

## Assessment of oral health knowledge among medical personals of Jammu and Kashmir

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### Abstract

**Introduction:** Oral health maintenance is indispensable for the upkeep of overall health, which is a crucial part of general health. Medical professionals play an important role in oral disease screening, emergency treatment, pain management, and management of trauma cases. Exploration of literature reveals that only few studies have assessed oral health awareness among medical professionals. So, the present study was conducted to assess the oral health knowledge and awareness among medical professional of Jammu and Kashmir.

**Materials and Methods:** A questionnaire based cross-sectional study was conducted among the medical professionals of Jammu and Kashmir. The data regarding the oral health knowledge was collected using a standardized close ended questionnaire. Proportional probability sampling (PPS) method was used for collection of data. Assessment of oral health knowledge among medical personals were done using Chi-square analysis. Any  $P \leq 0.05$  was considered statistically significant.

**Results:** A total of 996 complete responses were received in which 604 were males and 396 were females. Among the participants, 99.7% believed that oral health is an integral part of general health while 92.5% agreed that certain systemic diseases can manifest in the oral cavity. Proper brushing of teeth and flossing are thought to be effective to prevent both dental caries and gingival diseases by 83.9% of participants while 62.4% said that Fluorides have a protective role against dental caries. Most of the responses regarding oral health knowledge were found to be statistically significant ( $P \leq 0.05$ ).

**Conclusion:** In the present study, we found that oral health knowledge of medical personal were satisfactory and not excellent. Further studies have to be conducted to explore the reasons for this ignorance because oral health knowledge of health care personals is very important as they are the role models for individuals and community at large.

**Keywords:** Awareness, Knowledge, Medical personals, Medical students, Oral Health

### Introduction

Oral health maintenance is indispensable for the upkeep of overall health, which is a crucial part of general health. <sup>[1,2]</sup> FDI world dental federation have defined oral health to be multifaceted which includes the ability to speak, smile, smell, taste, touch, chew, swallow, and convey a range of emotions through facial expressions with confidence and without pain, discomfort, and disease of the craniofacial complex. Oral health affects people physically and psychologically and influences how they grow, enjoy life, look, speak, chew, taste food and

socialize, as well as their feelings of social well-being. Poor oral health reflects social inequalities; hence the prevention of oral diseases should be a priority in developed and underdeveloped countries around the world. [1, 3].

Though oral health has an important role in systemic health, it is often neglected. Medical doctors play an important role in promoting oral health care, as there is a relationship between the systemic and oral health [4]. Proper knowledge of oral diseases is crucial in medical practice due to the following reasons: (a) Periodontal disease is associated with multiple systemic conditions of medical interest, (b) a large number of systemic diseases have oral manifestations, and (c) many drugs are associated with oral adverse drug reactions [5]. Oral disease has its effect on the entire body and hence it cannot be omitted from the subject of health. [6]

To effectively addressing oral health care needs, primary care physicians can help to a great extent. [7, 8, 9] Medical doctors should know the treatment for the tooth pain in the emergency cases. Some systemic diseases are related to oral cavity. Hence, the medical doctors should be able to know about the oral manifestations for proper diagnosis for some diseases [7]. They should know about various specialities in dentistry for correct referral of the patient with dental problem and in an emergency to refer to a dental specialist. Implementation of oral health programs among medical students will not only improve their personal health care but also potentially influence their ability to motivate patients to undertake preventive oral health measures. [8]

Many studies have shown that medical professionals play an important role in oral disease screening, emergency treatment, pain management, and management of trauma cases. [9] Exploration of literature reveals that only few studies have assessed oral health awareness among medical professionals. So, the present study was conducted to assess the oral health knowledge and awareness among medical professional of Jammu and Kashmir.

### **Materials and Methods**

A questionnaire based cross-sectional study was conducted among the medical professionals of Jammu and Kashmir. The study included all the medical professionals of Jammu and Kashmir including students, faculty and private practitioners. The ethical clearance for the study was obtained from the Institutional Review Board of the dental college.

### **Data collection**

Demographic data including gender, educational status and year of practice of each study participants were recorded. The data regarding the oral health knowledge was collected using a standardized close ended questionnaire. Proportional probability sampling (PPS) method was used for collection of data. The participation was voluntary and written consent was taken from each participant prior to filling of questionnaire.

### **Statistical analysis**

The data were compiled and tabulated in Microsoft Excel spreadsheet and were subjected to descriptive analysis using the Statistical Package for the Social Sciences software (SPSS) 21.0 (SPSS Inc., Chicago, IL, USA). Assessment of oral health knowledge among medical persons were done using Chi-square analysis. Any  $P \leq 0.05$  was considered statistically significant.

### **Results**

A total of 996 complete responses were received. Of the participated professionals, 604 were males and 396 were females. About 148 first years, 158 second years, 180 third years, 170 fourth years, 142 interns and 40pgs participated. Most of the working professionals were

practicing from 6-10 years. Demographic data of the study participants are illustrated in Table 1.

