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## Awareness on Different Clinical Specialties in Dentistry among Indians.

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### ABSTRACT

Oral health is one of the important aspects of overall systemic well-being. Currently distinct oral health specializations are available to combat different oral health problems. General population with the constraints of his barriers is set back to remain ignorant of such developments. Unawareness seems to be more reasonable explanation. The study was conducted to assess the awareness of general population regarding dentists and their specialties pertaining to their demographic details and educational status. The subjects were interviewed with structured questionnaire collecting information relating to their demographic details, dental visiting habits and their perception and awareness for various dental specialties. The data was collected using structured questionnaire. Chi-square test was applied to assess the association between awareness about different dental specialties to education level, place of residence and no of dental visits. Among 200 subjects interviewed, 136 (68%) had undergone dental treatment earlier. About 48.6% (66/136) of subjects among them had visited a dental set-up more than twice having more than one appointment with the dentist. Maximum number 54.4% (45/136) of subjects visited a private dental clinic for the dental treatment. A private hospital was the least relied set up by the subject's i.e 1.5% (2/136). About 84% (68/200) of the studied population was totally unaware of any specialties in dentistry, while 4.5% (9/200) had a vague account for the same. Irrespective of the education status and area of residence, the awareness among general population regarding different dental specialties was observed to be quite low.

**Keywords:** Awareness, Dental Specialties, Education, Knowledge, Perception

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## INTRODUCTION

The contemporary dynamism of world demands people to be knowledgeable and to keep pace with all developing areas. Creating awareness regarding less-acquainted fields is a means by which attitudes and understanding of the people can be channelized in a productive manner. Oral health without any doubt is one of the important aspects of overall systemic well-being of an individual.

Though, currently distinct oral health specialization's (i.e., prosthodontics, endodontics, orthodontics, pedodontics, maxillofacial surgery, oral medicine) are available to combat different oral health problems, the concept of single dentist for all dental problems is still prevalent among general population. It is ironical that even today, the people associate dentist with the pre-historic belief, as a person who just drills and fills. A common man might know the difference between neurologist and cardiologist, but same is not the case for different dental specialties. Thus, a general indifference prevails among the population regarding dental health care. [1] According to available literature, people still expect to lose teeth in old age, and believe that nothing can be done to prevent it. [2] Studies have also highlighted that the use of oral health services is mostly symptoms oriented. [3] Attributing factors like fear and anxiety, readily accessible home remedies and socio-economic factors, have a great impact on individuals oral health and their dental visiting habits. However, a rather related and regulated barrier to seek dental care is the attitude itself of individual toward oral health and dental provider. [4] Stratification, cultural diversity and educational background of an individual have proven to be important determinants for the observed variation in attitudes. [5]

Contemporarily, every scientific field or discipline, including dental health, is developing and continuously evolving at a rapid rate. It has also been established that specialization in dentistry is inevitable. [6] Distinct advances like, preventive oral health, geriatric oral care, application of LASERs and implant technology, etc have been developed lately to restore the dentition both functionally as well as aesthetically. Despite of the improvisation occurring currently in dental specialization, a vast majority of the patients remain ignorant regarding even the qualification of his/her treating dentist. On the contrary, it is noteworthy that the general dental practitioners may be wary of referring patients out of their practices, in fear that specialist will poach their patients. [7] Moreover, a general dental practitioner cannot satisfy all of the patients needs, resulting in rendering the routine treatment modes in a clinical set up, without actually focusing on his/her specific complaint.

A normal person with the constraints of his barriers remains ignorant of such developments resulting in a neglected attitude toward usage of available dental treatment options. Even though poor accessibility and low affordability may be cited as the major causes of avoiding such facilities, lack of elementary education, unawareness about the dental facilities available and improper channelization seems to be more reasonable explanations. In order that this progressing field is proved beneficial to the people; it is mandatory to explore the beliefs, attitudes and knowledge level of the general population regarding various dental specializations. To our knowledge, no studies have so far investigated the awareness of the general population regarding all the dental specialties and concerned specialists existing in the Indian health system as per Dental Council of India. Thus, the aim of the study was to analyze and assess the awareness of general population regarding dentists and their specialties pertaining to their demographic details and educational status.

## MATERIALS AND METHOD

Questionnaire survey was conducted to assess the awareness of the general population regarding various dental specialties in Dakshin Kannada district (nodal centres), Karnataka, India and to evaluate the influence of the level of education and the type of residential area, regarding the awareness about different dental specialties. Institutional Ethical Committee approval was taken from Manipal College of Dental Sciences, Mangalore before conducting the study (MCODS/5265/2009).

