

Effect of Dental Health Education on the Knowledge, Attitude, and Practices among the People in Urban Slum Area, Asarwa, Ahmedabad: A Questionnaire Study

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Abstract

Background: Oral health has been neglected for long in India. Patients comply better with oral health-care regimens when informed and positively reinforced. The aim of this study was to evaluate the level of oral health awareness, knowledge, and practices after providing dental health education. **Materials and Methods:** A cross-sectional study was conducted among 200 participants with age of 18 years and above for a period of 3 months. A self-administered structured questionnaire including 20 multiple choice questions was given to all subjects. After that oral hygiene instructions were given and each subject was rechecked after 3 months and same questionnaire was given. **Results:** The result of this study shows an acute lack of oral hygiene awareness and limited knowledge of oral hygiene practices. After giving oral hygiene instructions and dental health education, there was considerable improvement in oral hygiene practices. **Conclusion:** There is an urgent need for awareness and motivation of oral hygiene practices. After educating the people about oral hygiene, there was considerable improvement in oral hygiene.

Keywords: Dental health education, Motivation, Oral hygiene awareness, Oral hygiene practices.

INTRODUCTION

Oral health forms a predominant part of overall health. Good oral health contributes to overall physical, mental, and social well-being of infants. Oral diseases are a major public health concern due to their high prevalence and their effects on the individual's quality of life.^[1] The possible etiological factors leading to these oral diseases are genetic predisposition, developmental problems, poor oral hygiene, and traumatic incidents.^[2] Oral hygiene behavior and seeking oral health care depend on a number of factors. Patients comply better with oral health-care regimens when informed and positively reinforced. Lack of information is among the reasons for non-adherence to oral hygiene practices. Further, oral health attitude and beliefs are significant for oral health behavior.^[3] Oral health knowledge considered to be an essential prerequisite for health-related behavior. Although only a weak association exists between knowledge and behavior in cross-sectional studies,^[4,5] there are studies that establish an association between knowledge and better oral health.^[6,7]

The purpose of this study was to assess the knowledge and attitude toward oral health among people in Slum Area, Asarwa and to evaluate the level of awareness after providing dental health education.

Aim and objectives

The objectives of the study are as follows:

1. To assess the oral health awareness
2. To know about oral hygiene practices
3. To educate and motivate them about oral hygiene among people in slum area, Asarwa, Ahmedabad
4. To evaluate the level of awareness after providing dental health education.

MATERIALS AND METHODS

A cross-sectional study was conducted among the people in slum area, Asarwa, Ahmedabad. Two hundred people were selected using a simple random sampling technique. Informed consent was obtained from each person. A self-administered

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Proforma			
Name: _____			
Age: _____			
Sex:	Male	☐	Female ☐
Occupation: _____			
Address :		Contact No.:	
1.Do you clean your teeth?	Yes	☐	No ☐
2.If yes, how do you clean your teeth?	Neem Stick	☐	
	Charco	☐	
	Finger and tooth powder	☐	
	Finger and brick powder	☐	
	Finger and salt with oil	☐	
	Finger and salt	☐	
	Toothbrush and tooth paste	☐	
	Toothbrush and tooth powder	☐	
	Any Other,Specify _____		
3.How often do you clean your teeth?	Occasionally	☐	Once Daily ☐
	Twice daily	☐	More than twice ☐
4.What type of brush do you use?	Hard	☐	Soft ☐
	Medium	☐	Never noticed ☐
5.Which technique do you use for brushing?	Horizontal	☐	Vertical ☐
	Circular	☐	Combined ☐
6.Do you change your brush?	Yes	☐	No ☐
7.If yes, then how often you change your toothbrush?	When useless	☐	Once in 3 month ☐
	Every 6 months	☐	Once a Year ☐
8.Do you know what interdental aids are?	Yes	☐	No ☐
9.Do you use any of these Interdental aids?	Floss	☐	Interdental Brush ☐
10.Do you clean your Tongue?	Yes	☐	No ☐
11.Do you rinse your mouth after Eating?	Yes	☐	No ☐
12.Do you use Mouth wash?	Yes	☐	No ☐
13.Have you ever noticed bleeding in your gums?	Yes	☐	No ☐
14.Have you ever noticed smell from your mouth?	Yes	☐	No ☐
15.Do you visit Dentist, how often?	Never	☐	Only in Problem ☐
	Once in 3 months	☐	Once in 6 months ☐
	Once a Year	☐	Any Other Specify _____
16.Do you want to get your teeth clean?	Yes	☐	No ☐
17.Do you have any Systemic Disease?	Yes	☐	No ☐
18.If yes, then specify	_____		
19.Do you have any Habit?	_____		
20.If yes then,	Smoking	☐	Tobacco ☐
	Chewing	☐	If any other, Specify _____

