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# Does Socio-Economic Status Have An Impact On Knowledge And Awareness Of Different Dental Specialities Among General Public In Chennai City, Tamilnadu, India? - A Cross-Sectional Study

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**ABSTRACT:**
BACKGROUND:Health is of utmost important than anything in the world. Many systemic diseases can be predicted at an earliest stage with the help of dentists by an oral examination. People should have an adequate knowledge and awareness on the different specialities of dentistry to get easy access and maximum benefits.
AIM:This study aimsto assess the impact of socio-economic status on the knowledge and awareness of different dental specialities among general public in Chennai city, Tamilnadu, India.
MATERIALS AND METHOD: A descriptive study was conducted among 150 general publicfrom various shopping malls in Chennai city based on the simplesampling method. The 21 item questionnaire regarding demographic data, knowledge and awareness of different dental specialities was obtained. Their socio-economic status was recorded using modified Kuppusamyscale(2019). The data were collected, tabulated and analyzed using descriptive statistics and chi-square test. P value < 0.05 was considered to be statistically significant.
RESULTS: Females had more knowledge and awareness of dental specialities when compared to males. The awareness of dental specialities was found to be statistically significant with gender (P=0.04) and socio-economic status (P=0.04). There was a statistically significant association between knowledge of dental specialities and socio-economic status (P=0.02).
CONCLUSION:The overall knowledge and awareness of people on dental specialities were poor.The people with low socio-economic status had poor knowledge and awareness of dental specialities. The government should ensure easy access and availability of dental servicesto get maximum benefits for all the people.
**KEYWORDS:**Socio-economic status, knowledge, awareness, dental specialities.

## INTRODUCTION:

Oral health plays a pivotal role in maintaining the overall health of people. In simple terms, Mouth is the mirror of general health. A healthy oral cavity denotes not only the absence of diseases but also the healthy well being of the people in such a way that the person can perform their regular basic activities like smiling, talking, eating and social interactions in a better manner [1].

The unhealthy diet, socio-economic status, certain systemic disease and conditions have a negative impact on oral health which adversely affects the people quality of life in general. Both medical and dental professionals form an integral part of comprehensive healthcare [2].

Dentists are the health care professionals concerned with the diagnosis, prevention and management of oral diseases. They are the first health care professionalswho help in the early identification of many systemic diseases by examining the oral cavity. Dentistry is considered necessary for maintaining the complete oral health care and has contributed immensely to the well-being and quality of humanity. It has different branches of specialities such as Prosthodontics, Endodontics, Orthodontics, Periodontics, Oral maxillo-facial surgery, Pedodontics, oral medicine and radiology, oral pathology and Public health dentistry. Despite its role in systemic health, oral health care is an aspect that was often neglected [1, 2]. Since the past two decades, patients were aware of the prevalent specialities in medicine, but the knowledge and awarenessof dentistry is still grossly inadequate among many patients [2].

In developing countries like India, the dental problems were often neglected due to the lack of awareness and knowledge of dental specialities and in most of the rural areas, people report their dental problems only to medical practitioners due to unavailability of proper dental health care facilities in vicinity[3, 4, 5, 6]. The oral cavity is an important diagnostic area, so medical professionals should also have the basic dental knowledge to identify signs and symptoms of dental diseases in patients to provide appropriate treatment or refer to a dentist[7].

The inclusion of dental education at both undergraduate and postgraduate medical curriculum appears to be a promising solution to this unnecessary knowledge gap between the medical and dental professions. The poor knowledge of dentistry among family physicians and paediatriciansmight lead to inappropriate dental management and advice or referrals of patients [8].

The knowledge of dental specialitiesin the tertiary health sector was expected to have a multiplier effect on the overall management of the patients. Training may therefore be necessary to correct the lack of awareness regarding dentistry. Thefirst line of action towards achieving this is to have baseline information for the proper formulation of necessary material [2].

