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Outlook on Oral Health: A Questionnaire Survey of General Population

Mahendra Singh Gehlot[1], Amit Agarwal[2], Sakshi Sharma[3], Kalpana Chaudhry[4], Diwakar Sharma[5]

[1]Assistant Professor, Dept. of Community & Family Medicine, AIIMS Rishikesh
[2]HoD & Professor, Dept. of Oral & Maxillofacial Surgery, Seema Dental College & Hospital, Rishikesh
[3]General Dentist, Dehradun
[4]HoD & Professor, Dept. of Pediatric and Preventive Dentistry, UDMRI, Dehradun
[5]General Dentist, Smile Dental Clinic, Hisar

ABSTRACT

Introduction: Poor oral health and untreated oral conditions are not readily identifiable by general population and morbid oral status is widely accepted as a norm, creating a significant impact on quality of life. Oral diseases are a major public health concern due to their high prevalence and neglect. The outlook of people towards oral health and disease, therefore, has an important influence on dental health.

Methods: A structured questionnaire was posed to general Indian population. 1008 completed responses were collected and analyzed for association amongst discreet variables using Pearson's Chi-square test and a P-value below 0.05 was considered statistically significant.

Results: The relationship between dental awareness and demographic variables like gender, socioeconomic background, and education are discussed. Awareness amongst rural and less educated populations is low. The children face dental neglect, people are unaware of the need for regular dental visits and systemic correlation of poor oral hygiene. Females are more aware of hygiene practices than male population.

Conclusion: The present study found that there is an immediate need to create awareness amongst general population about the necessity to follow proper oral healthcare measures, especially amongst rural and less educated groups, parents of young children, pregnant females, and the elderly.

Key Words: oral health, survey, epidemiology, dental hygiene, community health, dentistry

INTRODUCTION

Oral health plays a substantial and crucial role in general health. It is amply proven that oral diseases and systemic diseases like diabetes, cardiovascular disease, stroke, metabolic syndrome, adverse pregnancy outcomes, digestive issues, obesity, etc. are interlinked.[1] Recently, oral health has been broadly redefined now identifying how oral health has multifaceted contribution involving taste, smell, touch, speech, and facial expressions without any pain, discomfort, and disease of the craniofacial region, by the Federal Dental International.[2] Yet oral health is given less importance than general wellbeing by our society. Therefore, poor oral health and untreated oral conditions are not readily identifiable by general population, and morbid oral status is widely accepted as a norm, creating a significant impact on quality of life. India is a country huge country with a population of 1.3 billion. Here, oral diseases are a major public health concern due to their high prevalence and neglect. Outlook of people towards oral health and disease, therefore, has an important influence over dental health.[3]

Any attempt to change the habits of society can be

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Correspondence: Mahendra Singh Gehlot (Email: gehlot.mahendrasingh@gmail.com)

seriously hindered in the absence of knowledge about its background that has been supported scientifically. Thus, it becomes absolutely imperative to understand the social circumstances of any community or group before active intervention for introducing any change amongst them.

MATERIAL AND METHOD

This study was conducted to gauge the outlook of the general Indian population towards oral health.

Study Population and Sample Size: General Indian population has been subjected to the questionnaire survey. The sample size recorded is based on 1008 recorded responses.

Exclusion Criteria: This comprised of participants who were not willing to partake in the survey. Only participants identifying themselves as Indian were requested to participate. Further, Dentists, dental students, dental assistants, and dental nurses were asked to refrain from participating in the survey, since it would hinder the true results of this survey.

For the sake of this survey, a Dentist has been defined as any licensed medical professional whose primary occupation is dental care including fillings, cleaning, extractions, and also specialized work such as fittings for braces or root canals, etc.

A dental student is a non-licensed trainee performing such procedures in an institution administering dental education. Dental assistants and nurses have limited licensed professionals who help and assist a dentist in dental settings.

Ethical consideration and consent:

The questionnaire was ethically reviewed and the responses to the survey have been registered only by participants agreeing to provide informed consent for further utilization of it in this study.

Survey and Statistics

Questionnaire: Due to the lack of a standard questionnaire to assess the outlook of the general population on oral health, a questionnaire was created based on common knowledge, experience, and conclusions drawn by some published articles.

The observational, descriptive, close-ended questionnaire incorporating 36 questions in English evaluated demographic variables, dental familiarity, and dental conditions.

Collection of Data: The questionnaire was created on Google Forms. The link to the questionnaire was circulated digitally, on social media platforms, and on virtual groups for the general public to fill out. On average, 7 to 10 minutes are required to fill out the questionnaire.

Duration of the study: The survey link was kept active roughly for a period of 4 months during which time the general population was welcome to participate in the survey.