structured questionnaire including 20 multiple choice questions was given to all subjects above 18 years of age.

After that, oral hygiene instructions and oral health education were given. Each subject was rechecked after 3 months and same questionnaire was given. The completed questionnaires were then analyzed statistically by Chi-square test.

RESULTS

In the present study, questionnaire was distributed to 200 people who were selected randomly. Of the 200 people, 56% were male and 44% were female. About 58% of these participants were illiterate and the remaining 42% were literate.

At baseline 102 participants used tooth brush as a method of clean their teeth and after 3 months, 178 people were use tooth brush. There was statistically significant improvement in method of cleaning teeth after educating people (Table 1).

Only 20 participants out of 200 brushed their teeth twice daily at baseline but after 3 months 115 participants brushed their teeth twice daily. This was statistical significant (Table 2).

At baseline, 123 participants were unaware about the type of tooth brush used by them and only 32 participants used soft tooth brush. However, after 3 months, 128 people used soft toothbrush that was statistically significant (Table 3).

At baseline, only 13 participants had changed their brush in 3 months and after educating 131 participants had changed

their brush in 3 months. This was statistically significant (Table 4).

At baseline, 53 participants out of 200 brushed their teeth in horizontal direction and 98 people not answered about brushing technique. However, after educating about oral hygiene only 15 participants brushed their teeth in horizontal direction, which was statistically significant (Table 5).

At baseline, 85 people out of 200 had complaint of bleeding gums which was reduced to 30 people noticed bleeding gums after 3 months. Fifty-seven people had complaint of halitosis at baseline, but after 3 months, only 25 people noticed halitosis which was statistically significant (Table 6).

DISCUSSION

It has been observed that oral hygiene has mostly remained as an ignored and unrealized major social problems. The majority of the people are unaware about the relationship between oral hygiene and systemic diseases or disorders. Most diseases show their appearance through oral signs and symptoms and they remain undiagnosed or untreated because of this missing awareness.

According to the consumer usage and attitudes study done in 2010, among the most shocking of revelations is that nearly half of the Indian population does not use a tooth brush and only 51% brushed their teeth using a tooth brush and toothpaste.^[8] The scarce literature on dental health awareness, oral health-

Table 1: Different types of methods of cleaning teeth

Method of cleaning teeth	No. of people use this method at baseline	No. of people use this method at 3 months	Chi-square test	Degree of freedom	P-value
Charcol	6	0	80.26	7	<0.001
Finger and salt	18	0			
Finger and sent	1	0			
Finger and toothpowder	23	7			
Neemstick	49	15			
Tobacco pan powder	1	0			
Toothbrush and toothpaste	90	172			
Toothbrush and toothpowder	12	6			
Total	200	200			

Table 2: Brushing frequency

Frequency of cleaning teeth	No. of people at baseline	No. of people at 3 months	Chi-square test	Degree of freedom	P-value
Once daily	180	85	98.795	1	<0.001
Twice daily	20	115			
Occasionally	0	0			
More than twice daily	0	0			

Table 3: Types of tooth brush being used

Type of brush used	No. of people use type of brush at baseline	No. of people use type of brush at 3 months	Chi-square test	Degree of freedom	P-value
Hard	8	2	93.179	3	<0.001
Medium	28	20			
Never noticed	123	50			
Soft	32	128			

