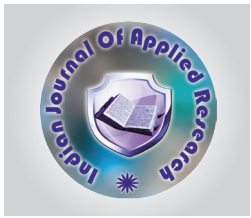
RESEARCH PAPER | Medical Science | Volume : 6 | Issue : 4 | April 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50



Awareness of The Relationship Between The Periodontal Health And Systemic Diseases Among Medical Practictioners: A Randomised Questionnaire Study.

KEYWORDS: Awareness, Periodontal medicine, Questionnaire survey, Medical practitioner.

Dr. SHWETHA .M	Dr. SHRUTHI .D. PRASAD	Dr. ANVITHA .D
Reader, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore.	3rd year Post graduate student, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore	Reader, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore

Dr. VIJAYALAKSHMI .R	Dr. DEEPAK PRASAD	Dr. SHESHADRI .P
Professor, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore	Professor and Head of the department, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore	Professor, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore

Dr. HEENA NAZ KAOUSER	Dr. PREETHI .S
3rd year Post graduate student, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore	Reader, Department of Periodontics, FDCH, Department of Periodontics, Farooqia Dental College and Hospital, Mysore

ABSTRACT *BACKGROUND: The health of oral tissues is known to influence the systemic health and has been acknowledged throughout the history of humanity. General practitioners form a major group as primary health care providers and their awareness on the impact of periodontal diseases on the systemic health is of utmost importance. The aim of this study is to evaluate the awareness on the relationship of periodontal diseases and systemic health among general medical practitioners.*

MATERIALS AND METHODS: Questionnaire survey was conducted among 220 randomly selected general practitioners in Mysore city, who were enquired about their awareness on the relationship between periodontal diseases and systemic health. Statistical analysis was done.

RESULTS: 55% of doctors (121 out of 220) have good knowledge on the effects of periodontal diseases on systemic health and 71.4% of doctors make a fair level of referrals to the dentists.

CONCLUSION: The medical practitioners working in corporate and Government hospitals in Mysore city have fair to good awareness about periodontal medicine. However, their referral system is not as good as their level of awareness. Medical practitioners who have been practicing for less than 10 years have better awareness than their counterparts.

INTRODUCTION:

The notion that oral or periodontal infection can influence systemic health is not new to dentistry and has been proposed at various times throughout the centuries. Walter Miller again proposed this relationship in an 1891 commentary published in Dental Cosmos. Miller described the mouth as a "focus of infection" through which "microorganisms or their waste products obtain entrance to parts of the body adjacent to or remote from the mouth." This commentary listed several systemic diseases, all thought to originate from an oral focus of infection. In a 1900 British Medical Journal report, William Hunter used the term "oral sepsis" and blamed it for causing a number of diseases.[1]

A landmark 1989 paper by Mattila and coworkers reintroduced the association between oral infection and systemic disease using sound, scientific methods. Later studies by DeStefano, Beck, Offenbacher and others have provided exciting support that periodontitis may confer independent risks for systemic conditions, in particular cardiovascular disease and preterm low birth weight.[1] At the 1996 World Workshop in Periodontics, Offenbacher introduced the term, «periodontal medicine,» as a discipline that focuses on validating this disease relationship and its biological plausibility in human populations and animal models.[2] Instead of the traditional periodontal outcomes that are tooth or site-based (e.g., probing pocket depth or attachment levels), periodontal medicine concerns patient-based clinical outcomes such as disease morbidity or mortality events or implicated surrogate markers (e.g., serum inflammatory markers).[1]

Recent research has established that periodontal infection is a probable risk factor for cardiovascular disease, including atherosclerosis, myocardial infarction and stroke. Furthermore, preliminary studies suggest that periodontitis may also contribute to adverse pregnancy outcomes, diabetes and other conditions.[3] With this in mind, 'healthy people 2020' made oral health one of its top nine health indicators in the USA. A number of possible biological pathways link oral disease to systemic disease: (a) oral biofilm that harbours biological pathogens (b) transient or

Volume : 6 | Issue : 4 | April 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

chronic bacteremia (c) immunologic injury caused by endotoxins (d) direct injury by lipopolysaccharides.[5]

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.[6]

Many disadvantaged adults visit physicians or hospital emergency departments to receive relief from dental pain. Physicians also see patients with general questions concerning their oral health.[7] Early diagnosis of gingivitis and periodontitis by medical doctors, along with patient referral to dental care, will surely improve the oral health and general health status of the population. They can play an active role in educating their patients about the role dental diseases play in their overall health and why they need to eliminate dental disease and restore their mouths to a healthy and functional state. The role that a medical practitioner can play 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.