The people with low socio-economic status had a lack of knowledge regarding the importance of routine oral health and most of them were unaware that oral health had a strong association with various systemic diseases such as diabetes mellitus, chronic respiratory disease and rheumatoid arthritis [9]. Adequate knowledge of different branches in dentistry is of utmost important to overcome this problem. The previous studies were conducted based on the knowledge and awareness of dental specialities among medical practitioners. However, none of the studies were conducted based on knowledge of dental specialities among the general public. Hence, this current study aims to assess the impact of socio-economic status based on the knowledge and awareness of different dental specialities among general people in Chennai city, Tamilnadu, India.

**MATERIALS AND METHOD:**

A descriptive cross-sectional study was conducted among the common people of different socio-economic status in Chennai city. The sample size was calculated to be 150 by setting 95% confidence interval and alpha error of being 5%. The ethical approval was obtained from Public Health Dentistry Department, SRM dental college, Ramapuram.

The inclusion criteria of this study includedonly common people with different socio-economic status.Those subjects willing to participate and fulfil the consent form were included. The exclusion criteria include those subjects who didn't fulfil the questionnaire, the medical and dental professionals were excluded.

A total of 150 samples from general population were selected from various shopping malls of Chennai city based on the simple random sampling method. The pre-validated 21 item closed ended questionnaire [3] regarding demographic data, knowledge and awareness of dental specialities were obtained. The content validity and internal consistency of the questionnaire was validated by Cronbach's alpha (0.8). The questionnaire was framed in both English and local language and were distributed to the public for the ease of understanding.

The first part of questionnaire consists of demographic data such name, age and occupation, second part of questionnaire consists of three items based on the awareness of dental specialities and the third part of questionnaire consists of fifteen items based on the knowledge of dental specialities. The subjects with scores less than eight were considered as poor knowledge whereas those subjects with scores more than eight were considered as good knowledge based on the previous study conducted by Nagrik et al [3]. Their socio-economic status was recorded using modified Kuppusamy scale 2019. The collected data were analyzed and tabulated using descriptive statistics and Chi-square test. P value < 0.05 was considered to be statistically significant.

**RESULTS:**

TABLE 1: DESCRIPTIVE ANALYSIS OF DEMOGRAPHIC VARIABLES

| **Variables** | **Classification** | **Number of subjects** | **Percentage** |
|---|---|---|---|
| Gender | Male | 79 | 52.66% |
| | Female | 71 | 47.33% |
| Age | Up to 30 | 25 | 16.66% |
| | 30 – 40 | 47 | 31.33% |
| | 40 and above | 78 | 52% |
| Socio-economic class | Lower | 8 | 5.33% |
| | Upper lower | 37 | 24.66% |
| | Upper middle | 67 | 44.66% |
| | Upper class | 38 | 25.33% |

Table 1 shows the descriptive analysis of demographic variables such as age, gender and socio-economic status. Most of the subjects were aged above 40 years (52%) and were belonging to the upper-middle class (44.66%).

TABLE 2: KNOWLEDGE OF DENTAL SPECIALITIES AND THEIR ASSOCIATION WITH RESPECT TO AGE AND GENDER

| **Variables** | **Classification** | **Knowledge of dental specialities** | | **Total** | **P value** |
|---|---|---|---|---|---|
| | | **Poor** | **Good** | | |
| Gender | Male | 58(38.7%) | 21(14.0%) | 79(52.7%) | P=0.819 |
| | Female | 50(33.3%) | 21(14.0%) | 71(47.3%) | |
| Age | Up to 30 | 23(15.3%) | 9(6.0%) | 32(21.3%) | P=0.683 |
| | 30-40 | 31(20.7%) | 10(6.7%) | 41(27.3%) | |

| | | | | | |
|---|---|---|---|---|---|
| | 40 and above | 54(36.0%) | 23(15.3%) | 77(51.3%) | |

Table 2 shows that the knowledge of different specialities of dentistry was not found to be statistically significant with age (P=0.819) and gender (0.683).

TABLE 3: AWARENESS OF DENTAL SPECIALITIES AND THEIR ASSOCIATION WITH DEMOGRAPHIC VARIABLES WITH RESPECT TO AGE AND GENDER

| VARIABLES | CLASSIFICATION | MEAN | S.D. | P VALUE |
|---|---|---|---|---|
| Gender | Male | 5.37 | 2.28 | P=0.049 |
| | Female | 6.64 | 2.48 | |
| Age | Up to 30 | 6.09 | 2.63 | P=0.796 |
| | 30-40 | 5.95 | 2.32 | |
| | 40 and above | 6.26 | 2.34 | |

Table 3 shows the association between awareness of dental specialities and demographic variables. There was a statistically significant association was found between awareness of dental specialities and gender (P=0.049).

