

Evaluation of oral health care seeking behavior in rural population of central India

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ABSTRACT

Objectives: To study the perception regarding common oral diseases and health seeking behaviour related to those diseases among rural population of central India. **Methods:** A cross sectional study was conducted in the rural areas of Wardha, Maharashtra on a population between the age group of 18 and above. Data was recorded by a self administered, structured questionnaire in this study. Questionnaire was based on oral health literacy and health seeking behaviour of participants. **Results:** Study included 700 participants, 343 males and 347 females. Dental problem was reported by 68% of participants. Toothache was the most common dental problem reported. Government hospitals were chosen by 19% of participants as treatment centre. Fear 24.3% was found to be the major reason for not visiting the dentist. **Conclusion:** Healthcare seeking behaviour among rural population towards oral diseases was poor. So efforts must be made to bring a change in this scenario.

Keywords: Awareness, oral health seeking behavior, patient delay, rural population

Introduction

The oral cavity is described as an integral part of the overall health of human being.^[1] It is rightly said by Seymour that “Good general health cannot be achieved without good oral health.”^[2,3]

Oral disease is a complex phenomenon and association with various elements leads to its increased occurrence.^[4] The etiology of oral diseases is multifactorial. Various risk factors are also associated with increased risk of oral diseases; adverse habits such as smoking, tobacco, areca nut chewing, etc., prevail as the most important risk factor for the occurrence of oral diseases including cancer. In the world, India is one of the largest producers and consumer of tobacco.^[5] Hence, the risk of dental problems and oral cancers is

high in these residents. Primary prevention reduces the prevalence of dental problems and oral cancer and act as a preventable cause.

Patient associated factors such as age, gender, and family background appear to be particularly significant components in the advancement of oral diseases while in rural population risk seems to increase due to their geographical location, food habits, and oral hygiene practices. The most important determinant of oral disease is Socio Economic Status (SES).^[6] Oral hygiene behaviors differ greatly among regions, countries, and even within countries. Different oral hygiene behaviors result in different oral health outcomes across the nation. For example, use of tobacco and areca nut for recreational and therapeutic purposes is widely prevalent in rural regions of central India resulting in high incidence of abrasions, dental caries, periodontal diseases, and oral lesions.^[7]

Health Seeking Behavior (HSB) is described as the action to be taken by an individual to preserve or regain good health.^[8] HSB is an outcome of the complex interaction between patient

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illness and household characteristics.^[9] HSB is greatly affected by the availability and accessibility of health care services.^[10] In both developing and developed communities, poor attentiveness regarding oral health has been particularly seen among unprivileged group.^[11] Poor-feeding conditions, food habits, and lower levels of literacy and health awareness among the population are inadequate which lead to poor utilization of healthcare facilities could be some of the reasons for it.^[12] The most affected population having oral diseases (dental caries) are children; hence, educating the parents is of utmost importance.^[13]

The reasons for people avoid visiting the clinicians and neglect the symptoms of oral diseases are economic instability, fear of cancer, or lack of faith in medical services. This is known as “patient delay” or “diagnostic delay.”^[11] The early detection and prevention is an important key in stopping the progression of oral diseases and improving the quality of life of patient. To amend health behavior and improve their quality of life while reducing social inequalities regarding health, it seems crucial to consider both patients’ portrayals regarding health as well as the social and emotional elements of their decision and behavior.^[9]

Health service deficits (HSDs) are evolving concepts that assess healthcare access and utilization. Conceptually, healthcare access and utilization are distinct yet inter-related since access is necessary for utilization. Access to health services entails the timely use of personal health services to achieve the best health outcomes. Access involves being able to make use of necessary healthcare, at a physical location, from a healthcare provider that the patient is able to communicate and trust (personal relationship). Healthcare utilization, in contrast, entails the actual use of healthcare services.^[14]

Inaccessibility to dental care is one of the major challenges; poor utilization of services is another dreadful challenge attenuating the scope for improvement of the oral health status of rural India.^[15] Especially, when it comes to the rural population, many challenges exist pertaining to the betterment of oral health care. In a country where thousands of dentists are graduating per year, it is astounding to know that only a handful of them serve the rural population, while the majority of dentists prefer to serve in an urban area. Shortage of dental professionals can lead to reduced availability to oral health services and poorer oral health status for rural dwellers in comparison to urban populations.^[16]

