

PATTERN AND TECHNIQUES OF TEETH CLEANING AMONG DENTAL PATIENTS ATTENDING MARGALLA INSTITUTE OF HEALTH SCIENCES, RAWALPINDI

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ABSTRACT

Objective: To find out the pattern and techniques of tooth brushing and to assess the awareness regarding tooth brushing among the people.

Material and Methods: A cross-sectional study was conducted at Margalla Institute of Health Sciences Rawalpindi using a self-administered questionnaire from September 2016 to Oct 2016 in outpatient department. One hundred patients attending outpatient department and completed the questionnaires by themselves under the convenient sampling technique. Patients of all age and gender were interviewed. To improve the validity of patients' responses, they were interviewed only after their presenting complaint was registered and a referral was made to the required department for further disposal. All patients reporting during this time were included. Data was analyzed with the help of SPSS software 20.

Results: Majority prefers tooth brush for their daily cleaning practice while others, who use chewing stick, do so mainly for the reasons that it is a Prophetic way of cleaning teeth but even then they tend to use toothbrush.

Conclusions: People need to be made aware of the correct brushing timings and that tooth brushes should not be kept in cover, which is a common practice.

Key words: Brushing, Miswak, Method, Pattern

INTRODUCTION

Teeth cleaning is part of oral hygiene and involves the removal of dental plaque from teeth with the intention of preventing cavities (dental caries), gingivitis, and periodontal disease. People routinely clean their own teeth by brushing and interdental cleaning. However the dental hygienists can remove hardened deposits (tartar) not getting removed by routine cleaning. Brushing and flossing remove particulate buildup from food as well as bacteria that cause cavities. These things always continue to build up, but regular maintenance can protect the average person's teeth and gums from their damaging effects¹.

In the rural areas more than 50 % of the population use chewing sticks or miswak as a tool for oral

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hygiene. Conversely, in the urban population the majority use a toothbrush. About 36% of the Pakistani population clean their teeth daily, irrespective of the method employed. 8% of the 120 million population never clean their teeth, while 54% clean their teeth either on alternate days, weekly or monthly².

There are various ways/ techniques/tools used in Pakistan for teeth cleaning. Careful and frequent brushing with a toothbrush helps to prevent build-up of plaque bacteria on the teeth. Electric toothbrushes were developed, and initially recommended for people with strength or dexterity problems in their hands, but they have come into widespread general use. The effectiveness of electric toothbrushes at reducing plaque formation and gingivitis is superior to that of conventional manual toothbrushes³.

In addition to brushing, cleaning between teeth may help to prevent build-up of plaque bacteria on the teeth. This may be done with dental floss or inter-

dental brushes. Eighty percent of cavities occur in the grooves, or pits and fissures, of the chewing surfaces of the teeth⁴. Special appliances or tools may be used to supplement tooth brushing and interdental cleaning. These include special toothpicks, oral irrigators, and other devices.

Teeth can be cleaned by scrubbing with a twig instead of a toothbrush. Plant sap in the twig takes the place of toothpaste. In many parts of the world teeth cleaning twigs are used. In the Muslim world the miswak or siwak is made from twigs or roots that are said to have an antiseptic effect when used for cleaning teeth^{1,5}.

Miswak also called Chew sticks have been found archaeologically since ~3000BC. A specific tree used commonly in Africa, likely for millenia, for oral hygiene. Examination of Egyptian mummified remains show only 10% with caries, 20% periodontal disease and 50% of all teeth with dental calculus. No evidence of dental treatment was found. Tooth erosion was prevalent, likely from chewing grains milled by stone.

Dental decay was rare in ancient Egypt but more common among aristocratic families found in the more recent Giza pyramids. This suggests that increased carbohydrate consumption was a cause. One of the

earliest discoveries of dental work was found in Sidon, Lebanon. Four teeth wired together with gold wire from 4-500BC.

METHODS AND MATERIALS

A cross-sectional study was conducted at Margalla Institute of Health Sciences Rawalpindi using a self-administered questionnaire from September 2016 to Oct 2016 done in outpatient department (OPD). A total of 100 patients attending OPD and completed the questionnaires by themselves under the convenient sampling technique. Patients of all age and gender were interviewed. To improve the validity of patients' responses, they were interviewed only after their presenting complaint was registered and a referral was made to the required department for further disposal. All patients reporting during this time were included. Data was analyzed with the help of SPSS version 20.

RESULTS

People of different age groups included this study. Most of the participants were females. Fig 1 shows the gender distribution.