TABLE 4: ASSOCIATION OF THE KNOWLEDGE AND AWARENESS OF DENTAL SPECIALITIES WITH RESPECT TO SOCIO-ECONOMIC STATUS

| VARIBALES | SOCIO-ECONOMIC STATUS | P VALUE |
|---|---|---|
| Knowledge of dental specialities | Lower class | P=0.026 |
| | Upper lower class | |
| | Upper middle class | |
| | Upper class | |
| Awareness of dental specialities | Lower class | P=0.046 |
| | Upper lower class | |
| | Upper middle class | |
| | Upper class | |

Table 4 depicts that the socio-economic was found to statistically significant with knowledge (P=0.026) and awareness (P=0.046) of dental specialities.

**FIG 1: PERCENTAGE-WISE DISTRIBUTION OF KNOWLWDGE ON DENTAL SPCIALITIES OF PEOPLE WITH DIFFERENT SOCIO-ECONOMIC STATUS**

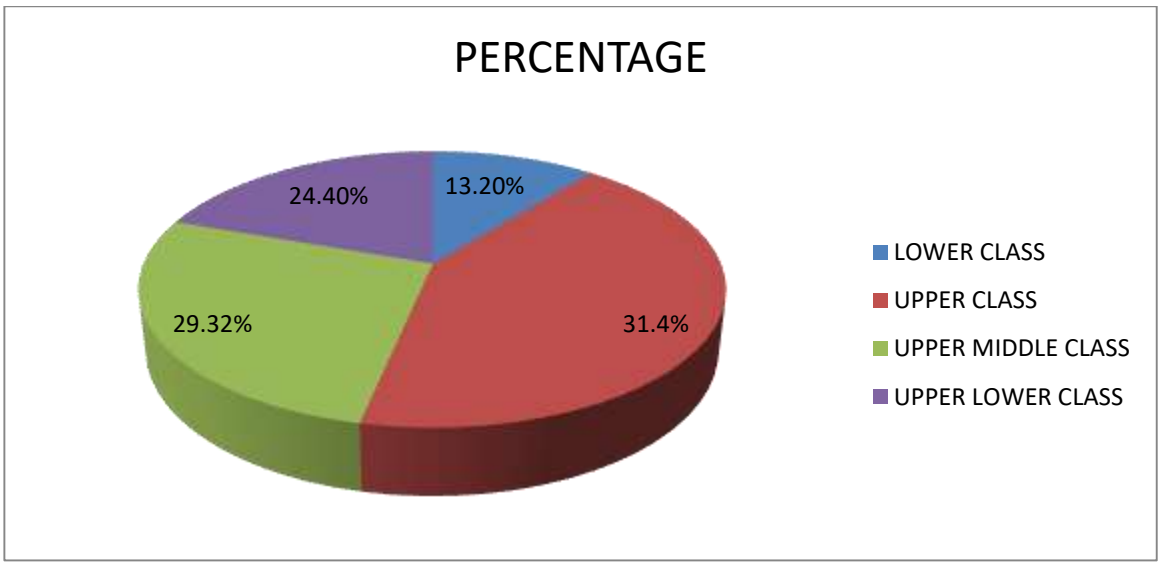

Fig 1 shows the knowledge of dental specialities of people based on their socio-economic status. The people belongs to upper class (31.4%) had more knowledge on dental specialities compared to other socio-economic class.