This was a cross-sectional study conducted at 8 nodal centres located in Dakshin Kannada district, namely Bejai, Ullal, Lady Hill, Moodabidri, Kuppepadavu, Jeppinamoguru, Farangipette, and Koila and was carried out for a period of two months. The nodal centres (Primary Health Centres) provide primary health care with the referral system to medical and dental colleges and district hospitals. Sample size was based on the number of patients visiting the nodal Centre. Each centre was visited once in a month and on an average 20-25patients/visit was interviewed. Thus, a total of 200 subjects were interviewed (using questionnaire) by a

single investigator throughout the duration of the study and the data was collected from the patients who were willing to participate in this period. Written informed consent was taken, clearly stating the consent of the subject to participate voluntarily in the study and give the relevant information.

The subjects were interviewed with a structured questionnaire (Appendix 1) which was based on simple terminologies for the easy comprehension of the patient. The questionnaire was translated to Kannada by a native speaker & then translated back to ensure reliability ( $\alpha=0.84$ ). The validity of the questionnaire was assessed based on a pilot study conducted with 10 subjects in one of the nodal centre. The questionnaire was designed to collect information relating to the subject’s demographic details, dental visiting habits and their perception and awareness for various dental specialties (specialist). The structured questionnaire consisted of 8 questions, divided into 3 parts as follows:

**Part 1**

Part 1 included the first three questions. These questions highlighted the demographic details of the subject i.e. name, age sex, and occupation, literacy level, and type of residential area. The criteria applied to assess the literacy level, education level and type of residential area of the subjects are summarised in Table 1. Following determining the subject as literate or illiterate; the subjects in the literate group were further categorized according to their level of education (Table 1.). Finally the subjects were asked about the type of residential area they are living in. Residential area was categorized as rural, suburban and urban, based on the defined limits of what constitutes a city (Table 1).

**Table 1: Criteria applied to assess the Literacy, Education level and type of Residential Area**

Parameter	Criteria applied
<i>Literacy</i>	
Literate	A person, who can read and write in his/her mother tongue
Illiterate	A person, who can only speak but neither read nor write, in his/her mother tongue
<i>Education Level</i>	
Primary school	Up to 5th grade
Middle school	Up to 7th grade.
High school	Up to 10th grade
Pre- university/post high school	Up to 12th grade
Graduation	
<i>Type of Residential Area</i>	
Rural	Any geographical area outside the sub-urban area
Sub-urban	Any geographical area outside the city but within 10 km from the city* limit
Urban	Any geographical area constituting a city*
* City – A large densely populated municipality	

**Part 2**

This phase constituted of the fourth and fifth question regarding the dental visiting habits and past dental history of the subjects. The subjects were asked whether they have received any dental treatment earlier or not. If the dental treatment was rendered, subject was asked further about the type of dental set up where he/she got treated (private clinic, dental college/school, private hospital, or government hospital) and whether the subjects were aware about qualification of the treating dentist (general practitioners or



specialist). They were also enquired about type of treatment rendered and the number of dental appointments that were made to complete the particular treatment (Appendix 1).

Appendix 1: Questionnaire Form

Demographic details  
Name:  
Age:  
Sex:

Q1. Whether the subject is literate or illiterate?  
 Literate  
 Illiterate

Q2. If literate, what is the subject's education level?  
 Primary School  
 Middle School  
 High School  
 Post High School/Pre-University  
 Graduation

Q3. Type of area were the subject is residing  
 Rural area  
 Sub-Urban area  
 Urban area

Q4. Whether the subject has undergone dental treatment earlier?  
 Yes     No

Q5. If No, go to Question no. 6 (Q6.);  
If yes, specify the following details:  
5a) No. of times the subject had undertaken the dental treatment (No. of dental appointments)  
5b) Type of dental set-up where treatment was rendered  
 Private clinic    Dental college    Private hospital    Government hospital

5c) Type of treatment rendered  
 Filing  
 Tooth removal  
 Teeth straightening/Wire treatment  
 Teeth cleaning/Gum treatment  
 Teeth replacement  
 Other, specify

5d) Qualification of the treating doctor  
 General dentist (BDS)    Specialist (MDS)    Can't say

Q6. Whether the subject is aware of different specialties (8 specialties) in dentistry for different treatment aspects?  
 Yes    No    Can't say

Q7. Does the subject know that there is a different specialty and separate specialists for the following?  
7a) Dental check up's/ Dental X-ray's     Yes    No    Can't say  
7b) Filling of decayed/broken teeth     Yes    No    Can't say  
7c) Straightening of crooked teeth with wires/ braces    Yes    No    Can't say  
7d) False teeth sets/dentures and Caps/bridges on teeth    Yes    No    Can't say  
7e) Dental camp organization     Yes    No    Can't say  
7f) Dental treatment of children     Yes    No    Can't say  
7g) Treatment of gums and cleaning of teeth     Yes    No    Can't say

