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Research Article

KNOWLEDGE, ATTITUDE AND PRACTICE OF MISWAK USE AMONG PRACTICING DENTAL PROFESSIONALS IN TERTIARY CARE HOSPITALS IN KARACHI.

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Abstract:

Objective: To determine the knowledge, attitude and practice of use of miswak for prevention of oral problems among dental practitioners working in tertiary care hospital in Karachi.

Methods: A KAP study was conducted in 4 tertiary care hospitals of Karachi. 1 of which was private and 3 were public sector. Total 203 participants were interviewed that met the inclusion criteria and gave their written consent. The data was collected by the principal investigator through a structured questionnaire specifically designed for the study.

Results: The study results showed that only 37.4% of them knew that miswak is made from salvadora persica and 93.1% think miswak helps in oral health. . 63.1% of them think miswak is the best alternative of toothbrush, dandasa etc. 8.9% believe miswak use is not the best dental cleaning tool for people who live in a country with low economic status. 22.2% of the dental practitioners of them use miswak and 52.7% recommended miswak to their patients.

Conclusion: The study revealed that the level of knowledge of dental practitioners was overall adequate except for their level of attitude and practice were overall inadequate and unsatisfactory.

Key Words: Knowledge, Attitude, Practice, Miswak, Dental Practitioners

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INTRODUCTION:

Oral health is vital to maintain the quality of life and general health [1]. According to WHO, It is a condition of being free from mouth and facial agony, oral and throat malignancy, oral contamination and injuries, tooth loss, tooth decay, periodontal (gum) disease, and different infections and clutters that point of confinement a person's ability in gnawing, biting, smiling, psychosocial wellbeing and most importantly talking [21]. Great oral wellbeing affects one's general personal satisfaction and prosperity. A few ceaseless and foundational ailments have been credited to poor oral wellbeing. With the expanding rate of oral maladies, the worldwide requirement for elective aversion and treatment techniques and protected, powerful, and practical items has extended. The upkeep of oral wellbeing can be accomplished chiefly by mechanical and substance implies. The utilization of a tooth brush in blend with dentifrices is a standout amongst the most well-known strategies for cleaning teeth. Even though there is not much literature on recommendation of miswak but the WHO recommends the use of miswak and reporting that it is indeed an effective tool and in the public sector cost effective which could be used widely and preventing oral health problems.

The advancement of the cutting edge toothbrush might be followed to biting sticks that were utilized by Babylonians as right on time as 3500 BC, and to toothpicks that were bitten onto help clean the teeth and mouth and were talked about in antiquated Greek and Roman written works (Wu et al., 2001)[22][2][3]. Biting sticks are set up from an assortment of plant animal categories and are usually utilized for cleaning teeth in Asia, Africa, South America, and the Middle East (Elvin-Lewis, 1980) [10].

"Miswak" (it is incorporated in various Arabic languages and nations as, "misswak," "miswaak," "miswaki," "sewak," "meswak," "mswaki," "siwak," and "siwaki") is an Arabic word meaning a stick for the purpose of tooth cleaning (Hattab, 1997) [4]. The spread of Islamic culture impacted the engendering and utilization of miswak, which was a pre-Islamic practice, in various parts of the world (Bos, 1993) [5]. Among no under 182 plant species sensible for preparing tooth brushing sticks, miswak gathered from *Salvadora persica*, are used generally comprehensively (Elvin-Lewis, 1982)[10]. The roots, twigs, and stems of this plant have been used for oral neatness (Elvin-Lewis, 1980) and little *S. persica* sticks have been utilized as toothpicks (Ezoddini-Ardakani, 2010) [15]. *S. persica* has a wide geographic conveyance extending from Nepal, Rajasthan (India),

and Malaysia in the east through Pakistan, Iraq, Iran, Saudi Arabia, and North Africa through Ethiopia, Sudan, and Central Africa to southwestern Africa, and from Egypt to Mauritania in the west (Khoory, 1983; Wu et al., 2001)[13][11]. Considering the recorded significance of the utilization of *S. persica* miswak in the field of oral cleanliness, the present audit is an endeavor to help users to remember the huge commitments that this training has made to dentistry, with a contribution from the latest writing, and to portray the real parts of its impact on oral wellbeing, including its inconveniences. The utilization of the miswak is as often as possible supported in the hadith (the conventions identifying with the life of Muhammad). Circumstances where the miswak is prescribed to be utilized incorporate, before religious practice, before going into one's home, when going on an adventure, on Fridays, before resting and in the wake of awakening, while encountering yearning or thirst and before entering any great get-together.

The most extreme and essential strategy for plaque evacuation and to keep up great oral cleanliness is to expel plaque mechanically utilizing brushing and flossing. An assortment of *S. persica* toothpastes are promptly accessible in the market, i.e., Dentacare Miswak (Saudi Arabia) and Fluorosiwak (Pakistan) and have demonstrated a high viability in bacterial plaque evacuation[21]. Further, *S. persica* mouthwashes have observed to be viable to restrain the colonization of *Streptococcus mutans* bacterial strains on orthodontic rings [32]. Lower plaque development has been accounted for on tooth surfaces subsequent to utilizing miswak mouthwashes. Sadly, no commercial accessibility of miswak mouth wash exists in the market at introduce.

