



An Online Survey About Awareness and Motivation Regarding Periodontal Health Among Health Care Professionals in J&K

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Abstract

Background: Periodontal disease is one of the most important oral diseases contributing to the global burden of chronic disease. Motivation in periodontitis patients is thought to play a major role in influencing periodontal health in this patient. This online study focuses on different areas for motivation such as age, cleaning methods, frequency of dental visits, knowledge of inter disciplinary relation, frequency of referrals etc. among different health-care professionals. **Aim:** The main purpose of this study was to assess the medical professional's knowledge about relation between periodontal and systemic health in health professionals in J&K state. **Material & Methods:** The study sample consisted of 500 participants ranging between 20 and 60 years old. The questionnaire was prepared and circulated by the mobile application (WhatsApp). A questionnaire consisting of multiple choice questions was used as assessment tool and its content evaluated the patients profile, their knowledge about periodontal disease, the dental professional's commitment to instruct the patients towards oral hygiene. **Results:** The result of this study showed that the respondents have moderate awareness regarding the importance of dental, in specific to periodontal health care. **Conclusions:** Hence, there is an urgent need for comprehensive educational programs to promote good oral health and impart education about the correct oral hygiene practices. There is need for awareness not only in the general population but also in health-care professionals too.

Keywords:- Awareness, Periodontitis, Systemic health etc.

INTRODUCTION

Periodontal diseases, comprising gingivitis and periodontitis, are probably one of the most common disease of mankind. Chronic periodontitis is multifactorial disease with high prevalence rate in India. Factors which contribute to the steady rise in the prevalence of periodontal disease include poor oral health awareness. Oral health plays a very important role to maintain the overall health.^[1] Prevention of oral diseases can be achieved by

proper tooth brushing, use of interdental aids, flossing, proper dietary practice, and regular visit to dentist. Motivation in periodontitis patients is thought to play a major role in influencing periodontal health in this patient. In periodontics, it is also acknowledged that the patient himself/herself is usually more capable of controlling his/her health-related changes and lifestyle than the dental professional. Knowledge of oral health is considered to be an essential prerequisite for



health-related behaviour.^[2] Budding health professionals belong to the strata of society considered to have a better knowledge and awareness than the general population, but assessment of actual status demands a proper channelled study. According to the literature, no online study has been done to assess the oral hygiene awareness in health care professionals of J&K till now. This survey is, therefore, initiated with a prime focus to determine the oral health, especially periodontal awareness levels among health professionals in J&K.

Aims and Objectives

The purpose of this study was to evaluate awareness, behaviour, and motivation regarding periodontal disease in health professionals in J&K state with aforementioned aims and objectives:-

- To assess the health care professional's knowledge and concern about the importance of self-care in controlling periodontal disease.
- To assess the dental professional's commitment to instruct their patients.
- To assess the medical professional's knowledge about relation between periodontal and systemic health.

MATERIAL AND METHODS

The study sample consisted of 500 participants ranging between 20 and 60 years old. The questionnaire was prepared and circulated by the mobile application (WhatsApp). A questionnaire consisting of multiple choice questions was used as assessment tool and its content evaluated the participant's profile, their knowledge about periodontal disease, the

dental professional's commitment to instruct the patients toward their behaviour concerning oral hygiene along with their perception of the importance of self-care for disease control and knowledge and motivation in medical professionals about periodontal health.

This proposed study was reviewed by the Institutional Ethical Committee (Govt.Dental college Srinagar) and clearance was obtained under no./date (ECC-GDC/0049, date.6/2/2022).

