.

This study is an attempt to assess the magnitude of common oral health problems among young adolescents and their health seeking behaviour. The results in the study will be useful for determining magnitude and burden of the problem in a resettlement colony, enhancement of comprehensive dental care facilities and importance of oral health promotion in a community setting.

Materials and Methods

It was a community based cross sectional study conducted in a resettlement colony of East Delhi, India in 2016. A total of 460 young adolescents were included in the study. Inclusion criteria— all the subjects residing in the selected household in the age group of 5 years up to 14 years were included in the study (5-14 completed years) and only those subjects were included who gave their verbal assent and their parents gave a written consent. Those parents/guardians who were illiterate thumb impression was taken in front of a witness. Exclusion criteria was intellectually disabled subjects as identified by caregiver’s history. Health education was provided to all subjects.

Sample Size Calculation

Based on the estimated prevalence of Gingivitis of 33%, Relative error d = 14%, Confidence interval = 95%, Power = 80%, a sample size of 460 was obtained.

An interview schedule was designed and pretested. The investigator had received training in oro-dental examination methods in the department of Dental and Oral surgery, Lady Hardinge Medical College, New Delhi, India and associated hospitals for 1 week under the guidance of the co-supervisor. Thorough oral examination of the subjects was carried out in their homes. Oral examination was done using sterile oral probe and torch with the child in sitting position. All efforts were taken to minimize non-response and the reasons for same were recorded. Three revisits were made to the houses where no-one was available in the first visit.

Statistical Analysis

The qualitative variables were expressed in proportion and quantitative variables was summarized by mean and standard deviation. The difference in proportion was analyzed by applying Chi-square test, the difference in means was analyzed statistically by applying unpaired student’s t test & ANOVA and p value less than 0.05 was taken as cut off for commenting statistical significant association.

Results

Among 460 subjects of 5-15 years studied, the proportion of male subjects was 51.5%, while female subjects were 48.5%. Out of all the subjects 227 (49.3%) had one or the other oral health problem, at the time of examination. Among those (227-49.3%) who had oral health problem, 74 (32.5%) gave history while the rest 153(67.5%) did not report any problem as they didn’t perceive it, which shows that many oral health problems remain unnoticed for a long time before causing discomfort or pain while eating or chewing.

The total number of problems that were found in 460 subjects after complete examination of oral cavity was 403. Average number of oral health problem per child was 0.87.
Common oral health problems among subjects (5-15 years) were problems of teeth 169(36.8%), followed by problems of gums 155(33.7%), followed by problems of lips 50(10.8%). Problems of oral cavity and problems of tongue was seen in less than 10% of subjects. The top 5 (represented in words) type of oral health problems found were caries 103(22.4%), followed by bleeding gums 82(17.8%), followed by swelling of gums 73(15.9), followed by malocclusion 63(13.7%) and cheilosis 48(10.4%). A small proportion of subjects (6.3%) had problems of oral cavity (halitosis, ulcers and tonsillitis) and tongue (coated/lesions on tongue).

Out of 460 subjects studied, 103 subjects (22.4%) had Decay-missing-filled (DMF) index of 1 or more, the mean Decay-missing-filled (DMF) index was 0.48 ± 0.991 with range 0-6.

### Health Seeking Behavior

Of the total 460 subjects examined, 227 (49.3%) required treatment. Of those who perceived having an oral health problem, only 38(51.3%) sought some form of treatment. Prescribed treatment was taken by 24(63.1%) subjects who sought help and other took self-medication or home remedies. Majority of subjects (79.1%) who took prescribed treatment went to a government facility and only 5(20.9%) went to a private service. Home remedies that were practiced for oral health problems were using salt water, clove and garlic (Figure 1). Of the total 227 subjects having oral health problems, only 38(16.7%) had sought some form of treatment and of all the subjects having Decay-missing-filled (DMF) index of 1 or more, only 16(15.5%) subjects had taken treatment.

### Table 1. Magnitude and pattern (type) of common oral health problems among subjects (N= 403)

| Type of oral health problem* | Frequency | %  | Ranking of oral health problem |
|-----------------------------|-----------|----|--------------------------------|
| Problems of teeth           | 169       | 36.8| I                             |
| Caries                      | 103       | 22.4| First                         |
| Malocclusion                | 63        | 13.7| Fourth                        |
| Fracture teeth              | 3         | 0.7 | -                             |
| Problems of gums            | 155       | 33.7| II                            |
| Bleeding                    | 82        | 17.8| Second                        |
| Swelling                    | 73        | 15.9| Third                         |
| Problems of lips            | 50        | 10.8| III                           |
| Cheilosis                   | 48        | 10.4| Fifth                         |
| Dry/bleeding lips           | 2         | 0.4 | -                             |
| Problems of oral cavity     | 24        | 5.2 | IV                            |
| Halitosis                   | 12        | 2.6 | -                             |
| Ulcers                      | 11        | 2.4 | -                             |
| Tonsillitis                 | 1         | 0.2 | -                             |
| Problems of tongue          | 5         | 1.1 | V                             |
| Coated/lesions              | 5         | 1.1 | -                             |
| Total problems              | 403       | 100 | -                             |

*Multiple response table; The top 5 (represented in roman numbers).
Maximum subjects had taken treatment for problems of teeth 21(12.4%) followed by problems of gums 13(8.3%). None of the study subjects had taken treatment for problems of tongue. 2 of them (4.0%) have consulted for problems of lips and 2(8.3%) have consulted for problems of oral cavity.

