

# Oral Health Knowledge, Attitude and Practices amongst Medical Health Professionals: A Cross Sectional Study

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## ABSTRACT

**Aim:** To explore the attitude, methods and knowledge of oral health in different health professionals.

**Methods:** This cross sectional study was conducted at Combined Military Hospital and Medical College, Lahore from 1<sup>st</sup> January 2019 to 30<sup>th</sup> June 2019. Fifty four healthy professionals who are working in Combined Military Hospital and Medical College were included..

**Results:** There were 54 participants in total and it included 36 males and 18 females with male-to-female ratio of 2:1. The materials that was used most commonly for oral cleansing was the toothbrush and toothpaste; most of the participants replace their toothbrush within 2–3 months. The 66.7% of the respondents brushed their mouth/teeth twice a day; however, other oral cleansing components were documented in 66.7% of the respondents; their use were mostly after meals and majority (44.4%) used wooden toothpicks. On the other hand, the usage of dental floss was recorded in only 41.7% of the respondents; lack of awareness regarding dental flossing was the main apprehension among respondents who did not floss.

**Conclusion:** Oral health knowledge was average among health care professional despite their high literacy rate. They responded positively towards dental treatment, the most common oral cleansing materials were toothpaste and toothbrush; the participants under the study regularly replaced their toothbrush with a new one. It was observed that most respondents cleaned their mouth two times a day and the usage of dental floss was less recorded among the respondents.

**Keywords:** Oral health knowledge; Oral hygiene practice; Community program

## INTRODUCTION

A healthy mouth indicates a healthy lifestyle because oral health is a priceless treasure. Therefore, to sustain a healthy lifestyle, oral health is considered as essential human right.<sup>1</sup> Healthy oral cavity is generally described as the status of oral cavity with no contaminations and diseases. It not only makes the personality of people graceful but it also ensures healthy functioning of mouth.<sup>2</sup> According to the oral health definition by Dental world Federation, oral health involved, ability to smell, touch, chew, speak, smile and convey a lot of emotions through verbal and non-verbal expressions with determination and confidence. They concluded that healthy mouth has no dental pain or infection of the craniofacial region.<sup>3</sup> Thus, in health status and in the overall health maintenance dental health plays a significant role<sup>4-6</sup>.

It is documented in previous study that a mutual relationship exists between oral diseases and other congenital diseases such as diabetes, digestive disease, stroke, cardiovascular disease, metabolic syndrome, adverse pregnancy outcomes and obesity<sup>7-10</sup>. On the other hand, oral disease may occur due to the result in a pro-inflammatory state, where systemic diseases might develop.<sup>11,12</sup> On the other hand, systemic illness might be

responsible for the progress of oral problems.<sup>13,14</sup> However, despite knowing the signification of oral health in general healthy lifestyle: oral health care is always overlooked and not considered important<sup>15-17</sup>.

Consequently, it is crucial for dental and medical professionals to have basic dental care consciousness because they are the facilitators and providers of health services. It is their responsibility to trace out various means of public oral health awareness in the coming future. Furthermore, the proper understanding of oral health amongst dental students is advantageous for patients' oral health care and is therefore fundamental in avoiding oral inflammations<sup>18</sup>.

It's very important for Dentists and health professionals to realize the importance of oral health care. It cannot be separated from the general health of the hospitalized patient. Furthermore, unhealthy oral conditions can lead to many other systemic diseases. Thus, a combined attempt of dental and medical professionals is required to gain the optimal health<sup>19</sup>.

Many patients are examined on regular basis by health care professionals associated with Combined Military Hospital and Medical College, Lahore. These professionals can play a significant role in maintaining oral health and sets a good example for other human beings i.e. their patients, peers, and family members connected with Military Hospital and Medical College and the community at

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large. They can only do this by proper knowledge of oral health behavior.

### PATIENTS AND METHODS

This cross-sectional was conducted at Combined Military Hospital and Medical College, Lahore. A convenience sampling technique was employed to select health professionals such as doctors, medical students, technicians, pharmacists and nursing staff. Only those health professionals agreeing to participate in the study were considered. A structured, self-administered and close-ended questionnaire was designed and distributed among 98 health professionals working in in Combined Military Hospital and Medical College, Lahore, and 54 health professionals responded positively. The questionnaire used in the study consisted of four parts. The first part was related to demographical details (age, gender, education and type of health professionals). The second part consisted of nine questions to assess dental and periodontal health knowledge (gingival bleeding means, prevention of gingivitis, meaning of dental plaque, what dental plaque causes, sweets affect dental health, soft drink dental health, does dental caries affect aesthetic, total health has relationship with dental health, treatment of toothache is as important as any organ of body). In the third part of questionnaire, there were eight questions related to attitude towards dental profession (visit to dentist, regular visit to dentist necessary, dental management sought during last visit, driving factor for last visit, reasons for not visiting the dentist, dentist explains procedure before treatment, dentist caring patient properly about the patient, dentist cares treatment not prevention) toward professional dental care among the study subject. The fourth part consisted of three questions related to oral hygiene practices (oral hygiene methods used, brushing interval, brushing duration) among the study sample. The data was analyzed through SPSS-23.

