ORIGINAL RESEARCH PAPER

Dental Science

AWARENESS REGARDING LINKS BETWEEN PERIODONTAL DISEASES AND SYSTEMIC DISEASES AMONG VARIOUS PHYSICIANS IN VIDISHA DISTRICT - A QUESTIONNAIRE SURVEY.

KEY WORDS: NCCT Head, acute head trauma

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ABSTRACT

Background: The oral cavity might well be thought of as the window to the body as the extent of the inflammatory burden caused by periodontal disease can influence systemic diseases with a similar inflammatory pathology and vice versa, raising the relevance regarding periodontal and systemic health affecting each other. With the aim of assessing oral health knowledge and orientations of physicians, we surveyed various physicians about their general knowledge, attitudes, and behaviors/practices about periodontal health and disease.

Method: A 19-question survey was equally distributed among the Group 1 (31physicians who were BAMS or BHMS) and Group 2 (44 physicians who were MBBS) in Vidisha district. Questions aimed to assess the knowledge levels of the subjects about periodontal disease and their attitudes toward discussing/evaluating the periodontal status of their patients.

Results: Overall the basic understanding about periodontal disease and systemic interrelationship was limited among both the groups, 48.4% physicians in group 1 and 59.1% physicians in group 2 reported that periodontal diseases are risk factors for systemic diseases. 48.4% of group1 and 47.7% of group 2 physicians reported that, if the diagnosis and treatment of gum diseases is included as part of general health assessment of the patient. it will improve overall health of the patient

Conclusion: In this study, both the groups had inadequate knowledge regarding periodontal disease. They were also generally uncomfortable with performing a simple periodontal examination. Oral health training in medical school and the medical post-graduate setting is recommended.

INTRODUCTION

Periodontal disease involves an inflammatory process that develops in the gingiva in response to bacterial antigens in tooth plaque. A physician's examination of the mouth usually involves a "Say 'Ahh..'" and a quick look at the pharynx. Unfortunately, this brief examination is likely to miss important, clinically relevant information [1]. In a report for the National Commission on Macroeconomics and Health (NCMH), periodontal diseases among the Indian population projected a prevalence of 45% for 15+ years group, and the actual prevalence in lakhs will be 2957.6 (year 2000), 3190.2 (year 2005), 3413.8 (year 2010) and 3624.8 (year 2015). If minor periodontal diseases are included, the proportion of population above the age of 15 years with this disease could be 80% to 90% [2].

Physicians 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, recent findings indicate that oral health may influence systemic health, and that this may be a bi-directional relationship for some conditions such as cardiovascular problems, pulmonary conditions, diabetes mellitus, osteoporosis, obesity, pancreatic cancer and Alzheimer's disease[3-7]. This inter-relationship exemplifies a cyclic association, whereby a systemic disease predisposes the individual to oral infections, and, once the oral infection is established, it exacerbates the systemic disease [8]. Hence, emphasis should now be place on treating periodontal and other chronic dental disease as a means of ameliorating systemic disease [9].

Nevertheless, few studies examined a physician's role in identifying, discussing or preventing oral disease and only focused on children [10]. With the aim of assessing oral health knowledge and orientations of physicians in training, we surveyed various physicians about their general knowledge attitudes, and behaviors/practices about periodontal health and disease.

MATERIALS AND METHODS

A structured questionnaire survey which is closed-ended, were equally distributed among the Group 1 (consisting 31 physicians,who were BAMS or BHMS) and Group 2 (consisting 44 physicians who were MBBS), at Vidisha district. Ethical clearance was duly obtained from the institutional ethics committee. Questions were aimed to assess the knowledge levels of the subjects about periodontal disease and their attitudes toward discussing/ evaluating the periodontal status of their patients. The participation was voluntary and anonymous. Respondents were instructed to circle the best answer. The questionnaire was completed in approximately 15 minutes.

Analyses were performed using Fishers exact test and chi-square test by SPSS 17.