7h) Tooth removal and jaw fracture treatment       Yes     No     Can't say  
 Q8. Whether the subject thinks that it is important for a dental patient to be aware of the different specialties in dentistry?  
 Yes     No     Can't say

**Part 3**

It constituted question number six, seven and eight which were in regard to their awareness regarding the different dental specialties for the treatment of various oral problems and their perception about the need of awareness. The subjects were asked in layman terms about the different dental specialties (specialists), as recognised by the Dental Council of India (DCI), as follows:

- a. Dental check up's/Dental X-rays (Oral Medicine and Radiology)
- b. Filling of decayed or broken teeth or dead tooth root (Conservative Dentistry & Endodontics)
- c. Straightening of crooked teeth with wires or braces (Orthodontics & Dentofacial Orthopaedics)
- d. False teeth sets / denture and caps/ bridges on teeth (Prosthodontics and Crown & Bridge)
- e. Dental camp organization (Public Health Dentistry)
- f. Dental treatment of the children (Paedodontics & Preventive Dentistry)
- g. Treatment of gums and cleaning of teeth (Periodontology)
- h. Tooth removal and jaw fracture treatment (Oral & Maxillofacial Surgery)

Finally the subjects were asked, whether it is important for the subjects and the public in general to be aware of the different specialties in dentistry or not.

The data collected from the structured questionnaire was subjected to statistical analysis using SPSS software (Version 16.0, SPSS, Chicago, Ill.) and the frequencies to the answers for the questions asked in the structured questionnaire were measured.

**RESULTS**

A total of 200 subjects 103 females (51%) and 97 males (48%), visiting the nodal centre were interviewed having a mean age of 36.24 years. Table 2 depicts the percentage distribution of subjects based on gender, literacy level, education level, place of residence, and no. of dental appointments. Majority of the participants were literate 85% (171/200) and had above high school education 59% (118/200). When the residential status was taken into account, 111 patients were from Urban area (55%), 34 were from Sub-urban area (17%) while 55 were from Rural area (27%).

**Table 2: Percentage distribution of the Subjects according to Gender, Literate v/s Illiterate, Education level, Place of Residence and number of Dental Appointments and their Awareness about Different Dental Specialties**

Parameters	Subjects distribution	Awareness about different dental specialties *			Chi-square value (p-value)
		Yes	No	Can't say	
<b>Gender</b>					
Male	97 (48.5)	16 (16)	79 (81)	2 (2)	14.63 p=0.07
Female	103 (51.5)	7 (7)	86 (83)	10 (10)	
<b>Literate V/S Illiterate</b>					
Illiterate	29 (14.5)	0 (0)	29 (100)	0 (0)	7.11 p<0.05
Literate	171 (85.5)	21 (12)	136 (80)	12 (7)	
<b>Education Level</b>					
Primary school	20 (10)	0 (0)	19 (95)	1 (5)	13.676 p=0.09
Middle school	33 (16)	6 (18)	27 (82)	0	
High school	50 (25)	3 (6)	45 (90)	2 (4)	
Pre-university	27 (13)	5 (19)	20 (74)	2 (7)	
Graduation	41 (20)	9 (22)	28 (68)	4 (10)	

Place of residence					
Rural	54 (27)	2 (4)	52 (96)	0 (0)	19.692 p<0.01
Sub-Urban	35 (18)	0 (0)	34 (97)	1 (3)	
Urban	111(55)	21 (19)	82 (74)	8 (7)	
No. of Dental Visits					
1-2	70 (35)	3 (4)	61 (87)	6 (9)	14.268 p<0.01
3-4	36 (18)	10 (28)	24 (67)	2 (5)	
≥5	30 (15)	6 (20)	24 (80)	0 (0)	

\*% in parenthesis

**Table 3: Awareness and Knowledge Level (%) of the study subject population regarding Different Dental Specialties**

Dental speciality	Awareness (%)
Oral Medicine and Radiology	28(14.0)
Conservative Dentistry & Endodontics	45(22.5)
Orthodontics & Dentofacial Orthopaedics	35(17.5)
Prosthodontics and Crown & Bridge	29(14.5)
Public Health Dentistry	18(9.0)
Paedodontics & Preventive Dentistry	22(11.0)
Periodontology	26(13.0)
Oral & Maxillofacial Surgery	20(10.0)

Among the total subjects interviewed, 136 (68%) had undergone dental treatment earlier. About 48.6% (66/136) of subjects among them had visited set-up more than twice having more than one appointment with the dentist. Maximum number 54.4% (74/136) of subjects visited a private dental clinic for the dental treatment. A private hospital was the least relied set up by the subjects (1 person). About 52.2% (71/136) of subjects have undergone simple restorative procedures, 45.6% (62/136) underwent removal of tooth/extraction and 36% (49/136) have got the cleaning of teeth/scaling done. On the contrary, only 9.6% (13/136) subjects underwent replacement of teeth and 3.7% (5/136) for straightening of teeth/orthodontic treatment. Only 38.2% (52/136) of subjects were aware about the qualification of treating dentist.