Hence the present study was undertaken to assess knowledge, attitude and practice of dental awareness among medical practitioners working in the corporate and Government hospitals in Mysore city.

MATERIALS AND METHODS:

The present study is a questionnaire survey conducted among the medical practitioners working in corporate and Government hospitals in Mysore city, Karnataka, India. 220 general medical practitioners were randomly selected for the present study. Corporate and government hospitals were chosen as majority of the population visit these hospitals than a private clinic. The data pertaining to their knowledge, attitude and practice about oral health was gathered using a Multiple Choice Questions type questionnaire to solve within 10 minutes. A verbal consent was obtained from all participants. The purpose of the study and all the terms used in the study were explained to the respondents and were ensured maintaining total confidentiality. The questionnaire had a total of 28 questions and 36 right choices, as some of the questions had more than one right choice (respondents were informed about this aspect of the questionnaire). The data thus collected were compiled, analysed using chi square test and descriptional analysis and interpreted. In order to summarise the awareness level, responses were graded from 0-36 based on the correct responses. The respondents securing 0-6, 7-12, 13-18, 19-27-36 marks were graded as having awareness level as very poor, poor, fair, good and excellent, respectively as shown in table 1. Results were expressed in terms of percentage.

STATISTICAL ANALYSIS:

The statistical analysis of the data was carried out with the statistic package IBM SBSS. Chi square test and descriptive statistical analysis were done as shown in table 2. The results are expressed in terms of percentage.

RESULTS:

Awareness and knowledge:

The awareness and knowledge was statistically evaluated among the medical practitioners working in corporate and Government hospitals, Mysore, where 55% (121) of the study participants have 'good'(13-18) awareness and knowledge regarding periodontal medicine; 31.4% (69) participants showed 'fair'(19-27) and only 10.9% and 2.7% showed excellent (27+) and 'poor' (6-12) knowledge and awareness respectively as shown in table 3 and graph 1.

Frequency of referral:

On statistical evaluation, 71.4% (157) of doctors made "fair" (score of 3-4) level of referrals to the dentists and only 12.3% (27 doctors) and 16.4% (36 doctors) showed "poor"(< 2) and "good"(4+) level of referrals to the dentists as shown in table 4 and graph 2.

Awareness in percentage:

Statistical evaluation was done to evaluate the interrelationship between the periodontal diseases and other systemic diseases as shown in graph 3, where the awareness is expressed in percentage. 95% were aware of the term periodontal medicine; 94% were aware of the effects of smoking on the oral health; 87% were aware of gum diseases and tooth decay; 59% know bidirectional interrelation of diabetes mellitus and periodontal diseases; 56% are aware of effects of periodontal diseases on cardiovascular system and gum and periodontium. 49% are aware of effects of hormones and pregnancy on oral health and only 11.6% are aware of the effects of periodontal and gum diseases on the neurological system.

Years of practice in percentage:

The study also carried out the difference between the years of practice among doctors and the level of awareness, where 75.4% have less than 10 years 24.6 % having more than 10 years of experience have "fair to good" level of knowledge as shown in graph 4.

DISCUSSION:

Periodontal medicine is an upcoming branch of periodontics. The potential impact of many systemic disorders on the periodontium is well documented, recent evidence suggests that periodontal infection may significantly enhance the risk for certain systemic diseases or alter the natural course of systemic conditions.[2]

The role that a medical practitioner can play 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.[8]

A similar study was conducted to know the knowledge, attitude and practices (KAP) among the medical practitioners regarding the systemic effects of oral diseases was carried out in one of the North Eastern States India was carried out by J.P.Majra et al in 2009 and this study resulted in only 48% of the study group knew about the bidirectional relationship between the systemic and periodontal diseases.[9]

In order to know the level of awareness among medical interns regarding the systemic effects of periodontal disease, a questionnaire study was carried out in one of the Southern States in India by S.Nagarakanti et al in 2013, where the interns from two conveniently located medical institutions affiliated to two different universities were included in the study. They came up with the results that the level of awareness regarding the systemic effects of periodontal disease among medical interns is limited and recommended that more space be allocated to the subject of dental

Volume : 6 | Issue : 4 | April 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

sciences in the medical curriculum to improve physicians' ability to contribute to oral health and stress be given to integrated teaching of medical and dental sciences in order to produce thorough professionals who can serve the humanity in a better way.[10]