**Table 1: Demographic data of the study participants**

Demographic data		Number	Percentage
Gender	Male	604	60.6%
	Female	396	39.7%
Academic year	1 <sup>st</sup> year	148	14.8%
	2 <sup>nd</sup> year	158	15.8%
	3 <sup>rd</sup> year	180	18.07%
	4 <sup>th</sup> year	170	17.06%
	Intern	142	14.2%
	P.G.	40	4.01%
Years in practice of working professionals	1 - 5 years	52	5.2%
	6 - 10 years	72	7.2%
	11 - 15 years	20	2.0%
	Above 16 years	14	1.4%

Among the participants, 99.7% believed that oral health is an integral part of general health while 92.5% agreed that certain systemic diseases can manifest in the oral cavity. About 85.7% agreed that proper maintenance of deciduous dentition is as important as the permanent dentition while 78.1% knew that saliva can be used in the diagnosis of oral as well as certain systemic diseases. In the opinion of 79.3% medical personals, Dental caries and periodontal disease are plaque-mediated diseases while most of the participants believed that Dental caries can be prevented by adopting healthy oral health behaviors.

Proper brushing of teeth and flossing are thought to be effective to prevent both dental caries and gingival diseases by 83.9% of participants while 62.4% said that Fluorides have a protective role against dental caries. 56.02% suggested that Dental care should be started even before birth of a child prenatal care and 53.1% believed the transmission of microorganisms that cause dental caries from the mother to the child.

74.1% participants believed that frequent consumption of sugar containing food is more detrimental than the quantity of the sugar consumed. 60.5% participants thought that too much care for natural teeth is unwarranted because artificial teeth can perfectly replace the function of natural teeth. 81.2% agreed that Health education has an important role to play in creating awareness about oral health among public. Most of the responses regarding oral health knowledge was found to be statistically significant ( $P \leq 0.05$ ). Table 2 describes the oral Health Knowledge among medical personals.

**Table 2: Assessment of the Oral Health Knowledge among the medical personals**

S.No	Questions	Agree	Neither Agree Nor Disagree	Disagree	P value (Chi square test)
1.	Oral health is an integral part of general health.	994 (99.7%)	0(0%)	2 (0.2%)	0.639
2.	Certain systemic diseases can manifest in the oral cavity.	922 (92.5%)	31 (3.1%)	43 (4.3%)	<b>0.001*</b>
3.	Proper maintenance of deciduous dentition is as important as the	854 (85.7%)	80 (8.03%)	62 (6.2%)	0.242

	permanent dentition.				
4.	Saliva can be used in the diagnosis of oral as well as certain systemic diseases	778 (78.1%)	74 (7.4%)	144 (14.4%)	<b>0.019*</b>
5.	Dental caries and periodontal disease are plaque - mediated diseases	790 (79.3%)	108 (10.8%)	98 (98.3%)	<b>0.025*</b>
6.	Dental caries is a complex disease but can be prevented by adopting healthy oral health behaviours.	824 (82.7%)	72 (7.2%)	100 (10.1%)	<b>0.000*</b>
7.	Proper brushing of teeth and flossing will enable to prevent both dental caries and gingival diseases	836 (83.9%)	52 (5.2%)	108 (10.8%)	<b>0.000*</b>
8.	Fluorides have a protective role against dental caries.	622 (62.4%)	196 (19.6%)	178 (17.8%)	<b>0.044*</b>
9.	Dental care should be started even before birth of a child prenatal care	558 (56.02%)	246 (24.6%)	192 (19.2%)	0.233
10.	Microorganisms that cause dental caries are transmitted mainly from the mother to the child.	531 (53.1%)	203 (20.3%)	262 (26.2%)	0.990
11.	Frequent consumption of sugar containing food is more detrimental than the quantity of the sugar consumed.	739 (74.1%)	125 (12.5%)	132 (13.2%)	0.169
12.	Parafunctional habits like thumb sucking, lip biting, lip sucking and nail biting are very common among children. These habits need to be curbed as they affect orofacial structures.	775 (77.8%)	96 (9.6%)	125 (12.5%)	<b>0.008*</b>
13.	Alignment of teeth is done both for functional as well as aesthetic purpose	789 (79.2%)	75 (7.5%)	132 (13.2%)	<b>0.002*</b>
14.	Mouthguards are useful in preventing sportrelated injuries/ trauma	771 (77.4%)	139 (13.9%)	86 (8.6%)	<b>0.028*</b>
15.	A tooth avulsed due to trauma can be reimplanted into the tooth	519 (52.1%)	221 (22.1%)	256 (25.6%)	<b>0.043*</b>