### RESULTS

Total 54 participants and out of them 36 were males and 18 females, with a male-to-female ratio of 2:1. Medical officers (57.4%) were the predominant group among the respondents, and the department of medicine was most represented among the respondents in the clinical department; however, the no major clinical departments (29.6%) such as ophthalmology, ear, nose, and throat, and psychiatry as a group were the most predominant [Table 1]. The most common materials used for oral care was toothpaste and brush; however, most respondents routinely checked the fluoride content of the toothpaste, but most of the participants changed their toothbrush within 2–3 months. Furthermore, among those who changed their toothbrush within 3 months, 83.4% were females while 41.7% were males [Table 2].

Most respondents brushed their mouth/teeth twice (66.7%) in a day and again, 98.1% of the respondents did always brush their tongue; however, the use of other cleansing options was reported in 66.7% of the professionals; their use was mostly after meals and wooden toothpicks were used by majority of participants (44.4%). only 41.7% of the respondents documented about

floral use, those who did not use the floss, did not have the knowledge about the dental flossing. Nineteen (35.2%) respondents did not use mouthwash, while 35 (64.8%) used mouthwash; however, lack of awareness on the use of mouthwash and their belief of lack of effectiveness were the two major reasons among those who did not use mouth wash (36.8% each). Twenty-four (44.4%) respondents washed their mouth after every meal, while 30 (55.6%) did not. Furthermore, 41(75.9%) of them were aware that dental problem is a risk factor for cardiovascular disease while 13 (24.1%) were not aware [Table 3].

Oral examination of patients during consultation was routinely practiced by a majority of respondents. Similarly, patient education on good oral hygiene was routinely practiced; furthermore, dental referrals of patients were routinely practiced among respondents. Two respondents (40%) believed that it was not necessary because they could handle it, while three (60%) reported absence of dental services as the main reason for no referral. Thirty-five respondents (64.8%) use mouthwash, while 19(35.2%) do not use mouthwash [Table 4].

Half of the house officers used dental floss and majority of the medical officers used dental floss. While the only consultant represented used dental floss, this observation was not statistically significant (Fisher's exact test = 3.373, P = 0.513). Twenty-eight (51.9%) respondents brushed their teeth for < 4min while 26 (48.1%) reported brushing for 4 or more minutes; apart from the senior medical officers, majority of the subgroups brushed their teeth for >4 min. However, this observation was not statistically significant (Fisher's exact test = 7.534, P = 0.073) [Table 5]. An equal proportion of respondents who used other oral cleansing materials brushed for more than and less 4 minutes; however among those who did not, majority brushed for < 4 but this observation was not statistically significant ( $\chi^2 = 0.148$ , df = 1, P = 0.777) [Table 6].

Table 1: Staff cadre and their departments

Variable	No.	%
<b>Staff status</b>		
House officer	12	22.2
Medical Officer	31	57.4
Senior medical officer	7	13.0
Principal office	3	5.6
Consultant	1	1.9
<b>Department</b>		
Medicine	13	24.1
Surgery	7	13.0
Pediatric	12	22.2
Obstetrics & Gynaecology	6	11.1
Others	16	29.6

Table 2: Oral hygiene and dental practices among respondents (n=54)

Variable	No.	%
<b>Oral cleansing</b>		
Brush/paste	48	88.9
Both brush/chewing stick	6	11.2
<b>Fluoride check</b>		
Yes	28	51.9
Not sure	18	33.3
Not	8	14.8

Table 3: Tooth brushing and oral cleansing practices among respondents

Variable	No.	%
<b>Frequency of brushing tongue? Dental floss (n=54)</b>		
Once	8	14.8
Twice	36	66.7
>2	10	18.5
<b>Do you brush use? (n=54)</b>		
Yes	53	98.1
No	1	1.9
<b>Do you use (n=54)</b>		
Yes	36	66.7
No	18	33.3
<b>How often? Floss (n=36)</b>		
After meal	18	50.0
Daily	10	27.8
Weekly	8	22.2
<b>What do you using (n=36)</b>		
Wooden toothpick	16	44.4
Plastic toothpick	5	13.9
Dental floss	15	41.7
<b>Reason for no using it (n=18)</b>		
Not aware	11	61.1
Expensive	2	11.1
Not effective	5	27.8
<b>Reason for not mouthwash (n=19)</b>		
Expensive	2	10.5
Not available	1	5.4
Not aware	7	36.8
Do not like	2	10.5
Not effective	7	36.8