Miswak has its own particular remarkable perspectives that must be adjusted before use for the best outcomes [21]. The practical end of a thin bark piece is striped off taken after by biting. Biting of miswak isolates strands and giving it a brush like appearance that aides in cleaning the teeth effectively. The prescribed length for a stick is around 15 cm so it can without much of a stretch be gotten a handle on alongside simplicity to bear, though, the distance across is liked to be <1 cm. Miswak is known for medicinal use and benefits. Miswak prevents plaque and gingivitis, it has anti-cariogenic effect, strengthening of gums and enamel, removal of bad breath and prevention from tooth decay [9] [19]. Miswak even helps in reduction of stains and discoloration, promoting teeth whitening. [8] It has been confirmed scientifically that these extracts are in the same way effective compared to the effectiveness

of oral disinfectants which includes chlorohexidine gluconate. Effects like antibacterial, antifungal and antiplasmodial come into place when Chlorohexidine gluconate is used in its ideal concentration [6].

Due to free accessibility, remarkable concoction arrangement and religious convictions, the utilization of miswak and other natural items are expanding at an exponential rate in both developing and developed countries and the World Health Organization (WHO) has likewise suggested and empowered the utilization of miswak as a compelling apparatus for oral cleanliness [12]. Biting sticks may assume a part in the advancement of oral cleanliness, and further assessment of their viability is justified, as expressed in the 2000 Consensus report on Oral Hygiene by World Health Organization [12].

MATERIALS AND METHODS:

This was a KAP Survey. This study was carried out among randomly chosen dental practitioners working in tertiary care hospital in Karachi. The duration of study was 4 months. There are a number of tertiary care hospitals that are listed in Karachi and from them we took 1 private and 3 public tertiary care hospital

from which dental practitioners were chosen. The inclusion criteria was the following; Dental practitioners & Post Graduate Trainees and either gender. The exclusion criteria was the following; who did not give written consent and students. The sample size collected was of 203 dental practitioners which were chosen by random sampling technique.

A structured questionnaire designed specifically for the study that comprised of 29 closed ended questions. Age, gender, qualification, employment status, experience and their knowledge, attitude and practice regarding use of miswak were the study variables. The PI approached the dental professionals at their respective hospital and by taking their written consent got them to fill the structured questionnaire. The data was entered in SPSS 22 for statistical analysis.

RESULTS AND DISCUSSION:

Table no 1 shows the association between selective demographic variables and knowledge of miswak use and it was seen that none of the variables were significantly associated with the knowledge of miswak and its use.

Table 1: Association between demographic variables and knowledge about miswak use

Variable(n=203)	Adequate Knowledge Frequency (%)	Inadequate Knowledge Frequency (%)	X ² -Value	P-Value
Age				
Upto 30 years	52(27.5%)	137(72.5%)	0.434	0.351
31 and above	5(35.7%)	9(64.3%)		
Gender				
Male	29(33.7%)	57(66.3%)	2.352	0.125
Female	28(23.9%)	89(76.1%)		
Employment				
Public	38(28.1%)	97(71.9%)	0.001	0.975
Private	19(27.9%)	49(72.1%)		
Qualification				
Graduate	47(26.1%)	133(73.9%)	3.046	0.081
Post Graduate	10(43.5%)	13(56.5%)		
Experience				
1-4 years	49(27.1%)	132(72.9%)	0.839	0.36
5 and above	8(36.4%)	14(63.6%)		

Table no 2 shows the association between selective demographic variables and the attitude towards miswak use and it was seen most of the variables were not significantly associated to the attitude towards miswak use by the dental practitioners whereas with respect to the dental practitioners employed in private hospitals (X²-Value = 14.572 and P-Value = <0.001) are more likely to have adequate attitude towards miswak use than public employed.

Table 2: Association between selective demographic variables and the attitude towards miswak use

Variable(n=203)	Adequate Attitude Frequency (%)	Inadequate Attitude Frequency (%)	X ² -Value	P-Value
Age				
Upto 30 years	96(50.8%)	93(49.2%)	0.95	0.33
31 and above	9(64.3%)	5(35.7%)		
Gender				
Male	49(57.0%)	37(43.0%)	1.649	0.199
Female	56(47.9%)	61(52.1%)		
Employment				
Public	57(42.2%)	78(57.8%)	14.572	<0.001
Private	48(70.6%)	20(29.4%)		
Qualification				
Graduate	90(50.0%)	90(50.0%)	1.891	0.169
Post Graduate	15(65.2%)	8(34.8%)		
Experience				
1-4 years	91(50.3%)	90(49.7%)	1.402	0.236
5 and above	14(63.6%)	8(36.4%)		

Table no 3 shows the association between selective demographic variables and the practice of miswak use and it was seen most of the variables were not significantly associated to the practice of miswak use whereas it is most likely seen that the dentist employed in a private hospital have an adequate practice of miswak use than the dentist employed in public hospital.