**FIG 2:PERCENTAGE-WISE DISTRIBUTION OF AWARENESS ON DENTAL SPECIALITIES OF PEOPLE WITH DIFFERENT SOCIO-ECONOMICSTATUS**

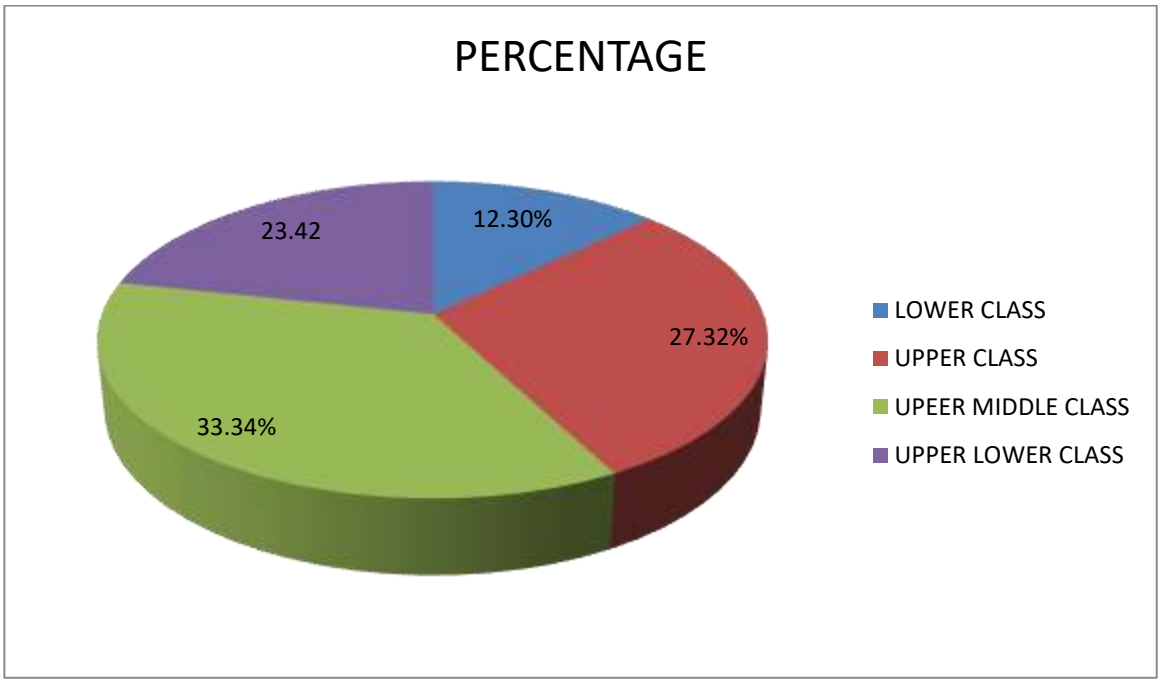


Fig 2 shows the awareness of dental specialities of people based on the socio-economic status. The people belonged to upper middle class (33.34%) had more awareness on dental specialities when compared to other socio-economicclass.

**FIG 3: PERCENTAGE-WISE DISTRIBUTION OF THE KNOWLEDGE AND AWARENESS ON DENTAL SPECIALITIES OF PEOPLE WITH DIFFERENT SOCIO-ECONOMIC STATUS**

