

# Dental Awareness, Knowledge and Attitude among the Medical Practitioners in Pokhara, Nepal

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## ABSTRACT

**Introduction:** Oral health is a window to our overall health. Negligence to oral health might have adverse effects on the general well being of a person. Hence, early detection and prompt treatment is of utmost importance. Lack of general medical practitioner's knowledge of oral disease has been shown to contribute to delays in referral and treatment, thus significantly affecting the associated morbidity and mortality.

**Methods:** The present study was undertaken to assess knowledge, attitude and dental awareness among medical practitioners in Pokhara, Nepal. A list of medical practitioners was obtained from the NMA (Nepal Medical Association, Gandaki branch, Nepal) and sample size of 109 study subjects was calculated. A cross-sectional study was conducted among the medical practitioners. from March 2018 to April 2018. The data pertaining to their knowledge, attitude and awareness about oral health was gathered using a self-administered questionnaire. The data was analyzed using descriptive statistics.

**Results:** Results of the study showed that the medical practitioners had moderate to good knowledge about dentistry as 97.2% of the medical practitioners answered correctly saying that brushing tooth daily prevents tooth decay and periodontal disease Whereas, when asked about the changes in the oral cavity which most commonly is associated with progression towards oral cancer, only 46.8% answered correctly by responding to non-healing ulcer/ erosive lesions.

**Conclusions:** It is imperative that the dental/medical practitioners have good knowledge about the oral diseases and its systemic manifestations, so as to have timely referral and early treatment to prevent the associated morbidity and mortality.

## Keywords

*Morbidity, Mortality, Oral diseases, Statistics.*

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## INTRODUCTION

Oral diseases and conditions are widely prevalent and are costly to treat, mainly because these diseases remain asymptomatic and chronic until they have reached an advanced stage. Also, there are several systemic diseases with oral manifestations, many of which manifest earlier than their systemic counterparts. This makes a routine oral examination an extremely important and a viable

area for the early detection and the treatment of a gamut of oral and non-oral diseases.<sup>1</sup> Inspection of the oral cavity by a doctor has been accepted as a part of the physical examination for over a century, and if it is done on a routine basis, it can considerably reduce the morbidity and mortality which result from oral disease.<sup>2</sup> However, dental knowledge of qualified medical practitioners is different when compared to the general public. Even though they are qualified in the medical faculty their

knowledge about dental diseases, relationship of oral health with systemic diseases and life threatening dental diseases are scarce.<sup>3</sup> Hence, the present study seeks to assess the dental knowledge, attitudes and awareness of different medical practitioners in Pokhara, Nepal towards the systemic conditions affecting oral health.

## MATERIAL AND METHODS

A cross sectional questionnaire survey was carried out to assess the knowledge, attitude and awareness of Medical Practitioners of Pokhara, Nepal. A list of medical practitioners was obtained from the NMA (Nepal Medical Association, Gandaki branch, Nepal). A sample size of 109 study subjects was obtained. The practitioners with MBBS degree/MBBS degree along with higher specialization (MD/MS/DM/Mch) were included. The duration of the study spanned over a period of two months from March 2018 to April 2018. A specially designed questionnaire (pretested questionnaire)<sup>4</sup> consisting of three sections was used, which consisted of firstly questions based on the dental knowledge of medical practitioners which included five questions, secondly section based on the attitude of the medical practitioners towards dental health, which included eight questions and the last section was based on the awareness of the medical practitioners regarding the significance of systemic conditions related to oral health, which comprised of nine questions.<sup>4</sup> The medical practitioners were approached personally and the purpose of the study was explained along with handing over of the questionnaire. It was also mentioned that responses would remain confidential. The questionnaires were collected personally.

Data obtained was analyzed using the SPSS (Statistical package for social sciences) version 15.

Ethical consideration: Ethical approval was taken from the Institutional Ethical Committee, Gandaki Medical College dated 8<sup>th</sup> February 2018 with ref. no.08-02-2018.

