Periodontal knowledge and awareness among South Indian medical professionals: A questionnaire based survey

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ABSTRACT

To evaluate the knowledge and awareness about periodontal disease its etiology and its management among medical professional. Three hundred medical professionals including in the questionnaire based survey from government medical colleges and consultants in various specialities in private hospitals and clinics. Equal number of subjects in the medical profession included were interns, post graduates and consultants. The results from questionnaire based survey indicated that knowledge about periodontal terminologies was high among medical professionals. However mixed response was elicited regarding etiology, treatment and current trends in periodontal practice.

Keywords: awareness, medical personnel, periodontics

Introduction

Periodontal disease is one of the common cause for tooth loss in urban and suburban population. Most of the people seek periodontal treatment at an advanced stage of disease[6] in which salvaging of natural tooth is one of the main course of treatment. To prevent unnecessary tooth loss and create an awareness among general population, it would be better if medical professionals had an awareness and knowledge[1] about the disease process. To achieve this, questionnaire based survey aims at evaluating periodontal awareness among medical professionals.

Materials and Methods

Three hundred medical professionals out of which interns, post graduates, consultants were included in the survey. These medical professionals were randomly selected from various government medical colleges and also from private hospitals in Chennai.

The survey was conducted through a questionnaire based response to avoid bias in sample size, equal number of subjects were sampled. The subjects included 100 interns, 100 post graduates and 100 consultants.

The questionnaire in the survey were categorized into four major subjects:

1) Knowledge and awareness about periodontal terminologies[7] (ques1-3)
2) Role of multifactorial etiology[8] in periodontal disease (ques4-12)
3) Concepts about treatment[3] (ques13-17)
4) Current trends in periodontal practice[3] (ques18-26)

The obtained samples were pooled together and categorized into three groups and statistical analysis was performed by Pearson's Chi-square test[1].

The questionnaire used for the survey is given in [Table 1]

Table 1: Questionnaire Used for the Survey

DEFINITIONS:

1) Gingival recession is a)infolding of gingiva b)loss of gingiva
2) Halitosis is a)bad breath b)foul taste
3) Epulis means a)inflammation b)overgrowth of gingiva

ETIOLOGY:

4) Do you think calculus (deposits) is the main cause of periodontal disease?
5) Can genetic factor be a contributing factor to periodontal disease despite good oral hygiene?
6) Are you aware that smoking leads to early tooth loss?
7) Do you know that periodontal disease is the 6th common complication of diabetes mellitus?
8) Gingival enlargement can be caused by a)deposits b)drugs c)hormonal changes
9) Can periodontal disease be a risk factor in certain systemic conditions?
10) Do you know that hard tooth brushing leads to tooth substance loss?
11) Can periodontal disease in pregnancy lead to preterm low birth weight delivery?
12) Do you think root exposure can cause hyper-sensitivity to hot and cold foods apart from dental caries?

CONCEPTS ABOUT TREATMENT:

13) Do you think periodic visit to dentist is mandatory to prevent periodontal disease?
14) If yes, visits should be made in a)2-3 months b)6 months c)12 months
15) Subgingival deposits can be removed by Surgical/non-surgical therapy?
16) Do you think scaling can contribute to tooth substance loss?
17) Can acute gingival/periodontal infections be treated by systemic antibiotics alone?

AWARENESS ABOUT AVAILABILITY OF TREATMENT:

18) Can "smile design" be achieved by esthetic periodontal surgery?
19) Are you aware that systemic antibiotics can be delivered locally (subgingivally)?
20) Can mobility of tooth be treated?
21) Are you aware that Plastic surgery, Microsurgery and LASER's have made their way into dentistry?

22) Can bone grafts be used for regeneration of alveolar bone?
23) Can platelet rich plasma and platelet rich fibrin be used for regenerative therapy for periodontal disease?
24) Are you aware that Host Modulation Therapy is used in treatment of periodontal disease?
25) Are you aware that stem cells from human exfoliative deciduous tooth can produce blood cells and nerve cells?
26) Are you aware that dental implants are used for replacing lost tooth?

