

Original Article

CROSS SECTIONAL STUDY OF ATTITUDE, PRACTICE AND KNOWLEDGE OF ORAL HYGIENE PRACTICES AND DENTAL TREATMENT IN HEALTH CARE PROFESSIONALS IN SOUTH CANARA DISTRICT. (KARNATAKA)

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Abstract :

Objective: The purpose of the study is to estimate the knowledge, attitude and practise of the oral hygiene, and dental treatment, and its correlation with everyday oral hygiene practices among the health care professionals of south canara district (Karnataka)

Methods : A cross sectional survey was conducted on 200 health care professionals between Jan 20th to Feb 20th 2013. Two hundred health professionals were asked to answer a questionnaire containing 15 questions. Data once collected was analysed using SPSS software.

Results: 56.3% health professionals visited the dentist once in six months. 26% health professionals felt that unavailability of time is the main factor influencing dental visits. Main cause of taking a dental appointment in 33% subjects was found to be dental caries. 54.6% obtained information on oral hygiene practices through mass media followed by 22.3% who obtained it directly from the dentist. 59.2% brushed their teeth twice daily, 50% used medium bristle tooth brush. 48.5% had a brushing time of 3-5 min. 41.5% did not use any other oral hygiene aid. 28.64% got scaling done in the last 3-6 months. 56% did not have an habit of using a tooth pick. 43.3% used combination of circular, vertical and horizontal method of brushing. 45.5% felt that scaling caused loss of enamel.

Conclusion: It appears that knowledge, attitude, and behaviour attitude, practice and knowledge of oral hygiene practices and dental treatment in health care professionals in South Canara district is gud. Though more information needs to be provided about other oral hygiene aids.

Keywords : oral hygiene, tooth brushing, flossing, oral hygiene practices

Introduction:

It is a well known fact that bacterial plaque plays a critical role in the host response leading to the pathogenesis of periodontitis. Poor oral hygiene and exogenous infection change the normal flora into a pathogenic flora.¹ It is a well understood fact that bacterial plaque is involved in

pathogenesis of periodontal disease. Studies done by lang et al in the year 1973 and study done by Sri Lankan tea workers in the year 1985, showed the importance of oral

hygiene in maintenance of gingival health.

It has been demonstrated that an effective supragingival oral hygiene even may affect the sub

gingival microbiota². Effective plaque control is the cornerstone of any attempt to prevent and control periodontal diseases. It was demonstrated that plaque also plays an important role in dental caries³, gingivitis⁴ and periodontal diseases⁵

The use of other oral hygiene aids may improve tooth cleaning effectiveness provided that cleaning is sufficiently thorough and performed at appropriate intervals. Tooth brushing⁶ and flossing⁷ are reported to be fundamental

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to reduce the amount of bacterial plaque and its virulence potential, so they are considered the pillar of self-prevention strategy⁸. Several studies have shown the usefulness of regular dental flossing for removing interdental plaque and preventing calculus formation⁹. Both the American Dental Association and the British Dental Association recommended the daily use of dental floss in addition to brushing.

Axelsson and Lindhe¹⁰ and Hellstrom et al. (Hellstrom, Ramberg, Krok & Lindhe 1996) found in a longitudinal study that it was possible to minimize periodontal attachment loss and bone resorption with a combination of improved oral hygiene and professional prophylaxis 6 to 8 times a year. Irregular or not frequent users of dental services have less restored teeth and higher number of carious teeth.¹¹

Hence good oral hygiene practices and routine dental visits show a positive result for the preservation of a natural and functional dentition.

The aim of the current study was to investigate knowledge, attitude and practices of oral hygiene and the attitude towards preventive dental visits among health care professionals in south canara district, Karnataka.

Materials and methods:

A cross sectional survey was conducted on 200 health care professionals between Jan 20th to Feb 20th, 2013. Ethical clearance was obtained and consent was taken from all the subjects. The health care professionals included professionals from the field of Physiotherapy, Nursing, Psychiatry and Medicine. 200 health care professionals were asked to answer a questionnaire containing 15 questions. The questions were in relation to the knowledge, attitude and practice of oral hygiene and attitude towards preventive dental visits among health care professionals. The health care professionals were in the age group of 23 to 40 yrs. Which included working graduates and post graduate students. Once the forms were collected, Data was entered in an MS Excel spreadsheet and analyzed through SPSS16.0

Results :

The results are presented in Tab. 1-14

Source of information on oral hygiene practices

Table 1: From where do you obtain your information on oral hygiene practices?

Source	Percentage
from the doctor/dentist	22.3
from mass media	54.6
from family and acquaintances	4
from school /college	19.1

Table 1 gathers the answers concerning the sources of information about the rules of oral hygiene. 54.6% obtained the information from mass media. 22.3% obtained it directly from the dentist. Family and acquaintances were the source for the remaining 4%.