## RESULTS

**Table 1:** Distribution of study subjects by gender

Gender	Frequency/Percentage
Males	70 (64.2%)
Females	39 (35.8%)
Total	109 (100%)

**Table 2:** Years of experience of participants

Years of experience	Frequency/Percentage
0-5 (years of experience)	32 (29.4%)
5-10 (years of experience)	77 (70.6%)
Total	109 (100%)

**Table 3:** Response based on their dental knowledge

Questions on dental knowledge		Frequency/Percentage
Brushing teeth daily prevents	a. Oral cancer	1 (0.9%)
	b. Oral ulcer	2 (1.8%)
	c. Tooth decay and periodontal disease	106 (97.2%)
	d. Proclination of teeth	0
Important factors causing tooth decay (Dental caries)	a. Brushing once a day	3 (2.8%)
	b. Using tooth powder	2 (1.8%)
	c. Sugar contained foods consumed per day	94 (86.2%)
	d. Smoking	10 (9.2%)
Factors responsible for gingival/periodontal disease	a. Dental caries	12 (11.0%)
	b. Plaque and calculus	93 (85.3%)
	c. Teeth with fractured restoration	3 (2.8%)
	d. Inflammation of the tongue	1 (0.9%)
Specialty in dentistry	a. Lasodontics	0
	b. Endodontics	103 (94.5%)
	c. Hypodontics	2 (1.8%)
	d. Ododontics	4 (3.7%)
Does scaling have any adverse effects on teeth?	a. Thinning of tooth	14 (12.8%)
	b. Increase in inter-dental space	4 (3.7%)
	c. Increase in mobility of teeth	6 (5.5%)
	d. Cause tooth sensitivity	85 (78.0%)

**Table 4:** Response based on attitudes towards dental health

Questions on Attitude to dental health		Frequency/Percentage
How many times a patient should be advised to brush his/her teeth (including the medical practitioners)	a. Once daily (tooth paste/gel)	22 (20.2%)
	b. Twice daily (tooth paste/gel)	87 (79.8%)
Does the doctor smoke or consumes tobacco in smokeless form	a. Yes	18 (16.5%)
	b. No	91 (83.5%)
In how much duration should the patients visiting the medical doctors advise to visit the dentist?	a. At least once in 6 months	98 (89.9%)
	b. Once in 2 months	1 (0.9%)
	c. Only if in pain	2 (1.8%)
	d. Once in every 2-5 years	8 (7.7%)

Patient with a dental abscess	a. Refer the patient to dentist	102 (93.6%)
	b. Prescribe antibiotics and analgesics	7 (6.4%)
	c. Ignore	0
Does dental treatment improve quality of life?	a. Yes	100 (100%)
	b. No	0
Do pregnant women need dental check-up?	a. Yes	100 (100%)
	b. No	0
Advise periodic dental care for pediatric patients	a. Yes	107 (98.2%)
	b. No	2 (1.8%)
Should the medical doctors examine the oral mucosa of the patients visiting them	a. Yes	94 (86.2%)
	b. No	15 (13.8%)

Distribution of oral manifestations in HIV individual	a. Fungal	71 (65.1%)
	b. Viral	17 (15.6%)
	c. Bacterial	2 (1.8%)
	d. Gingivitis/periodontitis	19 (17.4%)