	socket				
16.	Bruxism, trauma from occlusion, reduced vertical dimension of jaws can cause Temporomandibular joint problems and pain in orofacial region	704 (70.6%)	161 (16.1%)	131 (13.1%)	<b>0.030*</b>
17.	Loss of teeth during old age is a natural phenomenon. Neither the dentist nor the patient can prevent tooth loss	685 (68.7%)	131 (13.1%)	180 (18%)	<b>0.003*</b>
18.	Artificial teeth can perfectly replace the function of natural teeth. Hence, too much care for natural teeth is unwarranted	603 (60.5%)	95 (9.5%)	298 (29.8%)	<b>0.010*</b>
19.	Soft drinks can cause erosion of dental enamel which is the hardest tissue in the human body	773 (77.6%)	77 (7.7%)	146 (14.6%)	<b>0.000*</b>
20.	Cleft palate and cleft lip are developmental defects. Proper surgical and prosthetic treatment is available that will enable patients with Cleft lip/Cleft palate to lead a normal life.	772 (77.5%)	83 (8.3%)	141 (14.1%)	<b>0.000*</b>
21.	Health education has an important role to play in creating awareness about oral health among public	809 (81.2%)	78 (7.8%)	109 (10.9%)	<b>0.024*</b>
22.	Oral diseases have an implication on certain systemic diseases/ conditions like cardiovascular diseases, coronary artery diseases, Pregnancy, low birth weight babies etc.	657 (65.9%)	146 (14.7%)	193 (19.4%)	<b>0.043*</b>
23.	Oral health has an influence on the overall quality of life	848 (85.1%)	59 (5.9%)	89 (8.9%)	<b>0.004*</b>
		<b>Yes</b>	<b>No</b>		<b>P value</b>
24.	Is there link between diabetes and periodontal disease?	798 (80.1%)	198 (19.8%)		<b>0.017*</b>

25.	Did you know that poor maintenance of poor oral hygiene in pregnancy may lead to pre-term low birth weight babies (PTLBW) and premature delivery?	540 (54.2%)	456 (45.7%)	<b>0.008*</b>
26.	Is periodontal disease transmissible within family members?	540(54.2%)	456 (45.7%)	<b>0.001*</b>
27.	Periodontitis is the sixth complication of diabetes mellitus?	664 (66.6%)	332 (33.3%)	<b>0.007*</b>
28.	Is there relationship between oral infection and respiratory disease in particular COPD and pneumonia	770 (77.3%)	226 (22.6%)	0.999
29.	Is it possible for the respiratory bacteria that have colonized the oral cavity to pose a potential threat for lung infection	750 (75.3%)	246 (24.6%)	0.404
30.	Is there a link between osteoporosis and bone loss in the jaw	782 (78.5%)	214 (21.4%)	<b>0.007*</b>

## Discussion

Dental disease is one of the most common preventable public health challenges that resulted in a significant burden on general population. So oral diseases should be incorporated into comprehensive health-promoting strategies and practices as well as addressed in a multi-professional approach. Smooth interaction and combined efforts of the medical and dental professionals are essential for efficient healthcare delivery to the people. <sup>[10]</sup> Medical personals can play an important role in improving oral health of the population depends on his own knowledge about oral disease and their effect on general health, his attitude towards dentistry and their routine practice to maintain oral health. So our study was conducted with an aim to assess oral health knowledge and awareness among medical professional.

The present study results showed that the knowledge of oral health among health care personals were average and these results are in agreement with the study conducted by Sujatha, et al, where undergraduate medical students in Davangere city had poor oral health knowledge. <sup>[11]</sup> In a study by Mulla and Omar et al, Oral health knowledge among medical students was fair, but oral health practices were moderate. <sup>[12]</sup> This difference in study results may be due to the difference in study population of each study as in our study all health care personals were included but the study by Mulla and Omar was only on fourth and fifth year students.

In our study, 99.7% responded correctly that oral health is an integral part of general health and 85.1% agreed that oral health has an influence on the overall quality of life but the results were not statistically significant. In a study by Kumar, et al, 92.67% dental students and 87.33% medical students correctly answered about relation oral health and general health. <sup>[13]</sup> In the opinion of most of the medical personals, Dental caries can be prevented by adopting

healthy oral health behaviors. They believed that proper brushing of teeth and flossing can prevent both dental caries and gingival diseases and Fluorides have a protective role against dental caries. These results were statistically significant and also were in agreement with the study by Sujatha, et al <sup>[10]</sup>In a study by Yao et al on medical and dental students, more than half dental students thought that fluoride application (66.9%) and pit and fissure sealing (84.5%) could prevent caries, while in medical students, these ratios were less than 50%. <sup>[14]</sup>Another study by Gurung M et al, which was done to assess the Knowledge, Attitude and Practice (KAP) on Oral Health among students of Nepalese Army Institute of Health Sciences, revealed that total knowledge on dental caries was found to be significantly higher in MBBS students than nursing students however nursing students had more positive attitudes towards oral health. <sup>[15]</sup>

According to our study results it is evident that medical personals need to get more knowledge regarding oral health. Hence here it becomes necessary to lay more emphasis on dentistry-related topics to be taught during their medical courses and training period. Because today's students will provide health services in the future and will be responsible for public oral health education.

Limitation of this study is that being a questionnaire based study it can be susceptible to acquiescence bias and social desirability bias.

### Conclusion

In the present study, we found that oral health knowledge of medical personal were satisfactory and not excellent. Further studies have to be conducted to explore the reasons for this ignorance because oral health knowledge of health care personals is very important as they are the role models for individuals and community at large. Further emphasis on oral health is necessary in undergraduate training of all health care personals to improve their oral health knowledge, attitude, and practice of students since they are the future providers of health care.

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