Questionnaire

Demographic status of the participant

Age:- Sex:- Designation:-

1. How many times do you clean your teeth?
a) Once b) Twice
c) After every meal
d) Never
2. What do you use for cleaning teeth?
a) Toothbrush and toothpaste
b) Toothbrush and toothpowder
c) Finger and toothpaste/ toothpowder
d) Neem stick e) Neem twig
3. How do you brush your teeth?
a) Horizontal motion Vertical motion
b) Circular motion
c) Randomly
4. How much time you take for cleaning your teeth?
a) 1-2 min.
b) 3-5 min.
c) >5 min.
d) don't know
5. How often do you change your tooth brush?
a) Once every month



- b) Once in 3 months
c) Once in 6 months
d) Once every year
e) NA
6. What type of tooth brush you use?
a) Hard
b) Soft
c) Ultra soft
d) NA
7. Do you use any other cleaning aid?
a) Floss
b) Interdental brush
c) Tongue cleaner
d) Mouth wash
e) No
8. Is it possible to prevent gum disease with tooth brushing alone?
a) Yes
b) No
c) Don't know
9. Do you think oral hygiene is mandatory to overall health of body?
a) Yes
b) No
c) Don't know
10. How often have you visited a dentist in the last 12 months?
a) Once
b) Twice
c) 3 times
d) >3 times
e) No visit
f) Don't require
11. What was the reason of your last visit to the dentist?
a) Pain/trouble with teeth
b) Pain/trouble with gums
c) Follow up
d) Regular check-up
e) No visit
12. Do you seek routine dental visit for oral hygiene maintenance?
a) Once in a year
b) Twice in a year
c) Only if problem is there
d) Never
13. Self- perception for halitosis (bad breath)
a) Yes
b) No
c) Don't know
14. Do you feel that bad breath can be caused by gum disease or poor oral health?
a) Yes
b) No
c) Don't know
15. Bleeding gum is related to gum problems
a) Yes
b) No
c) Don't know
16. Do you think periodontal diseases (disease of gums and bone lining the tooth socket) are preventable?
a) Yes
b) No
c) Don't know
17. Dental plaque/ tartar build up on the tooth surface causes periodontal disease:-
a) My dentist has explained this to me
b) Don't know anything about this
c) Have learnt on TV, magazine and internet.
18. Periodontal disease is caused by
a) Plaque
b) Hereditary



- c) Vit.C deficiency
 - d) Don't know
19. When the gum disease is not treated, it can progressively cause tooth loss:
- a) Don't know anything about this.
 - b) Explained by dentist.
 - c) Learnt on Tv, magazines, Internet.
20. Does smoking affect the healing of periodontal tissues?
- a) Yes
 - b) No
 - c) Don't know
21. Do you think scaling can cause removal of enamel?
- a) Yes
 - b) No
 - c) Don't know
22. Do u know there is a relation between periodontal disease and
- a) Hormonal changes like pregnancy/puberty
 - b) Pre-term low weight
 - c) Diabetes Mellitus
 - d) Cardio-vascular disease
 - e) All of the above
 - f) Don't know anything about it
23. Are you aware about the relationship between oral hygiene maintenance and improvement in health conditions in vastly growing PCOS condition?

- a) Yes
 - b) No
24. Do you know certain medicines prescribed for hypertension/ epilepsy/ immunosuppression can cause gingival enlargement?
- a) Yes
 - b) No
25. How many times have you referred patients to periodontist?
- a) Many
 - b) Never
 - c) Sometimes

Statistical Analysis

The recorded data was compiled and entered in a spreadsheet (Microsoft Excel) and then exported to data editor of SPSS Version 20.0 (SPSS Inc., Chicago, Illinois, USA). Continuous variables were expressed as Mean±SD and categorical variables were summarized as frequencies and percentages. Graphically the data was presented by bar and pie diagrams.

RESULTS

The data from 500 questionnaires comprised 53.4% males and 46.6% female volunteers, most participants were found to be in the age group of 25-30years (41.8%) and almost 81.4% volunteers were medicos by designation.

Table 1: Demographic information of study subjects

Variable		Number	Percentage
Age (Years)	18-25 Yrs	35	7.0
	25-30 Yrs	209	41.8
	30-35 Yrs	81	16.2
	35-40 Yrs	128	25.6
	≥ 40 Yrs	47	9.4
Gender	Male	267	53.4
	Female	233	46.6



Designation	Medico	407	81.4
	Para-medico	35	7.0
	Resident	58	11.6

Although brushing was commonly used method of cleaning teeth, it was found that only 28% participants reported cleaning their teeth twice daily. More than 80% participants were found to use soft brush and tooth paste for cleaning teeth. This study shows most of the population uses random motion (44.2%) followed by vertical motion(30%) for brushing their teeth.