A study was undertaken to assess knowledge, attitude and practice of dental awareness among medical practitioners in Sangamner city, Maharashtra, India and concluded that the medical professionals possess poor level of awareness regarding oral disease impact on general health and also highlighted the need to improve the education of Medical professionals about oral health and its relevance in a study conducted by Patil et al in 2010.[11]

A survey was conducted in Bangalore by Tarannum et al in 2013 to examine the awareness of the association between periodontal diseases and premature low birth weight infants among general medical practitioners (GMPs), general dental practitioners (GDPs) and Gynecologists whose results indicated that both Gynecologists and GMPs were less aware or unsupportive of this association compared with the dental health care providers. More alarmingly, only small percentages of sampled GMPs and Gynecologists recognized the common gingival problems of pregnancy. These results may indicate a strong need for interdisciplinary communication and coordination to assure the provision of adequate health-care to pregnant females.[12]

To assess Jordanian doctors' knowledge of the connection between diabetes and oral health and assess their willingness to advise their diabetic patients to seek dental treatment and determine the associated factors a questionnaire survey was conducted by Rola et al in 2009 in Jordan and concluded that There is limited knowledge of the relationships between oral health and diabetes among GMPs. The more knowledgeable doctors are, the more likely they are to make dental referrals and emphasized on the need to educate doctors about oral health and diabetes.[13]

A questionnaire study was conducted to investigate primary-care physicians' knowledge of oral health, their attitudes toward delivering oral health care (OHC), and their willingness to obtain more education in this field by Rabiei et al in 2012 and concluded that the Physicians lacked of knowledge of OHC and their generally positive attitudes toward it revealed a great need for planning of a continuous medical education program in primary care.[14]

In this study, the level of awareness among medical practitioners with less than 10 years of experience had fair to good level of knowledge than the practitioners with more than 10 years of experience. This could be due to the widespread awareness of the impact of oral health on one's system and vice versa through various continuing medical education and the upsurge in the research technologies.

In contrast to these studies, the present study shows a fairly good awareness among medical practitioners working in corporate and Government hospitals, which can be attributed to

These medical practitioners are under the expertise of specialists,

Many continuous medical education programs have been conducted and

Increased spread of education through medical magazines and journals.

Limitations of this study were that this study was conducted in a limited population and hence a similar study, on a larger scale is required to get a definitive result and a study should be conducted among private medical practitioners, who are not under the expertise of the specialists.

CONCLUSION:

The medical practitioners working in corporate and Government hospitals in Mysore city have fair to good awareness about periodontal medicine. However, their referral system is not as good as their level of awareness. Medical practitioners who have been practicing for less than 10 years have better awareness than their counterparts.

ACKNOWLEDGEMENTS:

I would like to thank all the medical practitioners working in Government and Corporate hospitals of Mysore city for their cooperation and patience and helping me towards the completion of this study.

CONFLICT OF INTERESTS:

The authors declare that there is no conflict of interests regarding the publication of this paper.

TABLE 1: Grading the awareness levels of the respondents.

SCORE	GRADE
O - 5	VERY POOR
6 - 12	POOR
13 -18	FAIR
19 – 27	GOOD
28 - 36	EXCELLENT

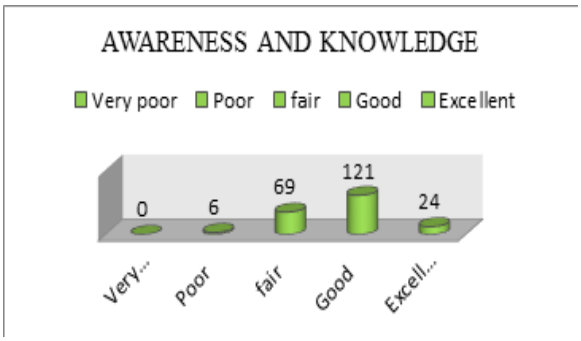
TABLE 2: Statistical analysis

Statistical analysis	Knowledge	Referral
Chi square	143.891	143.736
Descriptive statistics	3	2
Asymptomatic significance	0.000	0.000