Table 4: Patient oral care, education, and referral practices

Variable	No.	%
<b>Oral examination for patients (n=54)</b>		
No	4	7.4
Sometimes	30	55.6
Always	20	37.0
<b>Patient education on oral hygiene (n=54)</b>		
No	4	7.4
Sometimes	24	44.4
Always	26	48.1
<b>Dental referral (n=54)</b>		
No	5	9.2
Sometimes	28	51.9
Always	21	38.9

Table 5: Comparing staff status and oral hygiene practices of respondents

Status	Any floss			Brushing time (min)		
	Yes	No	Total	<4	>4	Total
House officer	6	6	12	4	8	12
Medical officer	23	8	31	19	12	31
Senior officer	4	3	7	5	2	7
Principal officer	2	1	3	-	3	3
Consultant	1	-	1	-	1	1
Total	36	18	54	28	26	54

Fisher's exact test = 3.373  
P = 0.073

Fisher's exact test = 7.534  
P = 0.073

Table 6: Comparing brushing time with the use of other oral cleaning options use of other material

Duration of brushing	Yes	No	Total
<4 minutes	18	10	28
>4 minutes	18	8	26
Total	36	18	54

## DISCUSSION

Oral hygiene is an integral and very important part of personal hygiene, and its impact affects our overall well-being and self-esteem. An observation from this study showed that toothbrush and toothpaste were the most common materials used for oral cleansing. This may be considered a favorable oral hygiene practice which was comparable to that reported by Baseer et al.<sup>19</sup> and Bhoopathi et al.<sup>20</sup> However, the observation that 88.9% of respondents used toothbrush and toothpaste was lower than the 100% documented by Kaur et al.<sup>21</sup> Furthermore, 6% of the respondents in our study used a combination of toothpaste/toothbrush and "chewing" (tooth) stick; use of chewing stick among health professionals was also reported by Younus and Qureshi<sup>22</sup> and Baseer et al.<sup>19</sup> In their study in Saudi Arabia, they stated that 1.2% of their respondents used "miswak/siwak;" however, they attributed this to their religious beliefs. Being a Muslim country, Prophet Mohammed had advised his followers to clean their teeth with the "siwak" as a modality of expressing cleanliness, worship, and praise to God.<sup>23</sup>

This may also explain our observation in this study because the northern region of Nigeria is a predominantly Muslim setting. Majority of the respondents (51.9%) in our study reported to have routinely checked for the fluoride content on the toothpaste pack; this practice reflects an impressive dental behavior and consciousness. However, our observation differed from that of Baseer et al. who reported only 1.2% of their respondents being conscious of the need to check for fluoride application during dental visits. Their observation was similar to that of Usman et al.<sup>13</sup> and Kumar et al.<sup>2</sup> Many professional bodies, including the American Dental Association, recommend change of toothbrush every 3–4 months or even earlier if the brush head appears fray; however, this is a practice that is not routinely observed despite the cheapness of a toothbrush, probably this is as a result of lack of this information. Our study observed that 55.6% of the respondents changed their toothbrushes within 1–3 months. This result was lower than the 65% reported by Younus and Qureshi<sup>22</sup> among Karachi residents.<sup>22</sup> Furthermore, more females routinely changed their toothbrush than males in our study; this observation was similar to that reported by Younus and Qureshi<sup>22</sup>. Females are more likely to be self-conscious of their look; therefore clean and white teeth add to their beauty. Oral cleansing twice per day improves oral hygiene and significantly reduces the risk of dental plaque formation. Our study showed that 85.2% of the respondents brush more than once in a day; this finding was higher than the 20% reported by Baseer et al.<sup>18</sup> and 50% reported by Kaur et al.<sup>21</sup> This disparity may be related to differences in training and practice among the respondents.

Majority of the respondents in our study use other oral cleansing materials and mouthwash. This observation was higher than that reported by Baseer et al.<sup>18</sup> and Kaur et al.<sup>21</sup> Lack of awareness of the need, cost, and availability were the common reasons reported for not using them; therefore, this further highlights the need for improving our dental practices. The use of wooden toothpick which was almost of equal proportion with dental filament was

observed in our study; dental filaments have a higher tendency of plaque removal especially on the difficult-to-reach areas such as the lingual axial surfaces.<sup>19</sup> Furthermore, wooden toothpicks can easily traumatize the gum resulting in gum bleeds; therefore, its use should be discouraged.

## CONCLUSION

The use of toothbrush and toothpaste was universal in this study, but there is still a need for improvement on oral hygiene practices of the respondents such as the use of mouthwash and dental floss; furthermore, the frequency of dental flossing and duration of tooth brushing were reportedly low in this study. Therefore, a poor personal oral hygiene practice may influence poor patient oral health care. The present study demonstrates significant oral health knowledge for health professionals. These professionals can teach or prevent the masses if they have adequate knowledge. Also, we suggest that the teaching methodology of staff members of medical and para-medical should also have familiarity with oral health care and its importance. This will enhance the consciousness among them regarding the issue of oral health care.

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