Approach to health-seeking behavior is usually determined by knowledge and attitude of the people.^[17] To provide need-based health care services to the people, a thorough understanding of the health-seeking behavior is crucial. By understanding patients health-seeking behavior, their attitude toward oral health can be judged which would help to reduce the amount of damage caused by neglecting dental problems. Hence, the aim is to study the perception of people belonging to rural areas about common oral diseases and their health-seeking behavior related to those diseases. Proper understanding of health-seeking behavior could reduce the delay in diagnosis and improve the treatment compliance and the strategies for health promotions.

Subjects and Methods

A cross-sectional study was carried from December 2018 to April 2019 after receiving approval from the Institutional Ethical Committee [DMIMS (DU)/IEC/2018-19/7575], 28th September 2018. The study was conducted in the rural areas of Maharashtra on age group 18 years and above. The study Performa comprised of informed consent, demographic information, and questionnaire.

The questionnaire was self-administered and closed-ended. Expert committee was established and items were generated by referring to the questionnaire used in the study by Bommireddy *et al.*^[15] The questionnaire was translated and back translated and the final questionnaire was prepared in the regional language, Marathi. To check the understanding, feasibility, reliability, and validity of the structured questionnaire, a pilot study was conducted on 30 participants. The Cronbach’s alpha and split-half reliability values were found to be 0.83 and 0.78, respectively. The results and participants of the pilot study were not included in the main study.

The questionnaire consisted of three parts. The first part consisted of demographic details. The second part was based on oral health literacy; it included questions like knowledge, attitude, and habits of oral health, deleterious habits, and frequency of dental care visits. Third part had nine questions which were based on health-seeking behavior of participants like any visit to a dentist, frequency, and reason for visits. The responses of seven questions were scored as one and two, while scores for the remaining two questions were given one, two, and three, respectively. One is the minimal score. The maximum total score was 20 and the minimum was 9. Further, patients were divided into two groups based on total score.^[18] Negative health-seeking behavior was scored from 9–14 and positive from 15–20.

The main study data was done on 700 participants. Data was recorded with an allotted time of 5 min for each patient by a single investigator. After the data collection, data was entered into the MS Excel (MS Office version 2007 developed by Microsoft, Redmond, WA). The analysis was done using Chi-square test by SPSS version 21 (SPSS statistics IBM CORPORATION). The difference was statistically significant ($P < 0.05$).

Results

Table 1 shows that use of smokeless tobacco was reported by 46% of males and 43.3% of females, while the habit of betel nut chewing was seen more in females (23.1%) as compared to males (20.2%). Toothbrush (48.7%) was the most commonly reported cleaning aid and toothpaste (40.4%) was the commonly used cleaning material.

Total 68% of people reported with a dental problem, out of these, 73.1% were males and 65.4 were females. Toothache was the most common dental problem reported by 33.2% of males as compared

to 34.3% females followed by the mobility of teeth, which was a second most common dental problem. Over 53.1% of study participants visited dentists for their dental problem; 41.5% of males and 43.8% of females visited a dental clinic for pain [Table 2A].

In Table 2B, we can see that out of the total study population, 47.4% of people had dental clinics nearby. Out of 353 males 65 (18.5%) and 68 (19.6%) females out of 347 visited government hospital for receiving dental care due to less expenditure of treatment. This shows that less expenditure plays a key role in choosing oral health-care facilities. It was found that fear is the major reason among 26.1% of males and 22.5% of females for not receiving dental treatment.

365 (52.1%) of respondents used home remedies for curing their dental problem. 77.8% of males felt that there is a need to

improve their oral health. 40.6% of the total study population felt that dental facilities should be improved around them. Majority of them (19.6%) suggested that the cost of treatment should be reduced while free treatment (9.7%) was also one of the common suggestions [Table 2C].

