

TO EVALUATE KNOWLEDGE, ATTITUDE AND PRACTICES IN PERIODONTAL SCIENCES AMONG METROPOLITAN MEDICAL PROFESSIONALS - A QUESTIONNAIRE SURVEY

Periodontology

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ABSTRACT

AIM: To evaluate knowledge, attitude, practices related to periodontal diseases among medical professionals who have been living in urban area.

MATERIALS AND METHODS: 150 medical professionals (Equal no of medical interns, post graduates and consultants) who worked at AMC A.M.C MET medical College And Hospital, Ahmedabad, Gujarat were selected. Information on etiology/associations, concepts about treatment, awareness about availability of treatment related to periodontal disease was obtained.

RESULTS: A positive attitude towards dental and periodontal check and the treatment needs was observed among those questioned. The differences were statistically significant among the groups.

CONCLUSION : The vision on oral health is that medical professionals need impart oral health counselling, and serve as a guide in developing positive dental attitudes. The inputs of the survey will help the medical professionals to gain knowledge, and effects of periodontal disease on different systemic conditions.

KEYWORDS

Knowledge, Medical doctors, Periodontal disease.

INTRODUCTION

Periodontology is one of the fast growing dental specialties. Its services not only cover preventive and curative aspects of oral health, but also offer esthetics and regenerative health programs. Periodontal disease have systemic ramifications and has been implicated in wide range of conditions such as hypertension, stroke, poor pregnancy outcome, to name a few^[1]. Knowledge of periodontology is not populated among the dentists and medical professionals. Yet, many studies are carried out to know the knowledge and behavior of patients attending the general and dental clinics.^[2,3] The studies addressing the awareness level about periodontology among the other healthcare providers like medical professionals are very few^[4,5]

Medical professionals and dentists have restricted themselves to their own respective fields in the past, only treating diseases that are relevant to their own fields of specialization. However, findings indicate that oral health may influence systemic health, and that this may be a bi-directional relationship for some conditions such as cardiovascular diseases, pulmonary disease, diabetes mellitus^[6,7,8]

Evaluating medical doctors knowledge will assist in providing appropriate level of continuing-education programs and assessment for efficacy in the field of periodontology.^[9] Therefore, this study was planned to evaluate knowledge, attitude and practices in periodontal sciences among medical professionals.

AIM

To evaluate knowledge, attitude and practices related to periodontal diseases among medical professionals who had been working at A.M.C MET medical College And Hospital, Ahmedabad, Gujarat.

MATERIALS AND METHOD

A questionnaire based survey was conducted among one hundred and fifty medical professionals who work at A.M.C MET medical College And Hospital, Ahmedabad, Gujarat over a period of 1 month. All the medical professionals who were willing to give informed consent were included in the study.

A self explanatory questionnaire was designed to assess etiology/associations, awareness and concepts about availability of treatment related to periodontal diseases. The questionnaire contains

30 questions were handed to medical professionals. Purpose of study was explained to them.

QUESTIONNAIRE ETIOLOGY/ASSOCIATIONS

1. Pyorrhea is the same as gingivitis? Yes / No
2. Periodontal diseases are preventable? Yes / No
3. Halitosis can associate systemic cause of disease? Yes / No
4. Genes play a role in periodontal diseases? Yes / No
5. Diabetes Mellitus is a risk factor for periodontal disease? Yes / No
6. Periodontal diseases are caused by various factors? Yes / No
If yes - Please specify _____
7. Stress is a risk factor for periodontal disease? Yes / No
8. Hypertension is a risk factor for periodontal disease? Yes / No
9. Sub Acute Bacterial Endocarditis (SABE) affect dental procedures? Yes / No
10. Chronic Obstructive Pulmonary Disease (COPD) is a risk factor for Periodontal disease? Yes / No
11. Periodontal disease lead to Preterm Low Birth Weight Deliveries? Yes / No
12. Periodontal disease affect blood parameters? Yes / No
13. Smoking affect the healing of periodontal tissues? Yes / No
14. Gingival swellings occur during pregnancy? Yes / No
15. Gingival enlargement is caused by
a. Bacterial deposits – Yes / No
b. Drugs – Yes / No
If yes, Please specify _____
16. Do you know about Dentinal hypersensitivity? Yes / No

CONCEPTS ABOUT TREATMENT

17. There is a need to visit the dentist when there is bleeding from the gums? Yes / No
18. Gingival overgrowth can be treated by periodontal treatment? Yes / No
If yes Please specify _____
19. Scaling can cause the removal of enamel? Yes / No
20. One should visit a dentist for regularly? Yes / No
If yes- Please, specify _____