Flossing

Table 2: Do you have any information regarding flossing?

Number	percentage
No	19.5
Yes	80.5

Among all the subjects 61% had information regarding flossing and 39% were ignorant about flossing.

Scaling effect on enamel

Table 3 : Do you feel scaling causes loss of enamel?

Option	Number of subjects
Yes	91
No	103
Don't know	6

Table 3: showed whether the health care professional felt that scaling caused loss of enamel. It can be seen that 45.5% subjects felt that scaling caused loss of tooth material.

Dental visits

Table 4 : Factors influencing dental visits

Factor	Percentage
Fear	26
Lack of financial means	10
Lack of availability of time	52
Lack of availability of dentist	32

Table 4: presents the factors influencing dental visits. Most often mentioned cause was unavailability of time in 52% subjects. Another cause was lack of availability of dentist as mentioned by 32% students of dentistry. Fear of dental visit was mentioned by 26% subjects. Additionally 10 % felt the lack of financial means was among the main causes which affected the frequency of making a dental appointment.

Chief complaint

Table 5: What is the main cause of making a dental appointment?

Cause	Percentage
Deposits and stains on the teeth	21.89
Dental caries	33.33
Dental pain	27.36
Orthodontic treatment and other causes	17.41

Table 5 lists most common causes that motivate to make a dental appointment. Dental caries was mentioned by 33.33% as the main cause of making a dental appointment. 27.36 felt that dental pain was the main cause followed by 21.89 subjects who felt deposits and stains on the teeth was the main cause.

Table 6: when was the last time you got a professional scaling done?

frequency	Percentage
Never	26.63
Last 3- 6 months	28.64
Last year	24.62
More than an year back	19.1

Table 6 : showed when last the health professionals got their teeth professionally cleaned. It can be seen that 28.64% got it cleaned in the last 3-6 months. 26.63% never got their teeth cleaned. 24.62 got their teeth cleaned last year. The remaining 19.1% got it done one year back

Table 7: How often do you visit a dentist?

Frequency	percentage
Every 3 months	8.7
Every 6 months	56.3
once a year	8.2
less than once a year	14
no definite frequency	26.8

Tab. 7 presents the results concerning the frequency of dental visits. It revealed that 56.3% subjects made a dental visit every 6 months. 26.8% subjects did not have any definite frequency. 14% visited the dentist less than once in an year. 8.2 % visited the dentist once in an year and 8.7 % of them visited once in 3 months.

Brushing frequency

Table 8: What is your brushing frequency?

Frequency	Percentage
After every meal	22.3
Twice daily	54.6
Once daily	4
Less than once daily	19.1

The remaining few questions were regarding oral hygiene practices of the subjects. It was noticed that 54.6% subjects had a brushing frequency of twice daily. 4 % brushed once daily. Brushing after every meal was done by 22.3 % subjects.

Tooth brush bristle

Table 9: Which type of tooth brush bristle you use?

Type	Number of subjects
Soft	101
medium	74
Hard	7
Don't know	18

Table 9 showed the type of bristle used by the subjects. 50.5% of the subjects used soft bristle. 37% used medium bristle. 3.5% used hard bristle and 9 % were not sure about the type of bristle they used.

Brushing time

Table 10: How long do you brush?

Brushing time	Percentage
1- 3 min	33.35
3- 5 min	48.5
More than 5 min	9.5
Less than 1 min	5.0

Table 10: brushing time varied in different subjects with 48.5% brushing for 3-5 min, followed by 33.35% who brushed for 1-3 min. brushing for more than 5 min was seen in 9.5% subjects. Less than 1 min brushing time was seen in 5% of the population.

Other oral hygiene aid

Table 11: Do you use any other oral hygiene aid?

Type of other oral hygiene aid used	Percentage
Floss	15.5
Mouthwash	29.5
Interdental brush	14.5
none	41.5

Table 11 discussed the usage of other oral hygiene aids in health care professionals 41.5 % subjects did not use any other oral hygiene aid. 29.5% used mouthwash. Only 15.5 subjects used floss. And 14.5% used interdental brush.

Table 12: If you have information regarding flossing, what is the frequency of your flossing?

Frequency	Number of subjects
Never	133
Once a week	44
Once a day	13
More than once a day	10

Table 12: table ten represented the frequency of brushing among the subjects. 133 subjects did not have the habit of flossing. 44 subjects flossed once in a week. 13 flossed once in a day. flossing more than once in a day was seen among 10 subjects.

Tooth pick uses age

Table 13: Do you have the habit of using tooth pick?

Habit	Percentage
after every meal	12%
whenever required	38%
no habit of using tooth pick	56%

Table 13: table 12 discussed the prevalence of using tooth pick. 56% had no habit of using tooth pick. 38% used tooth pick only when required. 12% used it after every meal

Brushing method

Table 14: What is the brushing method you use?

