

EVALUATION OF TOOTH BRUSHING TECHNIQUE AND ORAL HYGIENE KNOWLEDGE AT AFID, RAWALPINDI

¹REHANA YASMEEN BANGASH, BDS, FCPS (Trainee)

²ABID ULLAH KHAN, MBBS, FCPS (Trainee)

³KHALID MEHMOOD TARIQ, MBBS, FACP (USA), FCPS (Medicine)

⁴DIL RASHEED, BDS, FCPS (Trainee)

ABSTRACT

The aim of the present study was to evaluate tooth-brushing technique and oral hygiene knowledge in Rawalpindi population. This study was a single centre, descriptive study which was carried out at the Department of Operative Dentistry, AFID, Rawalpindi from January 2010 to January 2011. 500 individuals fulfilling the inclusion criteria were included in the study. They were asked about their tooth brushing technique and oral hygiene knowledge using a questionnaire. The data obtained were analyzed using Statistical Package for Social Sciences (SPSS) version 15. Out of 500 adult participants, 140 (28%) were females and 360 (72%) males. 425 (85%) brushed their teeth regularly, 87% twice a day, 10% once a day and only 3% thrice a day. The study subjects demonstrated the brushing technique in front of the researcher. The result showed that only 4% knew proper technique. Only 7% used the brush for 2 minutes, 67% for one minute and 36% for less than one minute. 45% used fluoride tooth pastes and 24% which did not contain fluoride. 31% did not know about fluoride. The overall awareness about oral hygiene knowledge was not satisfactory.

Key words: Tooth-brushing, awareness, oral hygiene, Proper technique

INTRODUCTION

Oral health is an integral part of general health. Poor oral health can have adverse effects on general health. Hence a good oral health is very essential, which in turn is achieved by good oral hygiene.^{1,2} Even though, the concept of good oral hygiene evolved some 5000 years back, but it was only in the beginning of the 19th century, it gained more importance. The earlier concept of maintaining oral hygiene by just clearing debris has been taken over by removal of plaque, any infectious agent responsible for many common dental diseases.³ Studies have shown correlation with poor oral health and many systemic diseases. Various types of oral hygiene aids into existence in the 20th century.

The aim of these aids is to modify the oral microflora to promote healthy oral tissue.⁴ The current oral hygiene measures appropriately used in conjunction with professional care are capable of virtually preventing caries and most periodontal diseases and maintaining health. Tooth brushing and flossing are most commonly used, although interdental brushes and wooden sticks can offer advantage in periodontally involved dentition.^{1,4-6} Tooth brushing is the most widely used mechanical means of personal plaque control in the world (accounts for less than 17% of usage in India), but has a very limited access to wide approximal surface of the molars and premolars. Toothbrushes are manufactured in different styles and of different materials. Different techniques of toothbrushing have been

¹ Senior Registrar FCPS-II, Operative Department, AFID, Rawalpindi

² Senior Registrar FCPS-II, Department of Medicine, MH, Rawalpindi

³ Associate Professor of Medicine, MH, Rawalpindi

⁴ Senior Registrar FCPS-II, Operative Department, AFID, Rawalpindi

Correspondence: Dr Abid Ullah Khan, House 38, Lane 3, Askari 10, Rawalpindi, Phone: 03335145344, 03215518922, email: drabid2424@yahoo.com

evolved. Each technique has its pros and cons, but no technique is superior to others.^{5,7}

Current opinion favours the use of Bass method or modified Bass method, however choice is left to the patients as long as he/she is able to brush properly his/her teeth without injuring hard and soft tissues. The awareness of proper tooth brushing technique in this country is believed to be very poor because there are no published study/data on the awareness of community about tooth brushing technique so exact prevalence is not known.

The present study evaluates the awareness of proper tooth-brushing technique and level of dental health education in all patients reporting to the operative department of Armed Forces Institute of Dentistry, Rawalpindi.

METHODOLOGY

This study was a cross sectional descriptive survey of 500 patients and their attendants visiting the Operative Department of Armed Forces Institute of Dentistry, Rawalpindi, Pakistan from January 2010 to January 2011. Subjects included in the study were the patients and their attendants reporting to operative department AFID for treatment / follow up due to any dental problem. Any physician/dentist, dental students/medical students and dental nursing assistants and those who were mentally and physically handicapped were excluded from the study. A questionnaire was designed and given to the patients/attendants to assess the level of awareness and evaluate the proper toothbrushing technique keeping in view the steps shown in table 1 as a standard tooth brushing technique (modified Bass technique). Patients were graded as knowing proper technique if they could do all steps or first five steps as mentioned, fair if they could do only $\geq$ first 2 steps as mentioned and poor if unable to do first 2 steps.

RESULTS

The present study population included 500 individuals. Of these, 360 (72%) were males and 140 (28%) were females. (Fig 2)

Mean age of the sample was 40.02 years with minimum age of 18 years and maximum 65 years SD (± 9.97). 240 (48%) were in the age group of 31-40 years,

100 (20%) were 40-50 years old, 110 (22%) were in age group of 50 years and above and 50 (10%) were less than 30 years. 325 of the study group (65%) were from rural and 175 (35%) from urban regions.