AWARENESS ABOUT AVAILABILITY OF TREATMENT

21. Gummy smile, can it be treated? Yes / No
22. If your gums are brown, do you think they can be treated? Yes / No

23. Alveolar bone can be regenerated by using bone substitutes (artificial bone)? Yes/No
24. Use of local drug delivery for the treatment of periodontal disease? Yes/No
25. Gingival recession can be treatable? Yes/No
26. LASERs can be used for the treatment of periodontal diseases? Yes/No
27. Can Periodontal treatment reduce mobility of teeth? Yes/No
28. Alloderm, which is used most commonly for the treatment of burns, can be used in dentistry? Yes/No
29. Lost periodontal tissues can be regenerated by Platelet-Rich Plasma (PRP). Yes/No
30. Do you know about implants? Yes/No

Table-1: Knowledge about some periodontal terms

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Pyorrhea is the same as gingivitis	28	26	21	0.353
Periodontal disease is preventable	45	48	50	0.58
Dental hypersensitivity	37	42	49	0.01

Table 2: Knowledge about etiology of periodontal disease

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Genes	27	30	30	0.782
Diabetes Mellitus	46	50	50	0.16
Plaque	27	23	28	0.792
Bacterial deposits	23	22	22	0.785
Stress	27	32	32	0.507
Hypertension	29	41	47	<0.001
Sub Acute Bacterial Endocarditis (SABE)	43	48	49	0.006
Chronic Obstructive Pulmonary Disease (COPD)	15	21	24	0.154

Table-3: Pregnancy and periodontal disease

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Cause				
Gingival swelling	23	31	39	0.04
Preterm/LBW	26	28	42	0.01

Table-4: Cause of Gingival enlargement

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Bacterial deposits	26	29	27	0.01
Phenytoin	17	15	36	0.001
Cyclosporin	4	15	21	
Calcium channel blockers	0	9	11	
Others	4	9	1	

Table-5: Treatment of periodontal disease

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Gingival overgrowth is treated by	18	24	18	19.5/0.1
None				
Excision	26	14	18	
Drugs	2	6	1	
Combination	4	6	13	
Treatment is possible				
Brown gums	20	28	30	0.106
Gingival recession	38	40	39	0.890
Gummy smile	25	29	29	0.649

Table 6: Periodontal therapy

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Bone substitutes	21	24	24	0.785
Local drug delivery	23	27	35	0.048
LASERs	38	40	30	0.089
Alloderm	15	18	20	0.574

STATISTICAL ANALYSIS

A sample size of 150 achieves 80% power to detect an effect size (W) of 0.25 using a 1 degrees of freedom Chi-Square Test with a significance level (alpha) of 0.05000.

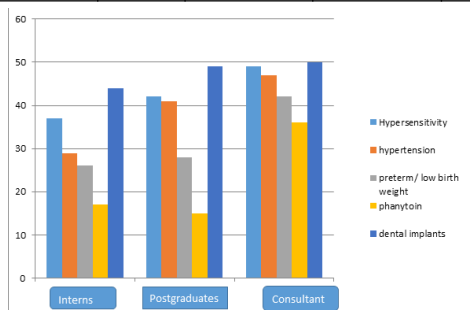
Questionnaire validation was done and the result was 81.75% for this study. The Collected data were entered in Microsoft excel (2010) spreadsheet.

Statistical Test: For categorical data, Using Chi-Square & non parametric correlation test at 5% level of significance by SPSS 20.

Platelet-Rich Plasma (PRP)	20	22	27	0.351
Reduce mobility of teeth	30	32	32	0.892

Table 7: Dental implants and scaling

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Scaling removes enamel	47	44	41	0.125
Dental Implants	44	49	50	0.006

**Graph 1- Questions in which significant results seen****Table 8: Attitude towards periodontal disease**

Knowledge	Graduate Interns (N=50)	Postgraduates (N=50)	Consultant/ Faculty	P value (N=50)
Gum bleed needs dental check	46	48	46	0.121
Smoking affects healing	28	28	39	0.031
Visit dentist regularly every				
No				
2-3 months	8	13	4	5.9/0.2
3-6 months	24	21	26	
6-12 months	18	16	20	

RESULTS AND DISCUSSION

To the questions pertaining to the various frequently used terminologies, nearly 50% of all surveyed answered that pyorrhea and gingivitis are synonymous and 50 % of the participants believed that periodontal disease is preventable.[Table-1]

87 of them agreed that genes play important role in periodontal disease. Heredity and genetics both are two different aspects. Periodontal disease is not hereditary but there is a genetic implication [Table 3].