Results showed that majority prefers tooth brush for their daily cleaning practice while others, who use chewing stick, do so mainly for the reasons that it is a Prophetic way of cleaning teeth. The data also suggests

Tab 1.1: The preferred method for cleaning teeth

Toothbrush	74	74
Miswak	1	1
Both toothbrush and miswak	25	25
Toothpowder	0	0

Tab 1.2: Frequency of miswak usage

Once daily	11	42.3
Twice daily	5	19.2
Thrice daily	3	11.5
More than thrice daily	7	26.9

Tab 1.3: Reasons for using miswak

Miswak has pleasant taste	0	0
Miswak is Sunnah	25	96.2
Miswak is easy to use	1	3.8
Miswak is less expensive	0	0

Tab 1.4: Cutting of miswak ends

Regularly cut miswak ends	17	65.4
Not regularly cut miswak ends	9	34.6

Tab 1.5: How often do people change their miswak?

Change miswak daily	2	7.6
Change miswak weekly	11	42.3
Change miswak monthly	7	26.9
Change miswak in 3-6 months	6	23.07

Tab 1.6: Types of toothbrush used

People who use soft toothbrush	55	55.5
People who use medium toothbrush	41	41.4
People who use hard toothbrush	3	3

Tab 1.7: Timings at which people brush their teeth

Brush before breakfast	34	34.3
Brush after breakfast	19	19.2
Brush after dinner	17	17.2
Brush before breakfast & after dinner	14	14.1
Brush after breakfast & after dinner	10	10.1
Brush before & after breakfast & after dinner	5	5.1

that more people in the study group cut the ends of their biting sticks on a regular basis.

As for the users of tooth brush, most people(55.5%) use soft toothbrushes while brushing their teeth before breakfast whereas those who brush before breakfast and after dinner are fewer in number. Time consumed by the study group for brushing their teeth came out to be adequate.

When asked about the brushing movements used, a great number of participants told that they use circular movements for brushing their teeth. The data also suggests that more people change their toothbrush after every three months and after every use they place their toothbrush in a cover .The response frequency of each asked question is shown in table 1.1 to table 1.11.

DISCUSSION

Brushing teeth is the primary mode of oral hygiene practice. In earlier days, chewing sticks like Miswak, Neem and Babul were the sole oral hygiene aids used by different populations⁴. Later, toothbrush

crept in as a main component among all oral hygiene aids, as a result of civilization. In 1844, the first toothbrush was manufactured by hand and patented as a three-row brush of serrated bristles with large tufts by Dr. Meyer. L. Rhein⁵. Nevertheless biting sticks are still popular in Muslim countries for their affiliation with the religion.

This study concludes that majority prefers use of toothbrush as a tooth cleaning tool. However there still are people who use biting sticks but they do it along with the use of toothbrush. The frequency of biting stick usage among its users was not found to be satisfactory. Since it is recommended in general to use Miswak five times a day⁶. Among those few participants of the study who use biting sticks, fewer change their sticks regularly. Though it is recommended that biting stick fibers should be clipped off every 24 hours³, not all the users cut ends regularly.

When choosing a toothbrush, whether you pick electric or manual, it is best to choose a toothbrush that has soft bristles that are made of nylon. Soft-bristled brushes are safer for your teeth. This is because when you use hard or even medium-bristled brushes it is possible that you can damage the tooth enamel. In addition, you may also damage your gums as well as the tooth root surfaces. In fact, the American Dental Association recommends soft-bristled brushes for this reason. Soft, rounded bristles are the best choice for

Tab 1.8: Time used to brush teeth

Brush in 1 min	33	33.3
Brush in 2 min	26	26.3
Brush in 3 min	33	33.3
Brush in 5 min	7	7.1

Tab 1.9: Brushing movements used by people

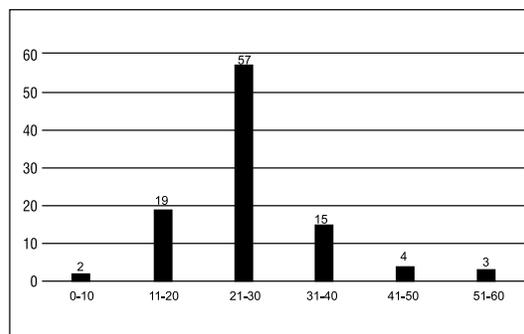
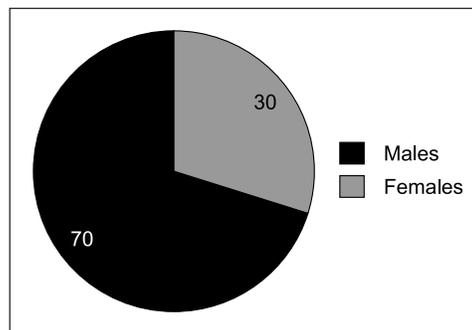
Circularly	46	46.5
Horizontally	30	30.3
Vertically	12	12.1
Circularly & horizontally	3	3
Horizontally & vertically	1	1
Circularly & vertically	3	3
Circularly, vertically & horizontally	4	4

Tab 1.10: Where do people place their toothbrush?