**Table 5:** Response of awareness on systemic conditions related to oral health due to dental diseases/ infections

Questions on Awareness of systemic conditions related to oral health	Frequency/Percentage	
Ludwig's angina is a	a. Cardiac disease	14 (12.8%)
	b. Venous disease	0
	c. Renal disease	0
	d. Dental space infection	95 (87.2%)
Life threatening situation due to untreated dental infection	a. Cavernous thrombosis	100 (91.7%)
	b. Hodgkin's lymphoma	7 (6.4%)
	c. Myelofibrosis	2 (1.8%)
	d. Brain tumour	0
Periodontal disease is a risk factor for	a. Heart attack	4 (3.7%)
	b. Peptic ulcer	3 (2.8%)
	c. Infective endocarditis	101 (92.7%)
Systemic complications due to untreated dental disease	d. Myocardial infarction	1 (0.9%)
	a. Diabetes	2 (1.8%)
	b. Necrotizing fasciitis	92 (84.4%)
	c. Leukodema	0
What changes in the oral cavity would you associate with progression towards oral cancer	d. Gingivitis	15 (13.8%)
	a. White patch (leukoplakia)	22 (20.2%)
	b. Blanching and stiffness (oral submucous fibrosis)	8 (7.3%)
	c. Mixed red and white lesion)	12 (11.0%)
	d. Exophytic growth	16 (14.7%)
Is there any relationship exists between oral and general health?	e. Non-healing ulcer/erosive lesion	51 (46.8%)
	a. Yes	107 (98.2%)
	b. No	2 (1.8%)
Which system most commonly affected resulting in oral manifestations?	c. Not aware	0
	a. Gastrointestinal	103 (94.5%)
	b. Respiratory	0
	c. Cardiovascular	6 (5.5%)
Do HIV infection results in oral manifestations	d. Renal	0
	a. Yes	92 (84.4%)
	b. No	17 (15.6%)

Responses based on dental knowledge (Table 3)

Among the study subjects about 106 (97.2%) answered correctly that brushing teeth daily prevents tooth decay and periodontal diseases, 94 (86.2%) said that the most important factor resulting in dental caries is the use of sugar contained foods consumed per day, 93 (85.3%) have answered correctly that the factor responsible for gingival and periodontal diseases is the presence of plaque and calculus. A total of 103 (94.5%) answered correctly that Endodontics was a specialty in dentistry and none of the doctors answered correctly saying that scaling has no adverse effect on teeth. 85 (78%) said that scaling caused tooth sensitivity.

Responses based on attitudes towards dental health (Table 4)

Among the study subjects 87 (79.8%) have answered correctly saying that they would suggest their patients to brush their teeth twice daily. Ninety one (83.5%) accepted that they don't smoke or consume tobacco in smokeless form, 98 (89.9%) have answered correctly saying that they would suggest their patients to visit the dentist at least once in six months. One hundred two (93.6%) answered correctly saying that they would refer a patient with dental abscess to dentist rather than treating on their own. A total of 109(100%) accepted that dental treatments have a positive effect on quality of life and 10 that it is important for pregnant women to undergo routine dental checkup each. A total of 107 (98.2%) answered correctly that periodic dental care and checkups are important for pediatric patients and 94 (86.2%) answered correctly saying that medical doctors should examine the oral mucosa of the patients visiting them.

Responses on their awareness on systemic conditions related to oral health due to dental diseases/ infections (Table 5)

Among the study subjects about 95 (87.2%) correctly identified Ludwig's angina as a dental space infection and 100 (91.7%) correctly identified cavernous thrombosis as a life threatening situation due to untreated dental infection.

A total of 101 (92.7%) of the doctors correctly identified that periodontal diseases are risk factor for developing Infective Endocarditis and 92 (84.4%) answered that Necrotizing Fasciitis is a systemic complication due to untreated dental infection.

Fifty one (46.8%) of the doctors stated that the changes in the oral cavity which most commonly be associated with progression towards oral cancer is presence of a non-healing ulcer/ erosive lesions. The remaining 22 (20.2%) favored a white patch, 16 (14.7%) favored presence of an exophytic growth in oral cavity, 12 (11.0%) favored a mixed red and white lesion, and lastly 8 (7.3%) favored blanching and stiffness of the oral mucosa as having high potential for progressing towards oral cancer. One hundred seven (98.2%) of the doctors have answered that there exists a relationship between oral and general health.