Besides, 345 (69%) were from others ranks (ORs)/non-commissioned officers (NCOs)/junior commissioned officers (JCOs) ranks and 155 (21%) were from officers and their families.

87% were using their tooth brush with force during brushing. Only 65% were using tooth paste recommended by the dentist or the physician while 21% were using miswak and 14% were of the opinion of using any available tooth paste. 45% changed their tooth brush after 3 months, 12% after two months and 43% said that they change the tooth brush when it is damaged. 67% agreed to report to dentist in case of dental problem, 4% used to change the tooth paste, 7% went for self remedial measures and 12% said that they seek dental advice when it is severe enough to disturb daily routine. 91% were casual about placing their toothbrush in a safe and clean covered place/stand while only 9% used the proper cover and clean place for their tooth brush.

TABLE 1: STEPS FOR PROPER TOOTH BRUSHING

1	Clean the outer surfaces of your upper teeth on right side
2	Clean the inner surfaces of your upper teeth on right side
3	Clean the chewing surfaces of upper teeth on right side
4	Clean the outer surfaces of your upper teeth on left side
5	Clean the inner surfaces of your upper teeth on left side
6	For fresher breath, be sure to brush your tongue, too

TABLE 2: REASONS FOR POOR AWARENESS

Reasons for poor awareness	Percentage
Not aware about proper technique	55
Not aware about need and benefit of tooth brushing	34
High cost of tooth paste/brush	3
Carelessness	8

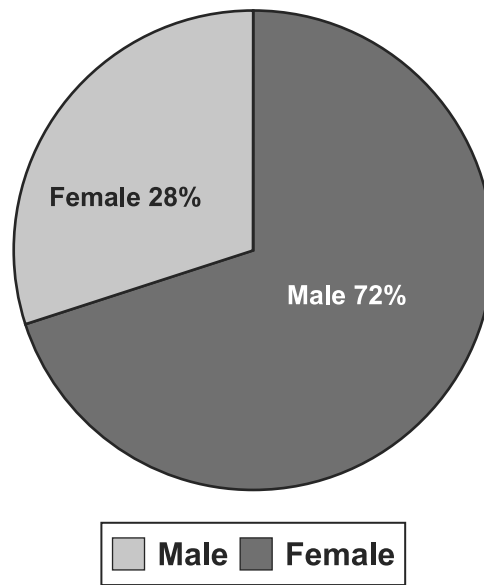


Fig 1: Gender distribution

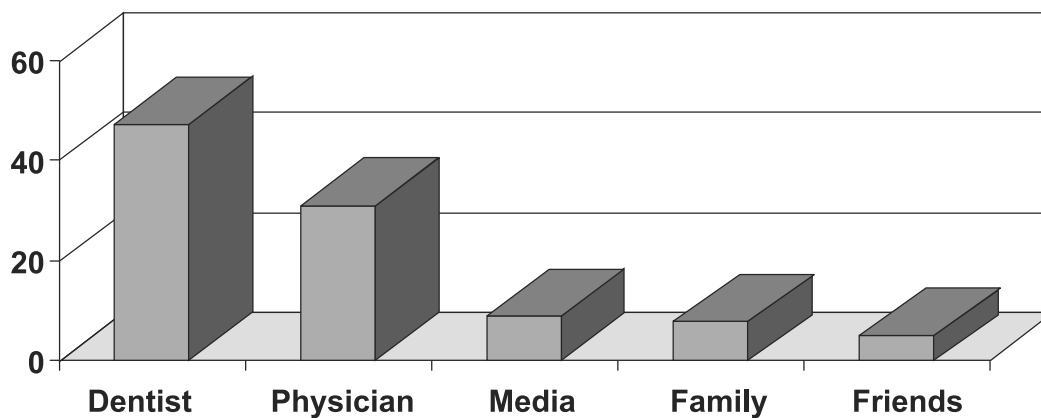


Fig 2: Sources of knowledge (in %)

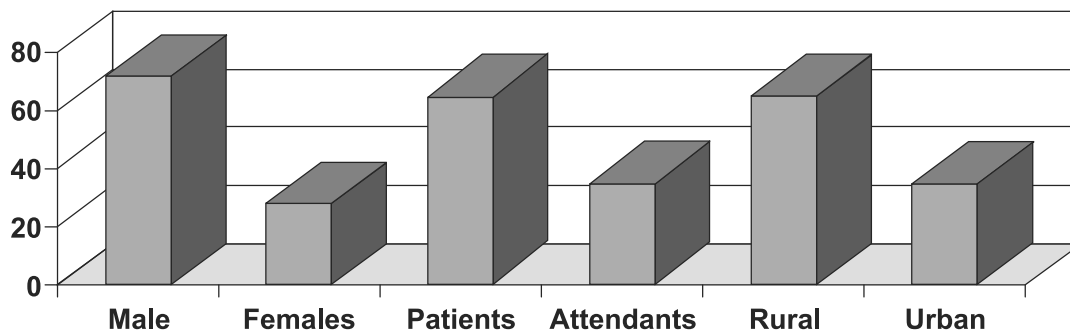


Fig 3: Demographic profile of the study population (in %)

87% did not use the dental floss and 8% even did not know about the use and importance of dental floss. Only 43% were regular in their dental check up and follow up visits to their dentist and 34 were not regular. 23% of the sample confessed that they used to go to

dentist when the dental problem was severe enough to cause pain, swelling or disturb their daily routine.