Statistical Analysis: The data collected were transferred to a Microsoft Excel spreadsheet then analyzed using IBM SPSS Statistics Software, version27. The association amongst discreet variables was tested using Pearson's Chi-square test. A P-value below 0.05 has been considered to be statistically significant for the cases.

RESULTS

This study was carried out on 1008 participants. Among these, 45.3% are women and 54.6% are men. 81.7% belong to urban households and 18.3% to rural. 45% have a postgraduate or higher degree, 39% have an undergraduate degree, 9.6% are 12th pass, 5.9% are 10th pass and 0.5% of these are illiterate. Age ranges from 13 to 78 years.

Table 1: Socio-Demographic Profile

Variable	Response (%)
Gender	
Male	54.6
Female	45.3
Socioeconomic background	
Urban	81.7
Rural	18.3
Education	
Illiterate	0.5
10th pass	5.9
12th pass	9.6
UG	39
PG	45

Table 2: Brushing Habits

Variable	Response (%)
How often do you clean your teeth?	
After every meal	9.4
Twice a day	55.1
Once a day	34.4
Once every few days	1.1
Once a week or longer	0
What do you use to clean your teeth?	
Toothbrush	96.3
Finger	<2
Dantun	<2
Other methods	<1
How often do you change your brush?	
Within 3 months	44.6
6 months	22.6
1 year	8.5
When bristles appear frayed	24.2
What material do you use to clean your teeth?	
Toothpaste	95.1
Toothpowder	<4
Water	<1
Others	<1
How often do you visit a dentist?	
Once every 3-6 months	26.8
Once a year	20.8
Only when there is a dental issue or pain	42.3
Never	10.1

Table 3: Knowledge of participants about Oral Hygiene

Variable	Yes/True/ Agree	No/False/ Disagree	Don't know
The harder you brush, the cleaner your teeth will be	35.6	54.3	10.1
Flossing can create space between teeth	30.1	26.8	43.2
Regular dental check ups are important	76.8	16.9	6.3
Bacteria/ germs on teeth cause tooth decay	86.2	10.8	3
Germs are present in everyone's mouth	82.7	11.3	6
There is no need to take children to dentist until they have permanent teeth	39.2	47.3	13.5
There is no need to take care of children's milk teeth because they will fall off in sometime	39.1	50.4	10.5
There is no need to visit a dentist unless there is pain	40.7	49.3	10
Oral health is connected to general, overall health of the body	85.2	5.4	9.4
Pregnancy affects the oral health of the mother	55.9	11.5	32.6
Diabetes has a bad effect on oral heath	68.2	5	26.8
Hypertension/ high b.p. Has a bad effect on oral heath	56.1	8.9	35
Chewing tobacco/ paan has a bad effect on oral heath	94.4	<2	<2
Smoking has a bad effect on oral health	90.8	3.8	5.4
Brushing with fluoridated toothpaste is good for teeth	59.9	8.5	31.5
Regular scaling/ removal of tartar causes loosening of teeth	42.9	21.7	35.4
Dental procedures are always painful	34.6	25.2	40.2*
If choice of RCT (root canal treatment) or extraction (tooth removal) is given to you by your dentist, which will you choose?	RCT 81.9	Extraction 18.1	
Only white teeth are healthy teeth	47.2	42.1	10.7
Braces are meant only for children and teenagers	36.1	39.3	24.6
Tobacco and alcohol cause oral cancer	88.9	3.3	7.8

* Neutral;

Brushing Practices: A majority of the participants brush twice per day (55.1%) while 34.4% brush once per day and 9.4% after every meal. Some participants (1%) reported that they brush occasionally. The majority of the participants use a toothbrush (96.3%) and toothpaste (95.1%). 1.6% of them use finger and 1.3% use Dantun, while 3.6% use toothpowder to clean their teeth.The use of tooth powder, dantun, and finger to clean teeth is more prevalent in rural and less educated groups. More participants reported changing toothbrushes within 3 months (44.6%) than every six months (22.6%), or every year (8.5%). A good number of participants (24.2%) say they swap their brush for a new one only when it appears frayed. When asked if they believed that harder brushing provides better cleaning 54.3% agreed, especially by rural participants. The benefits of using Fluoridated toothpaste were acknowledged by 59.9% of participants while 31.5% did not know of its benefits and 8.5% of patients do not believe in the benefits of using it.

Interdental aids and hygiene: Oral hygiene aids were used by many participants. It is more commonly used by females than males. Mouthwash being the most popular (62.9%), with tongue cleaners (36%), floss (18.2%), and toothpick (17.4%) following the lead. Around 30.1% of participants think that flossing creates space between dentition and 43.2% don't know if it does. More participants from rural backgrounds feel flossing creates spaces between teeth than the urban population.