Table 2A: Awareness and motivation regarding periodontal health among study subjects

Variable		Number	Percentage
How many times do you clean your teeth?	Once	348	69.6
	Twice	140	28.0
	After every meal	12	2.4
What do you use for cleaning teeth?	Tooth brush & tooth paste	419	83.8
	Tooth brush & tooth powder	35	7.0
	Finger and tooth paste	23	4.6
	Neem stick	23	4.6
How do you brush your teeth?	Horizontal motion	35	7.0
	Vertical motion	151	30.2
	Circular motion	93	18.6
	Randomly	221	44.2
How much time do you take for cleaning your teeth?	1-2 Minutes	337	67.4
	3-5 Minutes	128	25.6
	> 5 Minutes	35	7.0
How often do you change your tooth brush?	Once every month	47	9.4
	Once in 3 months	289	57.8
	Once in 6 months	151	30.2
	Once every year	13	2.6
What type of tooth brush you use?	Hard	23	4.6
	Soft	442	88.4
	Ultra soft	35	7.0

Regarding hygiene products, only 30.4% of the participants were using floss and interdental brush and surprisingly only 11.6% were using mouth wash as other cleaning aid. The study showed that only 4% of individuals had developed the proper habit of cleaning tongue. 53.4% were not using any other cleaning aid. In the questionnaire, 97.4% participants were aware about the fact that oral health is mandatory to overall health of the body but as perception of self-care is concerned, a result showed that only 22.2% individuals visit regularly to the dentist, 72.2% visited whenever there is a trouble with gums or teeth.



Table 2B: Awareness and motivation regarding periodontal health among study subjects

Variable		Number	Percentage
Do you use any other cleaning aid?	Floss	152	30.4
	Tongue cleaner	23	4.6
	Mouth wash	58	11.6
	No	267	53.4
Is it possible to prevent gum disease with tooth brushing alone?	Yes	93	18.6
	No	291	58.2
	Don't know	116	23.2
Do you think oral hygiene is mandatory to overall health of body?	Yes	487	97.4
	No	13	2.6
How often have you visited a dentist in the last 12 months?	Once	93	18.6
	Twice	47	9.4
	3 times	69	13.8
	Never	291	58.2
What was the reason of your last visit to the dentist?	Pain/ trouble with teeth	361	72.2
	Follow up	28	5.6
	Regular checkup	111	22.2
Do you seek routine dental visit for oral hygiene maintenance?	Once in a year	35	7.0
	Twice in a year	23	4.6
	Only if problem is there	337	67.4
	Never	105	21.0

While evaluating the results of self-perception for bad breath, bleeding gums, plaque, periodontitis 62.8% did not have self-perception for bad breath, 81.4% were aware of the relation of bleeding gums with gum problems, 88.4% were knowing that the periodontitis is preventable and the knowledge so obtained was mostly from internet (40.8%).

Table 2C: Awareness and motivation regarding periodontal health among study subjects

Variable		Number	Percentage
Self- perception for halitosis (bad breath)	Yes	105	21.0
	No	314	62.8
	Don't know	81	16.2
Do you feel that bad breath can be caused by gum disease or poor oral health?	Yes	465	93.0
	No	23	4.6
	Don't know	12	2.4
Bleeding gum is related to gum problems	Yes	407	81.4
	No	23	4.6
	Don't know	70	14.0
Do you think periodontal diseases (disease of gums and	Yes	442	88.4
	No	23	4.6



bone lining the tooth socket) are preventable?	Don't know	35	7.0
Dental plaque/ tartar build up on the tooth surface causes periodontal disease	My dentist has explained this to me	154	30.8
	Don't know anything about this	142	28.4
	Have learnt on TV, magazine and internet	204	40.8
Periodontal disease is caused by	Plaque	361	72.2
	Vitamin C deficiency	58	11.6
	Don't know	81	16.2

While evaluating the knowledge in medical professionals about the relationship between systemic diseases and periodontal health, many (67.4%) knew about the relation of systemic condition such as cardiovascular diseases, preterm low birth weight, and diabetes mellitus with periodontitis but still many health-care professionals (25.5%) never referred such patients to periodontists.