90 of them agreed that stress is a risk factor for periodontal disease. Stress is associated with poor oral hygiene, increased glucocorticoid secretion that can depress immune function, increased insulin resistance, and potentially increased risk of periodontitis^[10].

To the questions regarding the cause of periodontal disease and its associations with other systemic problems, 77 answered that halitosis

associate with periodontal disease.[Table-1]

145 of them agreed that diabetes mellitus is a risk factor; and bacterial deposits contribute to periodontal disease.[Table-2].There is clear relationship between degree of hyperglycemia and severity of periodontitis. It involve aspects of immune functioning , neutrophil activity and cytokine biology. Existence of two –way relationship between diabetes and periodontitis is also proven.^[11]

117 of them agreed that hypertension is a risk factor for periodontal disease. Several biological mechanisms have been proposed to explain the relationship between periodontal disease and cardiovascular diseases. Therefore, periodontitis will elicit a systemic inflammatory response and it deserves more attention^[11].

145 of them agreed that Sub Acute Bacterial Endocarditis (SABE) is a risk factor for periodontal disease. Bacteremia from periodontitis and dental disease is known to be the primary cause of infective endocarditis^[12].

51 of them agreed that Chronic Obstructive Pulmonary Disease (COPD) is a risk factor for periodontal disease. Studies have shown that poor oral hygiene and periodontal disease may foster colonization of the oropharyngeal region by respiratory pathogens, particularly in hospital patients. If aspirated, this pathogens cause respiratory infections^[13]

100 Of them agreed that Periodontal disease affect blood parameters. Hemorrhagic gingiva overgrowth with or without necrosis is a common early manifestation of acute leukemia^[14].

96 of them agreed periodontal disease lead to Preterm Low Birth Weight Deliveries.

Offenbacher et al.^[15] found significantly that more periodontal attachment loss among mothers of PLBW infants compared with mothers of normal-term infants. It has been suggested that periodontal disease may increase the risk of having preterm low birth weight (PLBW) infants^[16,17]. This outcome is thought to be effect of biologic mediators of inflammatory processes such as prostaglandins E2 and TNF^[18,19]

93 of them agreed that gingival swelling Occurs during pregnancy. The local factors are known to be responsible for gingival enlargement during pregnancy. The hormonal factors also play role in aggravating gingival hyperplasia.^[20]

100 Of them agreed that smoking affect the healing of periodontal tissues. smoking exerts a substantial destructive effect on the periodontal tissues and increases the rate of periodontal disease progression^[21].

140 of them agreed that gingival enlargement is caused by drugs can be a contributing factor in periodontal diseases. Drugs such as anticonvulsants, calcium channel blocking agents, and cyclosporine may induce gingival overgrowth^[22].

Majority of them know about dentinal hypersensitivity and agreed that there is a need to visit the dentist when there is bleeding from the gums. Response to gingival overgrowth can be treated by periodontal treatment was poor.[Table 5]

When asked about scaling, the most common periodontal procedure performed, three-fourth of all responders believed that scaling removes enamel. This misconception needs to be corrected [Table 8].

Most of them belief that gum bleeding requires dental surgeon's consultation. All the three groups were unsure of the frequency of dental visits that one should make at 6 months, less than 25% indicated that a dental visit is required [Table 8]. This indicates that although they are aware of the gum problems, the urge or the need for treatment is often underestimated.

There were questions asked about the use in periodontal therapy of bone substitutes, local drug delivery systems, LASER, alloderm, and platelet-rich plasma. Awareness about these modalities in periodontal treatment was poorer in the interviewed interns and residents .

The awareness level was marginally higher with consultants. [Table 6]

Responses regarding knowledge and awareness about treatment of periodontal problems like brown gums, gummy smiles and recession were poor— suggesting that there is a need for awareness on these aspects. [Table-5] Responds towards the knowledge about the implants was significant.[Table-8]

CONCLUSION

With this study it is concluded that medical professionals 's vision on oral health need to improve and impart oral health counselling, and serve as a guide in developing positive dental attitudes for society. For this, the medical professionals needs to be well informed as the need for dental care and treatments available, which calls for a joint advocacy between the two professions. Authors believe that the inputs of the survey will help the medical professionals to gain knowledge , awareness about available advanced periodonatal treatment and effects of periodontal disease on different systemic conditions.

LIMITATION

This study was conducted in only 150 of medical professionals of one medical institute. So this study should be performed in larger sample size and in multiple centres.

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