Figure 2 shows the sources of knowledge, and Fig 3 provides the demographic profile table 2 shows reasons for poor awareness.

The educational status of the study population was classified into six categories, and the educational break-up of the study population was as follows: illiterate (4%), middle school (5%), matriculate (19%), graduate (26%), postgraduates (34%), and professionals (12%). Those who were better educated showed greater awareness about the tooth brushing and oral hygiene.

DISCUSSION

Results of this study show that more than half of the participants did not have adequate oral health knowledge related to tooth brushing and oral hygiene.^{5,7-11}

These findings are consistent with studies conducted worldwide including some in developing countries.⁶⁻⁹ It also revealed that we have to think and plan in a systematic way to provide dental health education and basic oral hygiene knowledge to the people of this country.^{3,6,9} Based on the data available from studies done in developing countries it is comparable to that of developing countries. This may indicate lack of oral health counseling on the part of physicians, poverty, illiteracy.¹³⁻¹⁵ On the other hand, patients felt that they would have been careful about oral hygiene if they had been informed earlier by their dentist or any other source.⁹⁻¹⁴

Those patients who were briefed and educated by their dentists about the disease and its complications were more careful and were following healthy dental principles and habits as compared to those who were not briefed by the dentists.⁷⁻¹¹ It shows the importance and positive impact of health counselling by dentists. Individuals who were educated, and had some previous dental problem, were briefed in details by the treating physician /dentist about tooth brushing technique, showed good response in this study.¹⁰⁻¹³ It is acknowledged that the sample in this study was a convenience sample which may or may not represent the whole population.¹⁰⁻¹⁵ Another potential limitation was the use of only close-ended questions (i.e. Yes/No/Don't know). Health professionals should educate patients

about oral hygiene and proper technique of tooth brushing to promote proper oral health behaviors.

REFERENCES

- 1 Albertsson KW, van Dijken JW. Awareness of toothbrushing and dentifrice habits in regularly dental care receiving adults. *Swed Dent J*. 2010;34:71-78.
- 2 Alm A. On dental caries and caries-related factors in children and teenagers. *Swed Dent J Suppl*. 2008;195:7-63.
- 3 Kumarihamy SL, Subasinghe LD, Jayasekara P, Kularatna SM, Palipana PD. The prevalence of Early Childhood Caries in 1-2 yrs olds in a semi-urban area of Sri Lanka. *BMC Res Notes*. 2011;4:336.
- 4 Amjad H Wyne. Oral hygiene practices and first dental visit among early childhood Caries Children in Riyadh. *Pak Oral Dental J* Dec 2003;23:161-66.
- 5 Barrieshi-Nusair K, Alomari Q, Said K. Dental health attitudes and behaviour among dental students in Jordan. *Community Dent Health*. 2006;23:147-51.
- 6 Ganss C, Hardt M, Blazek D, Klimek J, Schlueter N. Effects of toothbrushing force on the mineral content and demineralized organic matrix of eroded dentine. *Eur J Oral Sci*. 2009; 117:255-60.
- 7 Schlueter N, Klimek J, Saleschke G, Ganss C. Adoption of a toothbrushing technique: a controlled, randomised clinical trial. *Clin Oral Investig*. 2010;14:99-106.
- 8 Arham Nawaz Chohan. Saudi Fathers' knowledge and attitude toward Oral Health behavior of their Children. *Pak Oral Dental J*. Dec 2003;23:167-70.
- 9 Hingorjo MR, Syed S, Hashmat S, Qureshi MA. The effects of brushing habits and salivary pH on caries status of first year dental students at a private Dental College in Karachi. *J Pak Dent Assoc* Oct - Dec 2007;16:174-80.
- 10 Hamissi JA. A comparative study of different oral hygiene instruction programmes of tooth brushing for nursery school children. *J Pak Dent Assoc* Oct - Dec 2007;16:181-84.
- 11 Gopinath V. Oral hygiene practices and habits among dental professionals in Chennai. *Indian J Dent Res*. 2010;21:195-200.
- 12 Kaur B. Evaluation of oral health awareness in parents of preschool children. *Indian J Dent Res*. 2009;20:463-65.
- 13 Al-Kheraif AA, Al-Bejadi SA. Oral hygiene awareness among female Saudi school children. *Saudi Med J*. 2008;29:1332-36.
- 14 Ahmed NA, Aström AN, Skaug N, Petersen PE. Dental caries prevalence and risk factors among 12-year old schoolchildren from Baghdad, Iraq: a post-war survey. *Int Dent J*. 2007;57: 36-44.
- 15 Mielnik-B³aszczak M, Krawczyk D, Kuc D, Zawielak M, Pels E. Hygienic habits and the dental condition in 12-year-old children. *Adv Med Sci*. 2006;51:142-44.