The survey was given to a total of 75 medical professionals. The following was the questionnaire format used in the present study:

1. Do you think diabetes is a risk factor for periodontal (gum) diseases?
   Yes No
2. Can periodontal disease during pregnancy may lead to preterm low birth weight deliveries?
   Yes No
3. Are you aware of gingival swelling, which sometimes occur during pregnancy?
   Yes No
4. Are you aware of drug induced (phenytoin, cyclosporine, calcium channel blockers etc.)gingival enlargement?
   Yes No
5. Does smoking affects the healing of periodontal tissues?
   Yes No
6. Is there any relation between gingival diseases and female sex hormones?
   Yes No
7. Do gum disease have any effect on heart disease eg.infective endocarditis ,myocardial infarction?
   Yes No
8. Do gum disease affect the blood sugar control in uncontrolled diabetic patients?
   Yes No
9. Does osteoporosis have any relationship with gum disease?
   Yes No
10. Is there any association between rheumatoid arthritis and gum disease?
    Yes No
11. Is there any association between gum diseases and pulmonary disorders?
    Yes No
12. Do malnutrition / obesity affects gum disease?
    Yes No
13 Can dental treatment be carried out during pregnancy?
    Yes No
14. Which trimester is safest for dental treatment?
    First Second Third
15 .Do pregnant woman need additional periodontal health care

during their gestational period to prevent adverse pregnancy outcomes?
Yes No
16. Are periodontal diseases risk factor for systemic diseases?
Yes No
17. Do you think controlling periodontal infections is important for managing cardiovascular disease diseas
Yes No
18. Do you think controlling diabetes can lead to improvement in gingival health?
Yes No
19. If the diagnosis and treatment of gum diseases is included as part of general health assessment of the patient.
a. It will improve overall health of the patient.
b. It will improve only oral health.
c. It is a time consuming procedure,so avoid.

RESULTS

Table 1: Demographic distribution of study subjects.

Groups	Subjects	Number
Group 1 (N=31)		
	BAMS	15
	BHMS	16
Group 2 (N=44)	MBBS	44

Table 2: Awareness Regarding Association between Periodontal Diseases and Systemic Diseases among Various Physicians in Vidisha

	OPTIONS	GROUP I N(%)	GROUP II N(%)	Total N(%)	X^2 Value	P Value
Q1	Yes	23(74.2%)	39(88.6%)	62(82.7%)	2.648	0.104(NS)
	NO	8(25.8%)	5(11.4%)	13(17.3%)		
Q2	Yes	24(77.4)	23(52.3)	47(62.7)	4.916	.027
	NO	7(22.6%)	21(47.7%)	28(37.3%)		
Q3	Yes	20(64.5%)	19(43.2%)	39(52.0%)	3.316	.069
	NO	11(64.5%)	25(43.2%)	36(52.0%)		
Q4	Yes	15(48.4%)	24(54.5%)	39(52.0%)	.276	.599
	NO	16(51.6%)	20(45.5%)	36(48.0%)		
Q5	Yes	13(41.9%)	18(40.9%)	31(41.3%)	.008	.929
	NO	18(58.1%)	26(59.1%)	44(58.7%)		
Q6	YES	12(38.7%)	18(40.9%)	30(40.0%)	.037	.848
	NO	19(61.3%)	26(59.1%)	45(60.0%)		
Q7	YES	12(38.7%)	20(45.5%)	32(42.7%)	.338	.561
	NO	19(61.3%)	24(54.5%)	43(57.3%)		
Q8	YES	11(35.5%)	18(40.9%)	29(38.7%)	.226	.635
	NO	20(64.5%)	26(59.1%)	46(61.3%)		
Q9	YES	12(38.7%)	19(43.2%)	31(41.3%)	.150	.699
	NO	19(61.3%)	25(56.8%)	44(58.7%)		
Q10	YES	12(38.7%)	22(50.0%)	34(45.3%)	.935	.333
	NO	19(61.3%)	22(50.0%)	41(54.7%)		
Q11	YES	09(29.0%)	25(56.8%)	34(45.3%)	5.666	.017
	NO	22(71.0%)	19(43.2%)	41(54.7%)		
Q12	YES	17(54.8%)	24(54.5%)	41(54.7%)	.001	.980
	NO	14(45.2%)	20(45.5%)	34(45.3%)		
Q13	YES	19(61.3%)	15(34.1%)	34(45.3%)	5.791	.055
	NO	12(38.7%)	28(63.6%)	40(53.3%)		

	OPTIONS	GROUP I N(%)	GROUP II N(%)	Total N(%)	X^2 Value	P Value
Q14	1st Trimester	16(51.6%)	13(29.5%)	29(38.7%)	5.194	.075
	2nd Trimester	12(38.7%)	19(43.2%)	31(41.3%)		
	3rd Trimester	03(9.7%)	12(27.3%)	15(20.0%)		
Q15	Yes	16(51.6%)	30(68.2%)	46(61.3%)	2.105	.147
	NO	15(48.4%)	14(31.8%)	29(38.7%)		
Q16	Yes	15(48.4%)	26(59.1%)	41(54.7%)	.841	.359
	NO	16(51.6%)	18(40.9%)	34(45.3%)		
Q17	Yes	14(45.2%)	20(45.5%)	34(45.3%)	.001	.980
	NO	17(54.8%)	24(54.5%)	41(54.7%)		
Q18	Yes	11(35.5%)	20(45.5%)	31(41.3%)	.746	.388
	NO	20(64.5%)	24(54.5%)	44(58.7%)		
Q19	Improve Health	15(48.4%)	21(47.7%)	36(48.0%)	.289	.866
	Improve Oral Health	13(41.9%)	17(38.6%)	30(40.0%)		
	Time Consuming	03(9.7%)	06(13.6%)	09(12.0%)		