Place brush on basin	18	18.1
Place brush in cover	82	82.8

Tab 1.11: How often do people change their toothbrush?

Change tooth brush monthly	26	26.3
Change tooth brush after 3 months	47	47.8
Change tooth brush after 6 months	20	20.2
Change tooth brush after 1 year	6	6.1



removing plaque and tartar buildup without damaging your teeth⁷. The results indicated that majority of the participants use soft bristled toothbrushes. However the percentage of those using medium ones was also high. There the message needs to be conveyed to the patients regarding the correct choice of toothbrush.

The ADA recommends brushing twice a day⁸. People were found to be more habitual of brushing once daily. Importance of brushing before breakfast and after dinner must be advertised more importantly. One should replace toothbrushes every 3–4 months⁸. The present study confirms satisfactory results in this regard. The suggested brushing movements differ significantly among the dental surgeons. However proper techniques should be demonstrated as per patient's requirements.

CONCLUSION

From this survey it has been concluded that people need to be made aware of the correct brushing timings and that tooth brushes should not be kept in cover, which is a common practice. Proper demonstration on tooth brushing patterns and techniques and also the maintenance of tooth brush should be practiced.

REFERENCES

1. Wu CD, Darout IA, Skaug N. Chewing sticks: timeless natural toothbrushes for oral cleansing. *Journal of periodontal research*. 2001 Oct 1;36(5):275-84.
2. Al-Otibi M. The miswak (chewing sticks) and oral health studies on oral hygiene practice on urban Saudi Arabian. *Swedish Dental Journal supplement* 2004; 16: 2-75.
3. Sadhan RI, Almas K. Miswak. Miswak (chewing stick): a cultural and scientific heritage. *Saudi Dental Journal* 1999; 11(2): 80-87.
4. Bhat S, Hegde KS, George R. Microbial contamination of toothbrushes and their decontamination. *J Indian Soc Pedo Prev Dent* 2003;21:108-12.
5. Expresscom. (Online). Available from: http://www.toothbrushexpress.com/html/toothbrush_history.html (Accessed 1 October 2015).

6. Almas K and Al-Latif T. The natural toothbrush. *World Health Forum* 1995;15:206-210.
7. Advanceddentalcareofaustin.com. 1. Austin Dentist 78729 - Advanced Dental Care of Austin (512) 331-1477 - Cosmetic Dentist Dentists in Austin TX. (Online). Available from: <http://www.advanceddentalcareofaustin.com/dentists-recommend-soft-toothbrushes/> (Accessed 1 October 2015).
8. Adaorg. 1. Adaorg. (Online). Available from: <http://www.ada.org/en/science-research/ada-seal-of-acceptance/product-category-information/toothbrushes...> (Accessed 1 October 2015).
9. Ra'ed I. Al Sadhan, Khalid Almas (1999). "Miswak (chewing Stick): A Cultural And Scientific Heritage.". *Saudi Dental Journal* 11 (2): 80–88.
10. Al lafi T, Ababneh H (1995). "The effect of the extract of the miswak (chewing sticks) used in Jordan and the Middle East on oral bacteria.". *International Dental Journal* 45 (3): 218–222. PMID 7558361.<http://europepmc.org/abstract/med/7558361>
11. Curtis, Jeannette (13 November 2007). "Effective Tooth Brushing and Flossing.". WebMD. Retrieved 2007-12-24
12. Robinson P et al. Manual versus powered toothbrushing for oral health. *Cochrane Database of Syst Rev* 2005;(2): art no: CD00281. Do: 10.1002/14651858.CD00228. Pub2.
13. Does Water Fluoridation Affect the Pits and Fissures of the Tooth, the Area Where Most Cavities Occur? *Healthy Teeth For A Lifetime*. 2007. Retrieved 2007-12-24
14. Bader, Jim. Insufficient evidence to understand effect of routine scaling and polishing. *Evidence-Based Dentistry*. 2003; 6 (1): 5–6.
15. C. D. Wu, I. A. Darout and N. Skaug. Chewing sticks: timeless natural toothbrushes for oral cleansing. *Journal of Periodontal Research* 2002; 36(5): 275-84.
16. Al-Otibi M. The miswak (chewing sticks) and oral health studies on oral hygiene practice on urban Saudi Arabian. *Swedish Dental Journal supplement* 2004; 16: 2-75.