When people were enquired about their knowledge on different dental specialties available in oral health, only 11.5 % (23/200) the total knew about them while 84% (68/200) were unaware and 4.5% (9/200) had the vague account about the same. Percentage of people knowing about a particular dental specialty was also observed to be very low, as shown in Table 3. Owing to the interest of people towards dental health, 76% (152/200) of them believe that there is need for awareness regarding different dental specialties available in dental health care.

### DISCUSSION

The results obtained from interviewing the subjects, using a structured questionnaire, showed that the knowledge and awareness among the general public regarding different dental specialties is very low (11.5%). It is worth noting that 85.5% population is literate and many of them are educated up to high school level and even graduation. More than half of subjects interviewed are staying in urban areas, and are aware of better living standard and facilities available as compared to rural or sub-urban areas. However the knowledge and awareness regarding different available dental specialties (specialists)/treatments is still lagging and the general population carry a pre-historic belief regarding dentists, as a person who just “drills-digs-fills”. This is well supported by the fact that the maximum awareness among the interviewed population was for the specialty dealing with filling of teeth and treatment of dead root tooth (Conservative Dentistry and Endodontics). The observed awareness level was quite low for the rest of the specialties. This can be attributed to the greater prevalence of the concept of single dentist for all the problems among the general population. The same social norms are being carried from generation to generation. Thus, although the level of education has improved but still the implication of dental health services has not improved much. [8]

The majority of dental service users reported that they visited dentists in private clinics, followed by dental college where as the frequency of visiting private hospital and government hospital remains low. This can be attributed to the lack of awareness among the people that hospitals also have dental health care facilities and not merely meant for heart, brain, kidney and other major diseases.

The most common reasons for visiting a dentist were for tooth filling, followed by tooth extraction and cleaning where as tooth malalignment problems and requirement of dental prosthesis/replacement remain neglected. Attributing reasons for this could be the longer duration of orthodontic treatment, fear of pain and common belief of loosing teeth in old age. [2] When patients were asked whether they knew about the qualification of the treating dentist, it was seen that many of them were unaware of the fact that there may exist a specialist to deal with specific oral health problems and that the overall dental treatment can be influenced by the treating personnel as well.

The attributing factor to this unawareness about availability of dental specialist could be due to the prevalent social attitude and customs regarding oral health care in the society. As stated above, concept of single dentist is still being followed. They just believe that if teeth appear clean, nothing can go wrong to their dental health, thereby gums and other oral structures remain neglected. For most of the people this concept is being carried that filling, removal and cleaning of teeth can be performed by general dentist and only complicated procedures are referred to the specialist. On the contrary, many a times general dental practitioners wary of referring patients out of their practice, in fear that specialist will poach their patients. [7]

Another contributing factor could be the lack of awareness among medical practitioners regarding dental problems and conditions in relation to the dental specialty that treat. Adeghe et al. observed that level of knowledge of dental specialties, among medical students, was suboptimal and mainly through the non formal means. [9]

Thus existing social norms and values regarding teeth and dental care, as stated by Peterson Conflict Model, may have restricted the people from utilizing these services.

Though the present awareness among people regarding availability of dental specializations is observed to be low, 76% of total subjects responded positively for the need to create awareness about it. This suggests that with improvement in literacy rate and living conditions people are willing to know more about their oral health aspects, but there is need of creating awareness in them [10], thereby helping them to render the best of facilities available improving their overall health.

As stated in earlier studies, 66.6% people do made recall (previous) visits to the dentist,[11] clearly stating that lack of awareness is acting as a barrier to common people to seek dental care. Those familiar with dentist and available facilities and benefits of dental health care have shown good results by making couple of appointments with dentist suggesting that they took interest in completion of the required procedures to be done, to benefit their oral health and thus minimizing further susceptibility to any factors which can lead to deterioration of oral health.

Thus a lot of efforts are needed to make people aware about dental health and help them improve their overall health standards. Because Sample was confined to Dakshin Kannada district, Karnataka, India only, it may not be possible to extrapolate the results of this study to other settings in India or other parts of the world.

## CONCLUSION

The data obtained from the population based questionnaire survey showed that the awareness among general population regarding different dental specialties was quite low (11.5%), irrespective of the education status and area of residence.

## Recommendation

Various promotional professional and educational programs should be proposed, designed, created, conducted, evaluated and re-modelled so as to create and improve the awareness of general public about various dental specialties so as to better utilize the available treatment options. Some of the recommended awareness creating promotional programs are:

- Oral Health educational programs



- Posters & Education booklet
- Brochures & Presentation media
- Oral Health Promotion package

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