Association of Health seeking behavior toward common oral diseases and demographic variables is presented in Table 3 which depicts that maximum negative and positive behavior was shown in the age group 21–40 years. In addition, the majority of males and females have negative health-seeking behavior toward oral diseases.

Discussion

Oral health importance in the maintenance of general health has been long acknowledged by the WHO. There have been

Table 1: Descriptive statistics on habits and oral hygiene of study participants based on gender

| Variable | | n | % | Male n (%) | Female n (%) | Chi-square | P |
|---------------------------------------------------|-------------------|-----|------|------------|--------------|------------|-------|
| Adverse habits | Smokeless tobacco | 386 | 55.2 | 162 (46) | 150 (43.3) | 0.866 | 0.352 |
| | Smoke tobacco | 35 | 5.0 | 54 (15.3) | 55 (15.9) | | |
| | Betel nut | 151 | 21.6 | 71 (20.2) | 80 (23.1) | | |
| | Others | 73 | 10.4 | 29 (8.2) | 44 (12.7) | | |
| How do you clean your teeth? | Brush | 341 | 48.7 | 182 (51.7) | 159 (45.8) | 4.465 | 0.215 |
| | Fingers | 318 | 45.4 | 148 (42) | 170 (49.0) | | |
| | Neem stick | 38 | 5.4 | 22 (6.2) | 16 (4.6) | | |
| | Others | 3 | 0.4 | 1 (0.3) | 2 (0.6) | | |
| What material do you use to clean your teeth? | Toothpaste | 283 | 40.4 | 145 (41.2) | 138 (39.8) | 2.419 | 0.490 |
| | Snuff | 135 | 19.3 | 60 (17.0) | 75 (21.6) | | |
| | Powder | 276 | 39.4 | 145 (41.1) | 131 (37.8) | | |
| | Others | 6 | 0.9 | 3 (0.9) | 3 (0.9) | | |
| What method do you follow for cleaning the teeth? | 1.Horizontal | 221 | 31.6 | 109 (31.0) | 112 (32.3) | 0.576 | 0.902 |
| | 2.vertical | 181 | 25.9 | 96 (27.2) | 85 (24.5) | | |
| | 3.Both | 298 | 42.5 | 148 (42) | 150 (43.2) | | |
| How often do you change your tooth brush? | 1. 3 months | 82 | 11.7 | 45 (12.8) | 37 (10.7) | 1.694 | 0.638 |
| | 2. 6 months | 94 | 13.4 | 50 (14.2) | 44 (12.7) | | |
| | 3. 1 year | 143 | 20.4 | 67 (19.0) | 76 (21.9) | | |

Table 2A: Differences in responses of oral health problems based on gender among study participants

| Variable | | n | % | Male n (%) | Female n (%) | Chi-square | P |
|------------------------------------------------------|---------------------|-----|------|------------|--------------|------------|--------|
| Dental problem | Yes | 476 | 68.0 | 257 (73.1) | 227 (65.4) | 4.372 | 0.037* |
| What kind of dental problem? | Toothache | 236 | 33.7 | 117 (33.2) | 119 (34.3) | 10.598 | 0.102 |
| | Bleeding gums | 58 | 8.3 | 38 (10.8) | 20 (5.8) | | |
| | Mobile teeth | 136 | 19.4 | 65 (18.5) | 71 (20.5) | | |
| | Caries | 36 | 5.1 | 22 (6.2) | 14 (4) | | |
| | Ulcers | 15 | 2.1 | 9 (2.6) | 6 (1.7) | | |
| | Others | 14 | 2.0 | 9 (2.6) | 5 (1.4) | | |
| Span of dental problem | Less than one month | 135 | 19.3 | 69 (19.6) | 66 (19.0) | 2.721 | 0.257 |
| | More than one month | 359 | 51.3 | 189 (53.7) | 169 (48.7) | | |
| Have you ever visited dentist? | Yes | 372 | 53.1 | 184 (52.3) | 188 (54.2) | 0.255 | 0.614 |
| For what dental/problem did you visit dental clinic? | Pain | 298 | 42.6 | 146 (41.5) | 152 (43.8) | 0.938 | 0.816 |
| | Bleeding gums | 19 | 2.7 | 11 (3.1) | 8 (2.3) | | |
| | Sensitivity | 54 | 7.7 | 26 (7.4) | 28 (8.1) | | |
| | Esthetics | 0 | 0 | 0 | 0 | | |
| How often do you visit a dental clinic in a year? | Once | 276 | 39.4 | 141 (40.1) | 135 (38.9) | 1.971 | 0.578 |
| | Twice | 18 | 2.6 | 9 (2.6) | 9 (2.6) | | |
| | Not at all | 77 | 11.0 | 33 (9.4) | 44 (12.7) | | |