Dental knowledge and familiarity: 86.2% of participants know that bacteria are responsible for tooth decay and 82.7% believe germs are present in everyone's oral cavity. According to 47.2% of participants, only white teeth are healthy, while 42.1% do not believe so. The thinking that white teeth are healthier is more common in females than males, more common in rural than urban populations, and more common in 10^{th}& 12^{th} pass participants than more qualified participants.

Pertaining to children's oral healthcare: The majority of the participants are well aware of the importance of the health of primary teeth in children. 47.3% believe that children should be taken to the dentist even when they don't have permanent teeth and 50.4% know that milk teeth have to be taken care of even though they are supposed to fall off. This, is, however, less commonly believed by participants belonging to the rural background and less educated groups.

Oral health in relation to general wellbeing: 85.2% of participants believe that oral health is linked to the overall health of the body. 55.9% of participants seem to know that pregnancy affects the oral health of the mother while 32.6% are unaware of this fact.v68.2% and 56.1% believe that diabetes and hypertension poorly affect oral health status. This, however, is not common knowledge for participants from less educated or illiterate backgrounds.

Tobacco and smoking effects: It seems like common knowledge that chewing tobacco (94.4%) and smoking (90.8%) are and for oral health and that it may lead to cancer (88.9%).

Knowledge about dental visits: Most of the participants (76.8%) are aware that regular dental check-ups are essential, yet only26.8% visit a dentist regu-

larly. 42.3% said they visit a dentist only in case of a dental issue or pain, while 10.1 % have never visited a dentist before. 40.7%, the majority from rural and less educated groups believe that there is no reason to visit a dentist unless there is pain.

Knowledge about the procedure: There seems to be a majority of participants who believe that scaling causes loosening of teeth (42.9%). More number of participants (39.3%) seem aware of the fact that braces are not just meant for children and teenagers. In a hypothetical clinical scenario, more patients (81.9%) would go for an RCT rather than an extraction. 34.6% of the participants believe that dental procedures are painful while 40.2% seem neutral about this statement. Participants from a rural background more readily believe that dental procedures are always painful and that braces are only meant for children and teenagers.

DISCUSSION

In the current study, it is clear that the general outlook on oral health remains overlooked. The relationship between dental awareness and main demographic variables like gender, socioeconomic background, and education are discussed in this study. The awareness of rural and less educated population of India is less than average. This inference is corroborated by observations made by Chandu et al.[4] In the current study, we have found that 55.1% of participants brush twice a day which is closer to the findings by Oberai[5] et al. but significantly larger than 17% reported by Goryawala[6] et.al.

Most patients used toothbrushes and toothpaste in the current study, and dantun was used mostly by rural populations. Kapoor[7] *et al*. and Singh[8] *et al*. observed similar findings in their individual studies but a much higher proportion. It may be so because their population was mostly rural while in the current study the urban population forms a greater percentage. The current study also establishes that females use interdental and other oral hygiene aids more frequently than males. Similar results were obtained in an article by Vandana[9] et al.

The current study reveals that around 36% of participants used tongue cleaner which is higher than the 20% that was reported in a study by Jain[10] et al. Simple methods of maintaining oral hygiene using interdental aids and mouth wash are not very popular owing to lack of oral health awareness. White teeth are considered healthier which has been proven in a previous study[11] as well.

In the current study, it is amply clear that children face dental neglect due to the poor knowledge of parents. This is in corroboration with another article that proves a similar finding by Manavazhagan[12] et al.

The general consensus is that oral health is linked to general well being but this is not common knowledge for groups belonging to rural and less educated backgrounds. Similar results have been reported[13] earlier as well.

The current study also sheds light on the prejudices the general population has towards dental visits and dental procedures. Such preconceived notions hinder obtaining proper oral health care.A similar finding has been reported by Jeddy[14] et al which confirms that such prejudices in the mind of the patient can hinder obtaining dental treatment.

Oral hygiene has persisted as an overlooked and unrealized societal issue. Mostly, the public is uninformed about the association between oral health and systemic disorders. Visiting a dentist is contingent on the treatment needs and not a preventive measure. The current study shows that around 10% have never visited a dentist and around 40% believe that dentist should only be approached in case of pain or dental problem, parallel to the results drawn by Jain[10] *et al*. where 54% of the respondents visited a dentist only when they experienced any pain.

LIMITATIONS

The participants have not undergone any clinical examination for this survey. Further, the tendency towards making socially desirable responses while self-administering a survey cannot be completely precluded.

CONCLUSION

The present study found that there is an immediate need to create awareness amongst the general population about the necessity to follow proper oral and dental care measures. This is an immediate necessity for underserved populations belonging to rural and less educated groups, parents of young children, pregnant females, and the elderly. Empowered with improved knowledge about such oral and dental care practices, the overall healthcare load on society can be managed greatly.

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