Results

Table 2: knowledge and awareness about periodontal terminologies among medical professionals

Terminologies	Interns (N=100)	Postgraduates (N=100)	Consultants (N=100)	p value <0.05
Gingival recession is loss of gingival	86	99	99	.000
Halitosis is bad breath	98	100	100	.134 (NS)
Epulis is gingival overgrowth	93	100	100	.000

*p value < 0.05 is statistically significant

Table 3: Role of multifactorial etiology in periodontal disease

Etiology	Interns (N=100)	Postgraduates (N=100)	Consultants (N=100)	p value < 0.05
Calculus	84	93	98	.001
Genes	75	89	89	.007
Smoking	91	89	99	.014
Diabetes mellitus	74	78	90	.012
Gingival enlargement caused by drugs	48	64	76	.002
Risk factor in systemic condition	79	76	84	.365 (NS)
Hard tooth brushing	57	58	68	.211 (NS)
PLBW	24	46	52	.000
Hypersensitivity due to root exposure	70	76	89	.004

*p value < 0.05 is statistically significant

Table 4: Concepts about treatment

Concepts about treatment	Interns (N=100)	Postgraduates (N=100)	Consultants (N=100)	P value < 0.05
Periodic dental visits mandatory	100	100	100	Constant
Dental visits once in 6 months	40	69	83	.000
Subgingival deposits removed surgically	39	70	75	.000
Scaling leads to tooth substance loss	26	58	74	.000
Acute infections not treated by systemic antibiotics alone	68	62	70	.458

*p value< 0.05 is statistically significant

Table 5: Current trends in periodontal practice

Availability of treatment methods	Interns (N=100	Postgraduates (N=100)	Consultants (N=100)	p value < 0.05
Smile design	70	73	79	.336 (NS)
Local delivery of systemic antibiotics	40	40	53	.102 (NS)
Tooth mobility treated	74	68	77	.345 (NS)
Plastic surgery, microsurgery, LASER's used in dentistry	26	54	56	.000
Bone grafts regenerates alveolar bone	46	77	82	.000
Regeneration of alveolar bone by PRP, PRF	13	45	62	.000
HMT	32	52	53	.003
Stem cells from SHED	29	58	83	.000
Implants replaces lost tooth	65	77	92	.000

*p value < 0.05 is statistically significant

Discussion

The present survey among the medical professionals in terms of terminologies[7] about periodontal disease was outstanding. Majority of the participants were able to recognize [Table 2].

In terms of etiology and pathogenesis[4][8][9] of periodontal disease majority of healthcare professionals believed that calculus is the main etiological agent for initiating periodontal disease. And 253 respondents believed that genes do have contributing factor in periodontal disease process [Table 3].

In terms of risk modifiers and risk indicators, majority believed that smoking had deleterious effects on periodontal tissues and that can contribute to early tooth loss [Table 3].

Periodontal disease is a two way relationship as far as systemic health[4] is concerned. Looking at the knowledge as far as systemic health is concerned, majority of individuals believed that Diabetes mellitus is the 6th complication as periodontal disease is concerned. But considering other systemic diseases as a risk factor of periodontal disease is not statistically significant [Table 3].

Medical professionals believed that gingival hyperplasia was induced by drugs rather than other factors contributing to gingival hyperplasia[9]. Other few individuals believed that factors like hormonal changes, deposits also contribute to gingival hyperplasia. Awareness is also high about occurrence of dentinal hypersensitivity[3] to hot and cold foods in case of root exposure [Table 3].

Medical professionals believed that long term periodontal health was achieved by periodic recall and maintenance. There was a difference in opinion regarding frequency of dental visits.

Advanced periodontal care for periodontally compromised patients was seemed to be mandatory treatment protocol. 184 of medical professionals from present survey indicated that surgical approach[5] for removal of subgingival deposits is a better treatment option [Table 4].

Among present subject group, there was misconception that routine scaling could cause removal of tooth substance was proportionally high. In tooth mobility due to periodontal disease, most of the practitioners believed that extraction[2] is the main treatment option [Table 4] and [Table 5].

200 professionals agreed that acute gingival and periodontal disease called for additional treatment, apart from systemic antibiotic intake. Only 133 of the professionals surveyed were aware about local delivery of systemic antibiotics, hence it is statistically insignificant [Table 4] and [Table 5].

Knowledge about achieving a good smile by periodontal treatment was statistically insignificant among medical professionals [Table 5].

About current trends in periodontal practice, the overall awareness among medical professionals was higher regarding various treatment modalities.

When questioned about plastic surgery, microsurgery and LASER's[5] in dentistry, 136 of the professionals aware that these treatment modalities could be used in dentistry [Table 5].

Awareness about regenerative periodontal therapy aided by bone grafts and biological mediators[2] was comparatively low among the interns[Table 5].

137 of the professionals were aware that host modulation therapy[8] can be used as an adjunct in preventing progression of periodontal disease. Awareness about stem cells used to regenerate lost periodontal tissue was higher among consultants [Table 5].

Dental implants used for replacement of lost tooth was well accepted as a treatment modality among the healthcare professional groups [Table 5].

Conclusion

Within the present scope of study, the result of the above study indicated that there was good amount of knowledge and awareness among healthcare professional groups. But certain voids in periodontal practice needs to be addressed.

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