Method	frequency
Circular	19.4
Vertical	19.9
Horizontal	10.9
Combination of all of the above	43.3
No particular method	5.6

Table 14 represented the brushing techniques used by the subjects, it was seen that 43.3% subjects used a combination of vertical, horizontal and circular brushing method. 19.4% had a circular method of brushing. Vertical horizontal and

circular brushing method. 19.4% had a circular method of brushing. Vertical brushing technique was used by 19.9% subjects. Horizontal brushing method was used by 10.9%.

Discussion :

The present study investigated the knowledge, attitude and practice towards oral hygiene practices and the attitude towards preventive dental visits of a group of healthcare professionals.

In the cross sectional study questions were asked to check the knowledge about oral hygiene practices. When asked from where the subjects obtained information on oral hygiene practices, it was observed that 54.6% obtained the information from mass media. 22.3% obtained it directly from the dentist. Family and acquaintances was the source for the remaining 4%.

The subjects were asked whether they had any information regarding flossing. It was noticed in our study that among all the subjects 61% had information regarding flossing and 39% were ignorant about flossing.

There is a common misnomer that scaling causes loss of enamel. Enamel is 97% mineralised. Scaling once in six months will not cause any harmful effect on enamel. The general population should be educated about this fact that undergoing a professional scaling once in six months is very beneficial and should be encouraged.

The subjects answered questions related to their attitude towards oral hygiene practices and dental visits. The subjects were asked about the main factors which influenced the frequency of dental visits. Most often mentioned cause was unavailability of time in 52% subjects. Another cause was lack of availability of dentist as mentioned by 32%. Fear of dental visit was mentioned by 26% subjects. Additionally 10% felt the lack of financial means was among the main causes which affected the frequency of making a dental appointment.

The subjects were asked what is the main cause of visiting a dentist. Dental caries was mentioned by 33.33% as the main cause of taking a dental appointment. Following which 27.36% felt its dental pain. 21.89 subjects who felt

deposits and stains on the teeth was the main cause. This showed that subjects were more concerned about dental problems which were related to pain and which effected aesthetics. Hence subjects should be educated about other dental problems which are usually ignored, for instance bleeding gums, recession, mobility etc and thus they should be motivated to treat these problems too at the right time.

The subjects were asked when last the health professionals got their teeth professionally cleaned. The effects of periodontal maintenance care provided every 6 months were compared over 4 years according to Lightner et al.¹⁶ Results indicated that plaque and gingivitis scores improved more in groups receiving more frequent maintenance. Similar results was found by Listgarten et al.¹⁷ and by Rosen et al.¹⁸, they suggested that recall intervals can be extended upto a year for the purpose of reducing periodontal disease progression in individuals with a history of limited susceptibility to the disease. It could be seen in our study that 28.64% got it cleaned in the last 3-6 months. 26.63% never got their teeth cleaned. 24.62% got their teeth cleaned last year. The remaining 19.1% got it done one year back.

It's well known that, professional plaque removal and regular follow up combined with patient oral hygiene instructions could minimize the level of gingival inflammation and swelling¹². Lang et al.¹³ demonstrated that students who thoroughly removed plaque at least every second day, did not develop clinical signs of gingival inflammation over a 6-week period. This included the use of inter-proximal aids as well as the toothbrush. A recommendation to brush the teeth twice daily should be considered¹⁴, particularly in patients showing gingival inflammation. The results in the present study indicate that 54.6% subjects had a brushing frequency of twice daily, 4% brushed once daily. 22.4% had the practice of brushing after every meal.

Opinions regarding the merits of hard and soft bristles are based on studies that are not comparable, are often inconclusive, and contradict one another.¹⁹ Softer bristles

are more flexible, clean slightly below the gingival margin when used with a sulcular brushing technique and farther into proximal surfaces.²⁰ Use of hard bristled tooth brushes is associated with more gingival recession, and frequent brushers who use hard bristles have more recession than those who use soft bristles.²¹ In our study, we could see that 50% health care professionals preferred to use medium bristle tooth brush. Results showed that, 48.5 % subjects had a brushing time of 3-5 min followed by 33.5%, who had a brushing time of 1- 3 min.

Many studies proved that by interdental cleaning, periodontal patients are able to improve clinical outcomes and reduce clinical signs of disease and inflammation¹⁵. In our study 41.5 % subjects did not use any other oral hygiene aid like mouth wash, floss and tooth pick. It was seen that 29.5% used mouthwash. 15.5% subjects used floss and 14.5% used interdental brush. Hence there is a clear need for motivation among the subjects to use other oral hygiene aids.

Conclusion:

From the above survey it can be seen that majority of the health care professionals are quite aware about the various

health care practices. Though more emphasis should be put on usage of other oral hygiene aids. They should be educated about the advantages of using other oral hygiene aids and should be encouraged to use the same.