Table 2.Pattern (type) of oral health problems and health seeking behaviour among subjects (5-15 years) (N = 403)

| Pattern of oral health problem | Treatment taken | Treatment not taken |
|-------------------------------|-----------------|---------------------|
| Problems of teeth (n=169)     | 21 (12.4)       | 148 (87.6)          |
| Problems of gums (n=155)      | 13 (8.3)        | 142 (91.7)          |
| Problems of lips (n=50)       | 2 (4.0)         | 48 (96.0)           |
| Problems of oral cavity (n=24)| 2 (8.3)         | 22 (91.7)           |
| Problems of tongue            | 0 (0.0)         | 5 (100)             |

A total of 38 (16.7%) subjects have taken some form of treatment for common oral health problems, out of which 24 (63.1%) have consulted a dentist. The most common reason for oral health problem for not seeking health care was observed to be that it was not perceived. The most common reasons for oral health problems perceived and not taken

Table 3.Reasons for not taking treatment among subjects (N = 227)

| Oral health Problem                                | Frequency | %   | Ranking of reasons |
|----------------------------------------------------|-----------|-----|--------------------|
| Taken treatment                                    | 38        | 16.7| -                  |
| Oral health Problem not perceived                 | 153       | 67.5| 1 st               |
| Reason among those who perceived problem*          | 36        | 15.8| -                  |
| Will subside on its own                            | 14        | 38.9| 2 nd               |
| Temporary teeth will fall on its own               | 9         | 25  | 3 rd               |
| Pain was relieved                                  | 4         | 11.2| 4 th               |
| Shortage of time                                   | 3         | 8.3 | 5 th               |
| Shortage of money                                  | 3         | 8.3 | 5 th               |
| Non-availability of medicines in hospital          | 2         | 5.6 | -                  |
| Busy with exams                                    | 1         | 2.7 | -                  |
| Total                                              | 36*       | 100.0| -                 |

*Reasons are given only for those subjects who perceived having an oral health problem
treatment was it will subside on its own (38.9%) followed by temporary teeth will fall on its own (25%) and relief of pain (11.2%). The rest of the reasons were shortage of time (8.3%), shortage of money (8.3%), no medicines in hospital (5.6%) and busy with exams (2.7%).

Discussion

Oral diseases such as dental caries, periodontal diseases, tooth loss and oral cancer have emerged as a major public health problem among all age groups. In view of increasing prevalence of risk factors and inadequate access to and affordability of preventive and curative oral health services, oral diseases have a growing impact on the health and wellbeing of people and in particular on vulnerable and marginalized groups of population.

Studies reviewed show oral health problems of population specific to age groups. The sample size varied anywhere from 200 to 7000. The sample size is likely to depend upon objective and intervention planned. The sample size in this study is 460. Sharma S et al. in their study in Kerala found the most common morbidity was caries followed by gingivitis and effects of pain (11.2%).

More than 40% of males had problems of teeth and gums whereas only about 26% of the females were affected by problems of teeth and gums, this difference was statistically significant (p<0.05). In males average number of oral health problem per child was higher (1.02) than in females (0.71) and the difference in means was found to be statistically significant by unpaired student t-test (p=0.00).

Jose A et al. in their study in Kerala found the most common morbidity was caries followed by gingivitis which is in accordance with our study. Caries prevalence in the present study was 22.4% which was in accordance with results reported by Malvania EA et al. in Vadodara. Higher burden of oral health problems was reported by Singh M et al. in their study among rural subjects of Barabanki, which may be due to different setting and the tool (Loe and Silness) used for assessment. Sharma S et al. in their study in Meerut on oral health status among subjects, reported a prevalence of gingivitis (53.4%). The difference could be due to the age group selected (9-12 years) and the tool used for assessment (WHO survey tool), while in this study the findings are after careful examination of oral cavity.

In this study we found that of the total 227 subjects having oral health problems, only 16.7% had sought some form of treatment, and of all the subjects having Decay-missing-filled (DMF) index of 1 or more, only about 15% had taken treatment. The study subjects who did not contact a dentist despite having a problem in the last year was 67.5%. Comparable results were reported in a study by Verma H et al. in Chandigarh in which thirty-four percent of the respondents did not contact a dentist despite having a problem in the last year, primarily because dental problems were not important for them (45%), they lacked time (22%), and took self-medication (16%). Overall 58% of the respondents suggested government clinics and 44% liked private dentists for treatment of dental cavities. The government setup was preferred because the facilities were cheaper and affordable.

Poudyal S et al. in Mangalore found that 28.6% never visited a dentist, whereas 67% visited a dentist only when they felt it was needed.

The results were different in the study by Patro BK et al. in New Delhi which reported that among those who had a dental problem 80.7% sought medical help and only 19.3% relied on home remedies, one-third of those who sought medical help for dental problem, visited a public health facility (dispensary, hospital and medical college) and rest went to a private health care facility. The difference may be due to the health seeking of older age group will be different from those of school age subjects.

Conclusion

Developing countries continue to be at disproportionate risk for oral health morbidity due to their socioeconomic, cultural and literary differences. In this study, it was found that around half of the subjects that were examined had some oral health problem. Oral diseases may directly affect a limited area of the human body, but their consequences and impacts affect the body as a whole. Conversely, poor oral health can have detrimental consequences on physical and psychological wellbeing of adolescents. Oral diseases are often hidden and invisible, or they are accepted as an unavoidable consequence of life and ageing. However, there is clear evidence that oral diseases are not inevitable but can be reduced or prevented through simple and effective measures at all stages of the life course, easier at younger age before it becomes non-recoverable. In this study, oral diseases are not even perceived by maximum, if the intervention in the form of health promotion, awareness about oral diseases and screening for oral problems is done at an early stage of life it can prove to be beneficial in terms of a healthy mouth and a healthy body.

Conflict of Interest: None
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