Table 2D: Awareness and motivation regarding periodontal health among study subjects

Variable		Number	Percentage
When the gum disease is not treated, it can progressively cause tooth loss	Don't know anything about this	105	21.0
	Explained by dentist	151	30.2
	Have learnt on TV, magazine and internet	244	48.8
Does smoking affect the healing of periodontal tissues?	Yes	465	93.0
	No	23	4.6
	Don't know	12	2.4
Do you think scaling can cause removal of enamel?	Yes	233	46.6
	No	151	30.2
	Don't know	116	23.2
Do u know there is a relation between periodontal disease and	Diabetes Mellitus	47	9.4
	Cardio-vascular disease	12	2.4
	All of these	337	67.4
	Don't know anything about this	104	20.8
Are you aware about the relationship between oral hygiene maintenance and improvement in health conditions in vastly growing PCOS condition?	Yes	198	39.6
	No	302	60.4
Do you know certain medicines prescribed for hypertension/ epilepsy/ immunosuppression can cause gingival enlargement?	Yes	457	91.4
	No	43	8.6
How many times have you referred patients to periodontist?	Many	81	16.2
	Never	128	25.6
	Sometimes	291	58.2

Sneha kannan, Dr.Balaji ganesh, Dr. Ganesh Lakshmanan (2020),^[8] conducted a study to

explore perceptions of dental health among the Chennai public. The questionnaire was

circulated through social media like whatsapp and they were asked to fill the survey. A survey was conducted and circulated among the Chennai population through google forms with 20 questions. It is a common notion that educated strata of society are more aware about the general health and diseases including oral, but very minimal data was present in literature to substantiate this view. Therefore, this study was designed with the aim of attaining information about the level of awareness of periodontal health and disease. The conclusion of the survey was that the respondents had moderate awareness regarding the importance of dental, in specific to periodontal health care.

Zhan, J., Zhang, Y., Wang, X. et al.(2021),^[9] investigated the related risk factors of periodontal health status among Chinese middle school students. A multi-stage stratified sampling method was used to select middle school students aged 12-15 from the sampled middle school for investigation. The survey consisted of two parts: oral examination and questionnaire survey. The oral examination included gingival bleeding and calculus. The questionnaire included sociodemographic information, oral health knowledge, attitudes and behaviours. Logistic regression and generalized linear mixed model were used to investigate the risk factors of gingival bleeding and calculus. Study concluded that gingival bleeding and calculus occurred most of 12-15 years old adolescents in China. Several related factors, such as gender, age, ethnicity, father's education level, oral health knowledge and behaviour, were found in multi-factorial models.