It can be clearly seen that most of the subjects had main chief complaint of caries and dental pain. These symptoms are important and subjects tend to notice them as they are associated with pain and aesthetics. Deposits and stains on teeth, bleeding gums, recession, and mobility are mostly ignored, so the subjects should be educated about these symptoms. They should be told the consequence of not getting the right treatment at the right time.

The misconception among subjects about loss of enamel during scaling should be corrected. Enamel is the most mineralized tissue in the body with 97% mineral content, so undergoing scaling once in 6 months would not be detrimental to the enamel. Subjects should be encouraged to undergo a scaling once in six months.

Hence, Professional plaque removal and regular follow up combined with patient oral hygiene instructions can minimize the level of dental and periodontal diseases.

References:

- Vega KJ, Pina I, Krevsky B. Heart transplantation is associated with an increased risk for pancreatobiliary disease. *Ann Intern Med* 1996; 124: 980-3.
- Offenbacher S. Periodontal diseases: Pathogenesis. *Ann Periodontol* 1996; 1: 821-878.
- Dahlen G, Lindhe J, Sato K, Hanamura H. & Okamoto H. The effect of supragingival plaque control on the subgingival microbiota in subjects with periodontal disease. *J Clin Periodontol* 1992; 19: 802-809.
- Ainamo J. Relative roles of toothbrushing, sucrose consumption and fluorides in the maintenance of oral health in children. *Int Dent J* 1980; 30: 54-66.
- Ainamo J, Holmberg S. A retrospective longitudinal study of caries prevalence during and 7 years after free dental care at school in finland. *Community Dent Oral Epidemiol* 1973 1: 30-36.
- Lang NP, Cumming BR, Loe H. Toothbrushing frequency as it relates to plaque development and gingival health. *J Periodontol* 1973; 44: 396-405.
- Hansen F, Gjermo P. The plaque-removing effect of four toothbrushing methods. *Scand J Dent Res* 1971; 79: 502-506.
- Hill H.C, Levi, Glickman I. The effects of waxed and unwaxed dental floss on interdental plaque accumulation and interdental gingival health. 1973; *J Periodontol* 44: 411-413.
- Schmid M O, Balmelli OP, Saxer UP. Plaque removing effect of a tooth brush, dental floss, and a toothpick. *J Clin Periodontol* 1976; 3: 157-165.
- Bauroth, K, Charles CH, Mankodi SM. The efficacy of an essential oil antiseptic mouthrinse vs. Dental floss in controlling interproximal gingivitis: A comparative study. 2003; *J Am Dent Assoc* 134: 359-365.
- Axelsson P, Lindhe J. Effect of controlled oral hygiene procedures on caries and periodontal disease in adults. Results after 6 years. *J Clin Periodontol* 1981; 8: 239-248.
- Davenport C, Elley K, Salas C, Taylor-Weetman. The clinical effectiveness and cost-effectiveness of routine dental checks: A systematic review and economic evaluation. *Health Technol Assess* 2003; 7: iii-v, 1-127.
- Raber-Durlacher JE, van Steenberghe TJ, Van der Velden U. Experimental gingivitis during pregnancy and post-partum: Clinical, endocrinological, and microbiological aspects. *J Clin Periodontol* 1994; 21: 549-558.
- Lang NP, Cumming BR, Loe H. Toothbrushing frequency as it relates to plaque development and gingival health. *J Periodontol* 1973; 44: 396-405.
- Echeverria JJ, Manlau, Tejerina JM. Fundamentals of periodontal treatment. *Arch Odontol Estomatol* 1987 3: 359-364.
- Christou V, Timmerman MF, Van der Velden U. Comparison of different approaches of interdental oral hygiene: Interdental brushes versus dental floss. *J Periodontol* 1998; 69: 759-764.
- Lightner L M, O'Lear JT, Drake RB. Preventive periodontic treatment procedures: Results over 46 months. *J Periodontol* 1971; 42: 555-561.
- Listgarten MA, Sullivan P, George C. Comparative longitudinal study of 2 methods of scheduling maintenance visits: 4-year data. *J Clin Periodontol* 1989; 16: 105-115.
- Rosen B, Olavi G, Badersten. Effect of different frequencies of preventive maintenance treatment on periodontal conditions. 5-year observations in general dentistry patients. *J Clin Periodontol* 1999; 26: 225-233.
- Hinijker jj, Forscher BK. The effect of tooth brush type on gingival health. *J periodontol* 1954; 25: 40.
- Bass CC. An effective method of personal oral hygiene. part II, *J la state med soc* 106: 100. 1948se, *J periodont*
- khocht A, Simon G, Person P. gingival recession in relation tp history of hard tooth brush use. *J periodontal* 1993; 64: 900.