A total of 103 (94.5%) answered that the system which when most affected results in oral manifestations is the gastrointestinal system, 92 (84.4%) answered correctly that HIV infection results in number of oral manifestations, 71 (65.1%) stated that fungal infections are the most common oral manifestations in HIV infected individuals. The remaining 19 (17.4%) favored gingivitis and periodontitis, 17 (15.6%) favored viral infections and lastly two (1.8%) stated bacterial infections as the most common oral manifestation in HIV infected individuals.

## DISCUSSION

Oral health touches every aspect of our lives but is often taken for granted. Our mouth is a window into the health of our body. It can show signs of nutritional deficiencies or general infection. Systemic diseases, those that affect the entire body, may first become apparent because of mouth lesions or other oral problems. Hence, the compartmentalization involved in viewing the mouth separately from the rest of the body must cease as physician's play a pivotal role in oral public health.<sup>5</sup> They are endowed to have a basic dental knowledge as they do come across various oral problems among patients while practicing such as tooth ache, swelling in oral cavity, bleeding gums, various white and red patches. If they examine the oral cavity regularly, these conditions can be identified at the initial stages and hence early referral to the dentist for prompt treatment.

Results of the study showed that the medical practitioners

had moderate to good knowledge about dentistry.

In the present study with regards to dental knowledge 94 (86.2%) have said that the most important factor resulting in dental caries is the use of sugar contained foods consumed per day. This result is in coordination with the result of the study conducted by Srinidhi et al<sup>6</sup> in which 271 (90.3%) of medical practitioners favored sugar contained food as the major cause for the tooth decay.

In the present study with regards to attitude 98 (89.9%) have answered correctly saying that they would suggest their patients to visit the dentist at least once in six months. This result is slightly higher as compared to study conducted Srinidhi et al,<sup>6</sup> in which 229 (76.3%) of the medical practitioners suggested their patients to visit the dentist once in six months.

In the present study with regard to awareness about life threatening dental diseases, about 100 (91.7%) of the doctors have correctly identified cavernous venous thrombosis as a life threatening situation due to untreated dental infection. These results were slightly higher than those found in the study conducted by Srinidhi et al,<sup>6</sup> in which 257 (85.7%) of the doctors had answered correctly that cavernous thrombosis is a life threatening situation due to untreated dental infection. Similar results were found in the study conducted by Chandra et al<sup>3</sup> in which 255 (85%) of subjects were aware that some dental diseases are life threatening.

The increased awareness in this study may be due to the fact that the study was done among the educated/ professionals. However, results differ in studies done among medical students. Sujatha et al<sup>7</sup> showed that only 25% of the medical students has good oral health awareness. This is not unexpected since the students are in training.

Factors leading to this satisfactory dental knowledge, attitude and awareness of the medical practitioners towards oral disease and oral manifestations of systemic diseases, could be the continuing dental education programs being conducted by the various dental colleges, dental product manufacturers where even general medical practitioners are invited.<sup>6,8-10</sup> Also it is of prime importance to mention that MBBS curriculum in Nepal includes a dental posting in which they have an exposure to dental health aspects which improves their awareness, knowledge and attitude towards dentistry.

**CONCLUSIONS**

The results of the present study clearly demonstrate that medical practitioners had a moderate to good knowledge, attitude and awareness about dentistry. However, having knowledge does not guarantee that it will be effectively used. Some of the strategies which can help the medical practitioners to improve their knowledge, attitude and awareness towards oral aspects of various systemic and life threatening diseases are as follows: Incorporation of basic knowledge about dentistry in medical syllabus, Basic management of dental emergencies in medical practice, various inter-disciplinary symposia/lectures/conferences/continuing medical/dental education programs with special emphasis on oral and general health, special study modules or electives in oral health and its correlation with various systemic diseases by involving the dental faculty in teaching should be created. It is also incumbent upon medical practitioners to keep their knowledge updated with time and get actively involved in oral health, as mouth is a mirror of systemic conditions.

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