Table 4: Frequency of changing tooth-brush

Frequency of changing brush	No. of people at baseline	No. of people at 3 months	Chi-square test	Degree of freedom	P-value
Once in 3 months	13	131	152.01	4	<0.001
Once in 6 months	8	4			
Once in a year	15	5			
When useless	66	20			
Not answered	98	40			

Table 5: Different types of brushing technique

Technique of brushing teeth	No. of people use technique at baseline	No. of people use technique after 3 months	Chi-square test	Degree of freedom	P-value
Circular	14	10	82.011	3	<0.001
Combined	34	120			
Horizontal	53	15			
Not answered	98	55			

Table 6: People noticed bleeding from gums and halitosis

Patient's Complaint	No. of people had complaint at baseline	No. of people had Complaint 3 months	Chi-square test	Degree of freedom	P-value
Bleeding gums	85	30	59.66	1	<0.001
Halitosis	57	25			

related habits, and behaviors among the adult population in the Indian scenario prompted to take up this study.

Over the past 20 years, a significant amount of emphasis has been made on prevention of diseases rather than the treatment aspect. Healthy teeth can last us a lifetime with the proper preventive dental care. Preventive oral health knowledge, behavior, and its practice are the important ways of keeping our teeth healthy. Hence, in this study, attempts were made to evaluate preventive oral health knowledge, practice, and behavior of population among slum area, Asarwa and to motivate them and do follow-up after 3 months.

Although brushing was the commonly used method of cleaning, only 102 people brushing their teeth out of 200 (Table 1), which is almost similar to 58% of the Police recruits in a study by Dilip,^[9] 67% of the Chinese urban adolescents in a study by Jiang *et al.*,^[10] 62% of the Kuwaiti adults in a study by Al-Shammari *et al.*,^[11] and 50% of the middle aged and 75% of the elderly Chinese adults in urban areas in a study by Zhu *et al.*^[12] However, after educating the people at 3-month follow-up, 178 people were brushing their teeth, which shows that statistically significant improvement after educating people about dental health.

Only 20 people brushed their teeth twice daily (Table 2), which is very less compared with 67% of the Chinese urban adolescents in a study by Jiang *et al.*^[10] However, after educating people at the end of 3 months, 115 people brushed their teeth twice daily.

Only 32 participants use soft tooth-brush which is less than that observed among Zhu *et al.*'s subjects^[12] where 27% of the sample uses the same. However, after oral hygiene instructions, 128 participants use soft tooth brush at 3-month follow-up (Table 3).

Thirteen people changed their toothbrush once in 3 months and 66 people changed their brush when it became useless. Moreover, after education at 3-month follow-up, 131 people changed their brush in 3 months (Table 4).

Fifty-three people brushed their teeth using traditional horizontal method (Table 5), which will jeopardize the tooth

structure. This is very less compared to the study done by Zhu *et al.*,^[12] where 60% of the people brush their teeth in horizontal direction and after educating at 3-month follow-up, only 15 people brush their teeth in a horizontal method (Table 5).

At baseline, 85 people noticed bleeding gums (Table 6). This study is similar to studies done by Gilbert and Nuttal^[13] and Buhlin *et al.*,^[14] who showed that self-reported bleeding gums were high in percentage. This result is in contrast with the studies done by Nagarajan and Pushpanjali in India,^[15] Tervonen and Knuttila^[16] and Kallio *et al.*,^[17] who showed that most of the patients did not notice bleeding from gums. However, after educating people about oral health and oral hygiene methods, only 30 people noticed bleeding gums (Table 6), which shows significant improvement in oral hygiene practices after motivating people.

Fifty-seven people noticed bad smell from mouth (Table 6). This result is similar to the epidemiologic survey of the general population of Japan, where 24% of the individuals examined complained about bad breath.^[18] However, after educating people, only 25 people had complained about bad breath, which shows improvement in oral hygiene practices after motivating people.

CONCLUSION

There is lack of oral hygiene awareness and limited knowledge of oral hygiene practices in Urban Slum area. After giving oral hygiene instructions, there is considerable improvement in oral hygiene practices.

A dental surgeon can do social service in such small areas with follow-ups for the improvement of people dental health.

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