*The value of significance $P < 0.05$

Table 2B: Differences in responses about receiving oral health care based on gender among study participants

| Variable | | n | % | Male n (%) | Female n (%) | Chi-square | P |
|------------------------------------------------|------------------------------|-----|------|------------|--------------|------------|-------|
| Who has advised you to visit dental clinic? | Neighbors | 172 | 24.6 | 87 (24.7) | 85 (24.5) | 1.184 | 0.881 |
| | Relatives | 141 | 20.1 | 68 (19.3) | 73 (21.0) | | |
| | Colleagues | 45 | 6.4 | 23 (6.5) | 22 (6.3) | | |
| | No one | 13 | 1.9 | 5 (1.4) | 8 (2.3) | | |
| Do you have any dentist nearby your place? | Yes | 332 | 47.4 | 166 (47.2) | 166 (47.8) | 0.032* | 0.857 |
| Have you ever received any dental treatment? | Yes | 291 | 41.6 | 141 (40.1) | 150 (43.2) | 1.599 | 0.450 |
| Where did you go for dental treatment | Government hospital | 133 | 19.0 | 65 (18.5) | 68 (19.6) | 0.766 | 0.858 |
| | Private dental clinic | 51 | 7.3 | 25 (7.1) | 26 (7.5) | | |
| | Medical store | 107 | 15.3 | 51 (14.5) | 56 (16.1) | | |
| | Not undergone any treatment. | 409 | 58.4 | 211 (59.9) | 197 (56.8) | | |
| Reasons for preferring particular center | Others advice | 69 | 9.9 | 31 (8.8) | 38 (11.0) | 3.901 | 0.564 |
| | Accessibility | 72 | 10.3 | 37 (10.5) | 35 (10.1) | | |
| | Less expenditure | 121 | 17.3 | 55 (15.6) | 66 (19.0) | | |
| | Quality treatment | 21 | 3.0 | 13 (3.7) | 8 (2.3%) | | |
| Reasons for not receiving any dental treatment | Fear | 170 | 24.3 | 92 (26.1) | 78 (22.5) | 3.669 | 0.598 |
| | No time | 76 | 10.9 | 35 (9.9) | 41 (11.8) | | |
| | Expensive | 87 | 12.4 | 38 (10.8) | 49 (14.1) | | |
| | Lack of knowledge | 46 | 6.6 | 24 (6.8) | 22 (6.3) | | |
| | Do not think important | 61 | 8.7 | 34 (10) | 27 (7.8) | | |

*The value of significance $P < 0.05$ **Table 2C: Differences in responses about health care seeking behavior on gender among study participants**

| Variable | | n | % | Male n (%) | Female n (%) | Chi-square | P |
|-----------------------------------------------------------|--------------------|-----|------|------------|--------------|------------|-------|
| Have you tried home remedies for dental problem? | Yes | 365 | 52.1 | 178 (50.9) | 187 (53.9) | 0.911 | 0.340 |
| What kind of home remedies? | Clove oil | 137 | 19.6 | 69 (19.6) | 68 (19.6) | 1.802 | 0.615 |
| | Balm | 214 | 30.6 | 101 (28.6) | 113 (32.6) | | |
| Opinion on your state of teeth | Above average | 97 | 13.9 | 51 (14.5) | 46 (13.3) | 1.615 | 0.656 |
| | Average | 415 | 59.3 | 203 (57.6) | 212 (61.1) | | |
| | Below average | 176 | 25.1 | 94 (26.7) | 82 (23.6) | | |
| Opinion on your state of gums | Above average | 97 | 13.9 | 52 (14.8) | 45 (13.0) | 5.607 | 0.132 |
| | Average | 352 | 50.3 | 163 (46.3) | 189 (54.5) | | |
| | Below average | 241 | 34.4 | 134 (38) | 107 (30.8) | | |
| Do you think there is a need to improve your oral health? | Yes | 526 | 75.1 | 274 (77.8) | 252 (72.6) | 2.276 | 0.131 |
| Suggestions to improve dental facilities around you | Less cost | 137 | 19.6 | 71 (20.2) | 66 (19.0) | 2.371 | 0.668 |
| | Free treatment | 68 | 9.7 | 31 (8.8) | 37 (10.7) | | |
| | Dentist nearby | 49 | 7.0 | 29 (8.2) | 20 (5.8) | | |
| | Dental camp nearby | 31 | 4.4 | 15 (4.3) | 16 (4.6) | | |