DISCUSSION

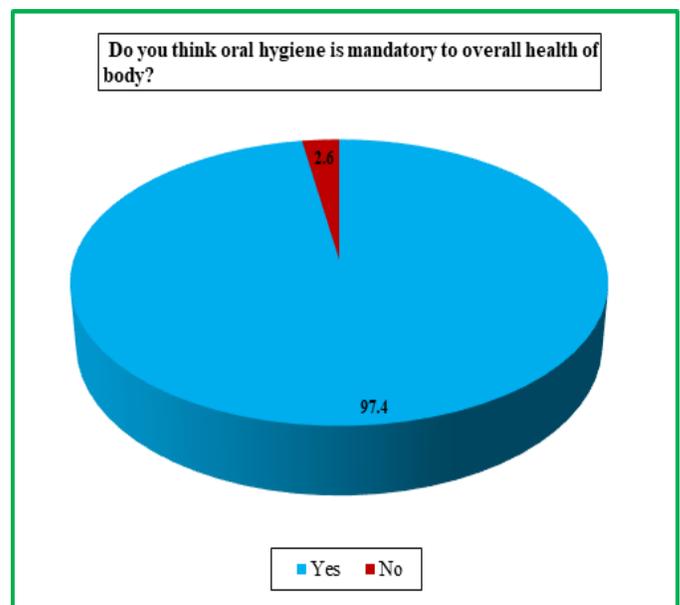
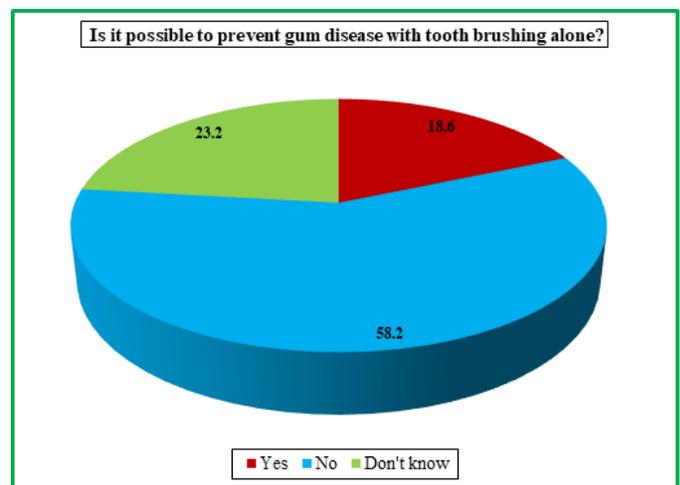
Motivated patient behavior has the most important role in prevention as well as for successful treatment outcome of periodontal disease, as we know periodontal disease that is highly prevalent in the Indian population. The most effective method among prevention measures is the one which considers the patients' active self-care to manage their own health and promote habit changes. For this reason, a questionnaire was applied to evaluate the responsiveness of the patient's self-care education and oral hygiene behavior. Pralhad S, Thomas B (2011),^[3] conducted a survey to assess the awareness of oral hygiene, periodontal disease and availability of treatment techniques among medical professionals. One hundred and fifty medical professionals were interviewed through a questionnaire. Those interviewed included an equal number of medical interns, postgraduates, and consultants. A positive attitude towards dental and periodontal check and the treatment needs was observed among those questioned. The difference was statistically significant among the groups. Mundoor Manjunath Dayakar, Jitendra Kumar, Gurpur Prakash Pai, Hiranya Shivananda, Ramapatali Rekha (2016),^[4] conducted a survey to assess the oral health awareness and knowledge about periodontal diseases among the students of medical, Ayurveda, and Engineering Colleges. Results showed a substantial lack of oral hygiene understanding and limited knowledge of oral hygiene practices even in health professionals and engineering students. Penmetsa GS, Singh S, Gadde P, Teja RG, Bhaskar UR (2017),^[5] conducted a study to determine the

periodontal health awareness levels along with the self-perception of halitosis among the medical, pharmacy, and engineering students in the West Godavari district of Andhra Pradesh and Penmetsa et al. concluded that even though professional students do have an acceptable level of knowledge regarding oral health, the level of awareness pertaining to periodontal health in particular was lacking. Priyanka Gangadhar Kapse, Ramreddy K Yeltiwar, Pallavi K Patil, Kaustubh S Thakare (2018),^[6] conducted a study to evaluate awareness, behaviour, and motivation regarding periodontal disease in general population and health professionals (dental and medical) in Maharashtra state. The result of the study showed basic awareness about oral hygiene in educated population but an acute lack of oral hygiene awareness and limited knowledge of oral hygiene in general population. Yao K, Yao Y, Shen X, Lu C, Guo Q (2019),^[7] conducted a study to assess the oral health knowledge, behaviour and status of dental and medical undergraduate students in the first (fresh) and third year (before specialized courses) study. The junior dental students showed highly significant improvement than their counterparts, mainly in the items about frequency of brushing teeth, brushing methods of vertical scrub or Bass technique (66.3%), usage of floss or mouth wash (49.7%), causes of caries, periodontal diseases and system diseases (56.9-83.4%).