TABLE 3: Awareness and knowledge expressed in percentage

SCORE	FREQUENCY	PERCENT
6 - 12	6	2.7%
13 - 18	69	31.4%
19 -27	121	55%
27+	24	10.9%
TOTAL	220	100

GRAPH 1: Awareness and knowledge

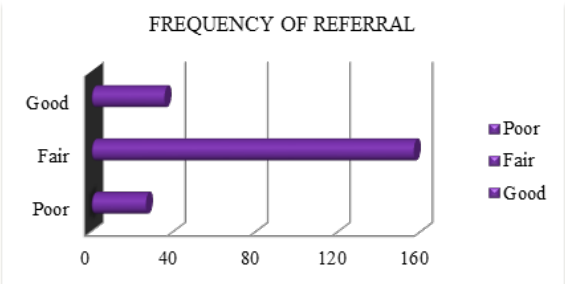


Volume : 6 | Issue : 4 | April 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

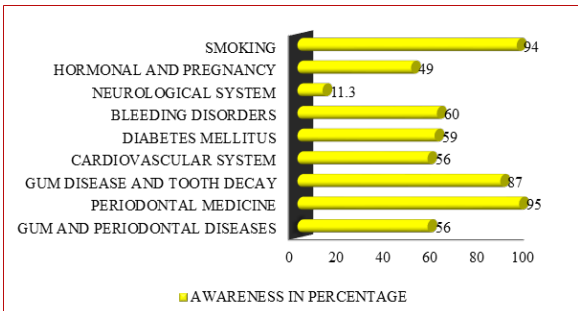
TABLE 4: Frequency of referral to the dentist

SCORE	FREQUENY	PERCENT
< 2	27	12.3%
3 – 4	157	71.4%
4+	36	16.4%
TOTAL	220	100

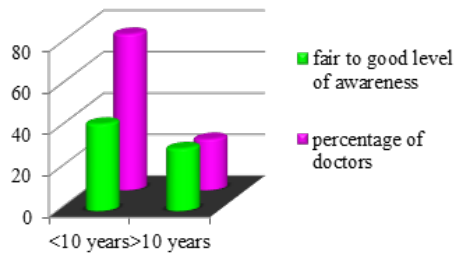
GRAPH 2: Frequency of referral to the dentist



GRAPH 3: Awareness in percentage



GRAPH 4: Respondents' years of practice.



REFERENCES:

1. Paquette DW, Madianos P, Offenbacher S, Beck JD, Williams RC. The concept of "risk" and the emerging discipline of periodontal medicine. The journal of contemporary dental practice 1999;1(1):9-15.
2. Vieira CLZ, Caramelli B. The history of dentistry and medicine relationship: could the mouth finally return to the body? Oral diseases 2009;15:538-546
3. Williams CR, Offenbacher S. Periodontal medicine: the emergence of a new branch of periodontology. Periodontol 2000 2000;23:9–12
4. Lavigne SE. Your Mouth – Portal to Your Body Canadian Dental Hygienists Association Position Paper on the Links between Oral Health and General Health: Part I. Probe 2004;38(3):114-134; 38(4):154-171
5. Ramirez JH, Arce R, Contreras A. Why must physicians know about oral diseases? Teach Learn Med. 2010;22:148–55
6. Cohen LA. Expanding the physician's role in addressing the oral health of adults. Am J. Public Health 2013;103(3):408-412
7. Cullinan MP, Ford PJ, Seymour GJ. Periodontal disease and systemic health: current status. Australian Dental Journal 2009; 54:(1 Suppl): S62–S69
8. Gur A & Majra JP : Knowledge, Attitude and Practices Regarding the Systemic Effects of Oral Diseases among the Medical Practitioners. The Internet Journal of Dental Science. 2009;6(2):123-127.
9. Nagarakanti S, Epari V, and Athuluru D. Knowledge, attitude, and practice of medical doctors towards periodontal disease. J Indian Soc Periodontol. 2013;17(1):137–139
10. Patil A, Chavan S, Baghele ON, Patel K, Patil K. Awareness of oral health among medical practitioners in Sangamner City- A cross-sectional survey. Int. Journal of Clinical Dental Science 2010;1(1):26-29.
11. Tarannum F, Prasad S, Muzammil, Vivekananda L, Jayanthi D, Faizuddin M. Awareness of the Association between Periodontal Disease And Preterm Births among General Dentists, General Medical Practitioners and Gynecologists. Indian Journal of Public Health 2013;57(2):92-95.
12. Al-Habashneh R, Barghout N, Humbert L, Khader Y, Alwaeli H. Diabetes and oral health: doctors' knowledge, perception And practice. Journal of Evaluation in Clinical Practice 2010;16:976–980
13. **Rabiei S**, **Mohebbi ZS**, **Patja K**, **Virtanen IJ.** Physicians' knowledge of and adherence to improving oral health. *BMC Public Health* 2012;**12**:855-863.