Table 3 :showing number of physicians opting correct answer in each group:

Q NO.	No.of physicians opting correct answer IN GROUP 1(BAMS & BHMS)	No.of physicians opting correct answer IN GROUP 2 MBBS	Total no. Of physicians opting correct answer
1	23(74.2%)	39(88.6%)	62(82.7%)
2	24(77.4)	23(52.3)	47(62.7)
3	20(64.5%)	19(43.2%)	39(52.0%)
4	15(48.4%)	24(54.5%)	39(52.0%)
5	13(41.9%)	18(40.9%)	31(41.3%)
6	12(38.7%)	18(40.9%)	30(40.0%)
7	12(38.7%)	20(45.5%)	32(42.7%)
8	11(35.5%)	18(40.9%)	29(38.7%)
9	12(38.7%)	19(43.2%)	31(41.3%)
10	12(38.7%)	22(50.0%)	34(45.3%)
11	09(29.0%)	25(56.8%)	34(45.3%)
12	17(54.8%)	24(54.5%)	41(54.7%)
13	19(61.3%)	15(34.1%)	34(45.3%)
14	12(38.7%)	19(43.2%)	31(41.3%)
15	16(51.6%)	30(68.2%)	46(61.3%)
16	15(48.4%)	26(59.1%)	41(54.7%)
17	14(45.2%)	20(45.5%)	34(45.3%)
18	11(35.5%)	20(45.5%)	31(41.3%)
19	15(48.4%)	21(47.7%)	36(48.0%)

Overall the basic understanding about periodontal disease and systemic interrelationship was limited among both the groups, 48.4% physicians in group 1 and 59.1% physicians in group 2 reported that periodontal diseases are risk factors for systemic diseases. 48.4% of group1 and 47.7% of group 2 physicians reported that, if the diagnosis and treatment of gum diseases is included as part of general health assessment of the patient. it will improve overall health of the patient

DISCUSSION

In a field of health, "helping people to help themselves" should be as important as direct service. Indeed if one concentrates upon prevention of disease and the attainment of positive health habits rather upon the cure of the disease, self-help is much more than half the battle. The promotion of overall health and a reduction in health inequalities can be achieved only by means of an equitable distribution of health services, focus on prevention, appropriate technology, multisectoral approach and effective community participation.

This study was mainly aimed at physicians as they are the primary channel for reaching the people and imparting information about health in such a way that the recipient is motivated to use that information for the protection or advancement of his own, his family's or his community's health.

The evidence based decision process has led to the inclusion of periodontal disease as one out of 15 target disease for screening by any general practitioner [11]. In the present study, limited knowledge about periodontal disease is observed among both the groups. These findings raise concern. The World Statistics 2012, released by the World Health Organization (WHO), says India has less than 1 dentist (0.8) per 10,000 populations. Given the high prevalence of periodontal disease and its deleterious impact on oral and systemic diseases; an increased awareness among the physicians is often expected to provide the public with proper education and guidance regarding the same. The study suggests a higher necessity for the medical schools to have a more comprehensive training in oral/ periodontal health. Various strategies that can be implemented to achieve this goal include usage of audiovisual aids, having fixed dental postings – enabling

them with sufficient theoretical knowledge and reinforcement sessions by means of instructions on prevention counseling at the outpatient counter; which would improvise the future efforts of physicians' in contributing to the oral health.

CONCLUSION

Growing evidence states that periodontal disease is associated with an increased risk of systemic illness, which pose a compelling reason for physicians to enquire about oral health care and hence the need for greater collaboration between dentists and physicians. Within the given limitations of the present study including smaller sample and individual responder bias; oral health education in medical school and the post graduate setting is highly recommended.

Also emphasis must be given on increasing the awareness regarding periodontal and systemic interrelationships among physicians and more comprehensive and collective efforts by both the general physicians and dental surgeons to work in the direction of improving overall health through improving oral health.

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