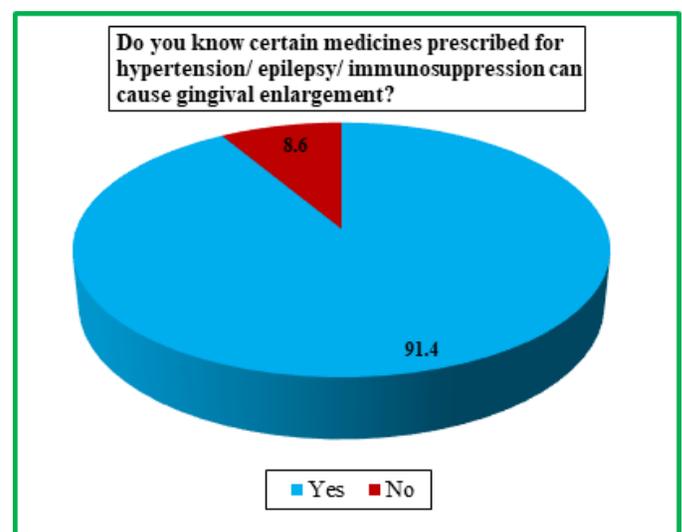
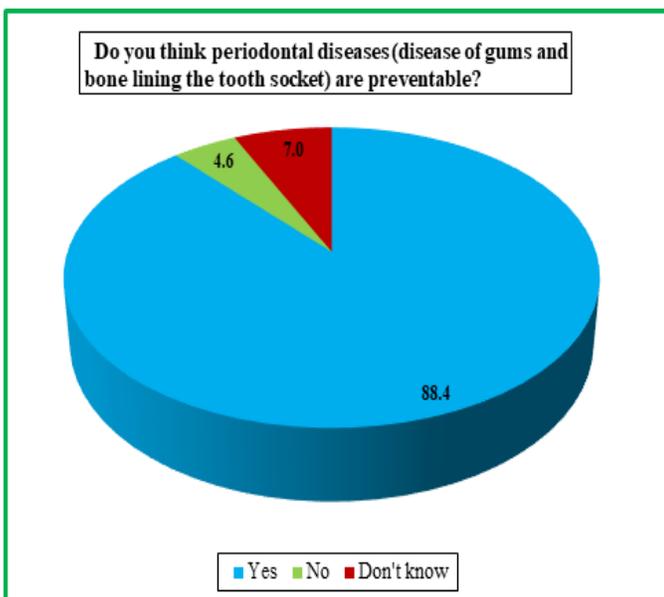
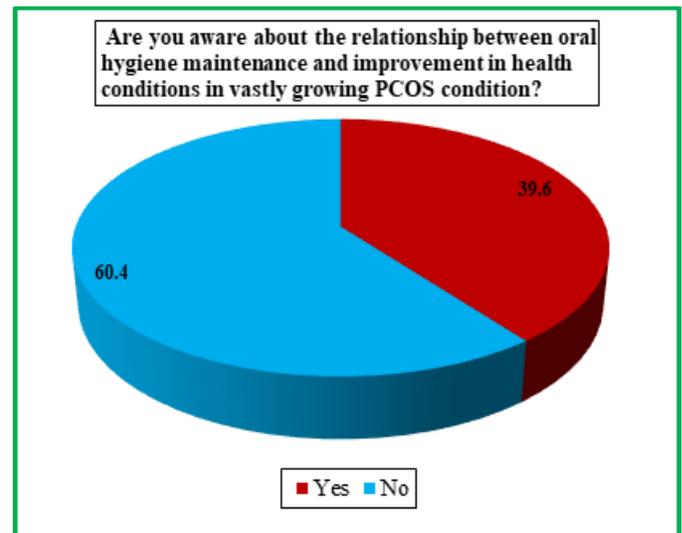
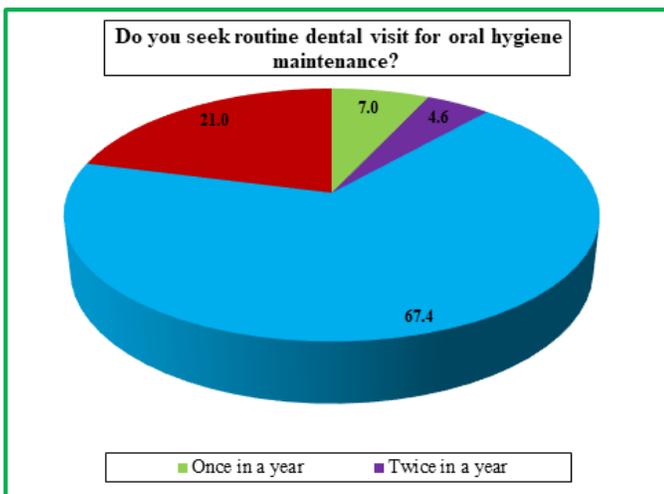
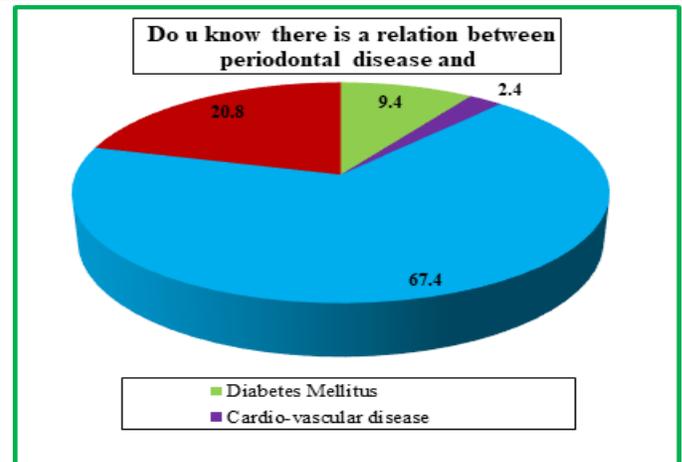
In most of the studies, the result found was astonishing as there was lack of basic oral hygiene awareness not only in general public but also among health care professionals.