Table 3: Association of health-seeking behavior toward common oral diseases and demographic variables

| Sample characteristics | Variables | Health seeking behavior | | Chi-square | Df | P |
|------------------------|--------------|-------------------------|----------------|------------|----|-------|
| | | Negative n (%) | Positive n (%) | | | |
| Age in years | 20 and below | 15 (0.78) | 4 (0.21) | 22.440 | 27 | 0.715 |
| | 21-40 | 295 (0.73) | 105 (0.26) | | | |
| | 41-60 | 185 (0.73) | 68 (0.26) | | | |
| | 61 and above | 21 (0.75) | 7 (0.25) | | | |
| Gender | Male | 264 (0.75) | 88 (0.25) | 6.059 | 9 | 0.734 |
| | Female | 252 (0.72) | 96 (0.27) | | | |

a lot of efforts toward raising awareness on oral health among the public by various local, national, and international bodies/organizations.^[15] Despite these efforts, oral health continues to be neglected by the people, especially in rural areas as observed in our study. The present study reported that significantly males had more dental complaints than females.

In this study, toothache was the most common reason (33%) for seeking oral care which was also reported by Bommireddy *et al.*^[15] It could be comprehended from these observations that oral healthcare services were elective unless there was pain in the view of a majority of the rural population. However, in another study, missing tooth was the major complaint for seeking dental care.^[12] The fact that they

conducted a study on geriatric population might be the reason for this variation.

Furthermore, it was reported by the participants that low expenditure (12.4%) was one of the main reasons why they had chosen the facility at which they had sought care. Contrary results were seen two other studies who reported accessibility as the reason for choosing the particular center for seeking dental treatment.^[15,19] It could be concluded that people choose government hospitals over private dental setups because of less treatment cost.

In the present study, 12.4% of the people stated that expenses of treatment were the reason for not utilizing oral health services and the results of Gupta *et al.*^[20] coincide with the results of the present study. The possible cause for this could be difficulty in accessing oral health facilities due to poor transport system, residing in a rural area, or poor health.

National health authorities should actively take part to develop policies for oral health sectors. It is recommended that dental camps in the rural sector, mobile dental clinics, and oral health education and promotion should be conducted to spread awareness among the people. The cost of dental treatments should be revised and made affordable for the rural population. The health centers should have a complete oral health setup so that people do not have to travel long distances to get oral health care.^[20]

Conclusion

Healthcare seeking behavior among rural population toward oral diseases was poor. As the primary intervention is the key to effective prevention, appropriate steps should be taken to prevent it. Poor attitudes of people on the importance and awareness of oral health are quite evident, and efforts must be made to bring a change in this scenario. Hence, there still is need for awareness among the population. People should be told about the importance of primary prevention. The services should be provided on the basis of felt needs of the rural population so that utilization of dental services can be increased, thereby improving the oral health status of the underprivileged population. Despite national goals for achieving health equity, persistent disparities in dental utilization remain for underprivileged population of central India. Hence, dental camps, oral health education, and awareness camp should be conducted and dental services should be made readily accessible to rural population.

List of Abbreviations

HSB = Health seeking behavior, SES = Socioeconomical status, HSD = Health service deficit

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Conflict of interest

There is no conflict of interest.

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