Table 3: Association between selective demographic variables and the practice of miswak use

Variable(n=203)	Adequate Practice Frequency (%)	Inadequate Practice Frequency (%)	X ² -Value	P-Value
Age				
Upto 30 years	35(18.5%)	154(81.5%)	0.157	0.513
31 and above	2(14.3%)	12(85.7%)		
Gender				
Male	19(22.1%)	67(77.9%)	1.497	0.221
Female	18(15.4%)	99(84.6%)		
Employment				
Public	18(13.3%)	117(86.7%)	6.474	0.011
Private	19(27.9%)	49(72.1%)		
Qualification				
Graduate	35(19.4%)	145(80.6%)	1.581	0.263
Post Graduate	2(8.7%)	21(91.3%)		
Experience				
1-4 years	33(18.2%)	148(81.8%)	<0.001	0.63
5 and above	4(18.2%)	18(81.8%)		

Table no 4 shows the adequateness of the knowledge, attitude and practice regarding miswak use by dental practitioners. It was seen 28.1% of them had adequate knowledge, 51.7% of them had adequate attitude whereas only 18.2% of them had adequate practice regarding miswak use.

Table 4: Assessment of adequateness of the knowledge, attitude and practice regarding miswak use

Variable (n=203)	Frequency (%)
Adequate Knowledge	
Yes	57(28.1%)
No	146(71.9%)
Adequate Attitude	
Yes	105(51.7%)
No	98(48.3%)
Adequate Practice	
Yes	37(18.2%)
No	166(81.8%)

The study findings revealed that although the overall status of dental practitioner's knowledge, attitude and practice was satisfactory i.e. a majority of them appeared to be aware of the fact that what miswak was made of and that it helps in oral health, a surprisingly low number of them know for how long a single stick can be used for. Furthermore, females were found to be less aware about the knowledge of miswak than males.

This KAP study being the first of its kind to have been carried out on miswak use by dental practitioners, by the best of author's knowledge, left its findings with virtually no relevant data to be compared to, neither international nor national.

With regard to the assessment of dental practitioner's knowledge about miswak use, the study results showed that majority of the dental practitioners were aware of miswak and its benefits, were of the opinion that miswak is not discussed enough in text books, were of the opinion that miswak use can be beneficial for the oral health and has effects like anti-bacterial, anti-carcinogenic, anti-fungal and anti-inflammatory effect etc. that promote good oral hygiene. Whereas more than half of them didn't know for how long a single miswak stick can be used for and its usage technique.

With regards to the assessment of dental practitioner's attitude towards miswak use, the study results demonstrated that a vast majority of them were of the opinion that miswak is the best alternative of tooth brush, dandasa, manjun, powder etc and were of the opinion that miswak use is the best dental cleaning tool

for people who live in a country with low economic status as its cheap and easy to use. Moreover, their opinion marginally indicated that people will switch over toothbrush on recommendation and that toothbrush can be replaced by miswak. Furthermore, the majority were with the opinion that if dentists puts up pictures of miswak at his dental office it will promote its usage. A few of the dental practitioners believed that usage of miswak had the same effect as using toothbrush with toothpaste.

With regard to the assessment of the dental practitioner's practice towards miswak use, the study results demonstrated that a vast majority of them were not using miswak themselves and whereas however did were doing it because of religious beliefs and had started using recently. Furthermore, almost half of them recommended the use of miswak to their patients from which most of them did not demonstrate the proper technique to use miswak. More than half of them examined the oral cavity before recommended miswak. Furthermore, miswak should be recommended after clinically looking at the condition of the oral cavity and few marginally indicated who did examine the condition. However, more than half of the dental practitioners recommending miswak didn't know when to recommend, before or after scaling procedure.

Furthermore, the study findings revealed that dental practitioners of older age and greater experience had higher knowledge about miswak and its use. It was also revealed that dental practitioners employed in private hospitals were more towards promotion of miswak than dental practitioners employed in public

hospitals. Moreover, the study revealed that the dental practitioners employed in private hospital have a better practice of miswak use than the ones employed in public hospitals.

The primary limitation of this study was to have a smaller sample size due to resource constraints. Furthermore, there wasn't literature available to compare the study findings.

In light of the study findings it is recommended that efforts should be made to improve the knowledge of dental practitioners regarding miswak. Study of miswak in detail should be incorporated in the curriculum by the PMDC. The beneficial impacts of miswak utilization are evident and there is plenty of advantages of using a miswak and now it should be the obligation of dental practitioners to return to miswak for better oral and foundational strength of their particular population. Dental practitioners specially working in public hospitals should more emphasis on miswak use as the patient coming in is relatively more from the lower class population as it would be a less expensive choice and in the meantime will have a successful result on their oral cleanliness. Miswak users should get legitimate directions on their utilization. However, there is a requirement for oral health promotion.

CONCLUSION:

The study findings revealed that the level of knowledge of dental practitioners regarding miswak use was overall adequate except for their level of attitude and practice were overall inadequate and unsatisfactory.

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