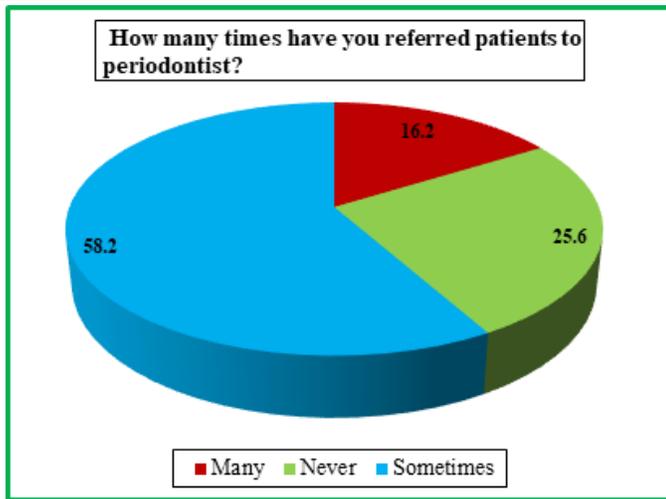
In our study, essential information such as biofilm accumulation on the tooth surface as

the cause of periodontal disease, combining biofilm control with proper oral hygiene and tooth loss as a result of untreated periodontal disease, was considered of pristine importance for a under treatment patient. In the questionnaire, many participants were unaware about the information. This shows the need of dental professionals commitment to instruct their patients.



So as per the result of the survey, there is a need to take steps to create awareness among general population toward oral hygiene and motivate them to improve their behaviour for the prevention and maintenance of periodontal disease. As well as need to encourage health-care professionals too to provide proper information and motivation to their patients toward the most prevalent disease like periodontitis and motivate them to refer the needful patients to periodontist.





CONCLUSIONS

From the result, we conclude that there is need for comprehensive educational program and public health awareness through TV, radio, press, Internet, and other social activities like motivating school teachers as they convey it to their students and ultimately to their parents. There is need of awareness not only in the general population but also in health-care professionals too.

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