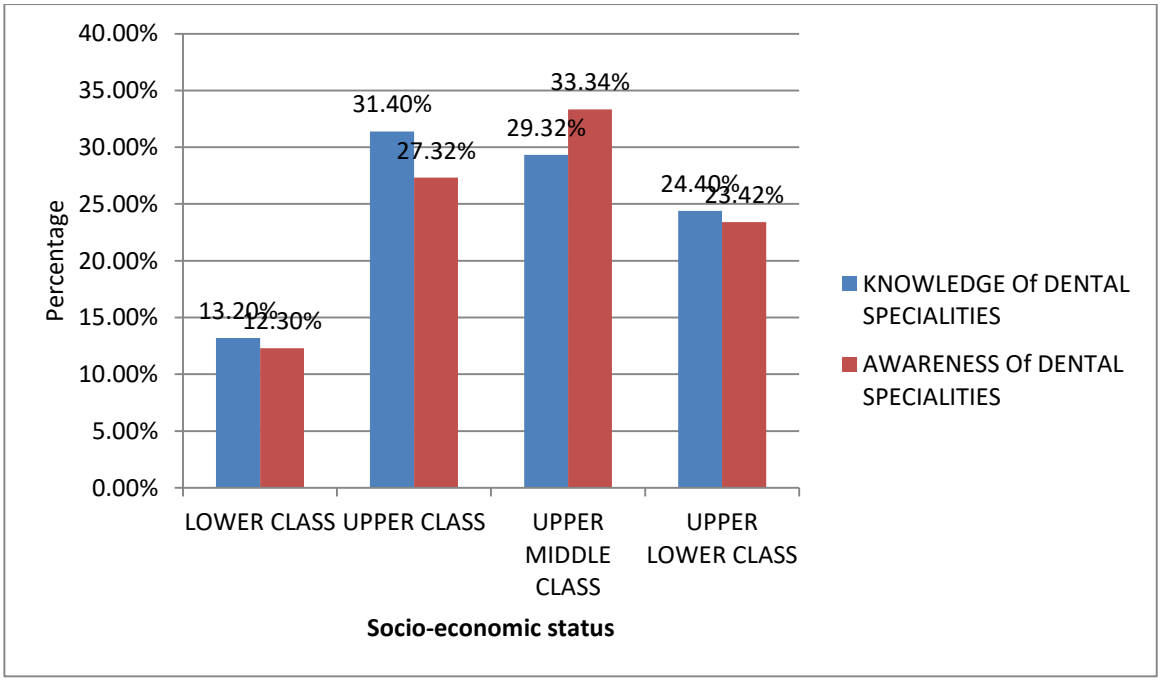

Fig 3 shows the percentage of knowledge and awareness on dental specialities of people with different socio-economic status. The people belonged to upper class (31.40%) had more knowledge on dental specialities whereas the people belonged to upper middle class (33.34%) had more awareness on dental specialities.

**DISCUSSION:**

Poor oral health may adversely affectoverall general health. As dental problems usually do not lead to significant risk or threat to life, they are overlooked and considered less important by many people.

The oral cavity is the central portal of entry through which many pathogens enter the body.Various factors influence oral hygieneawareness, among which the socio-economic status hasa profound effect on oral health behaviour [10,11,12].The relationship between oral and general health had increasingly been recognized during the past two decades.

In this study, totally 150 subjects were participated of that 79 (52.66%) were males and 71 (47.33%) were females of that 25 (16.66%) subjects were aged below 30 years, 47 (31.33%) were between the age groups 30 to 40 and 78 (52%) number of subjects were aged 40 years and above.Most of the subjects belong to upper-middle class (44.66%).

In a study conducted by Radha et al, among the nursing staff and nursing students of Bangalore city, the mean scores of knowledge, attitude, and practice were statistically significant between students and staff nurses at $P<0.05$ [13]. In this current study, 42 (15.3%) of subjects had good knowledge of different dental specialities, whereas 108 (72.0%) of subjects had a poor knowledge of dental specialities. A statistically significant association was found between knowledge of different dental specialities and socio-economic status ($P=0.026$).

In the current study, the females had an adequate awareness of dental specialities when compared to males. There was a statistically significant association found in the awareness of dental specialities with respect to gender ($P = 0.49$) and socio economic status ($P=0.046$). However, there were no statistically significant difference found between age groups ($P=0.7$). This was in line with the study conducted by Nagrik et al reported that most of the medical practitioners were unaware of the different branches in dentistry and had a misbelief that all dental problems can be treated by general dental practitioners [3].

This was in contrast with the study conducted by Mehrotra et al stated that medical practitioners had good knowledge about dentistry. Totally 90.8% of medical practitioners had knowledge that the highest intake sugary food items were the most important factor for dental caries formation [5].Another study conducted by Jain et al in the year 2012 had discussed about the dental awareness and practice among people in Jodhpur, India and concluded that they had a very poor awareness and knowledge regarding the dental health [6].

In a study conducted by Nagrik et al among the medical trainees and teaching faculty of the medical college in central West India, pointed out by their failure to correctly match the procedures done under the different dental specialities. Most of them selected Lasodontics and Odontodontics as the specialties dealing with caries teeth this might be due to the limited exposure of the respondents to the dentistry[3].

In a study conducted by Sharma et al based on the awareness of oral and maxillofacial Surgery (OMFS) among medical practitioners in North India and concluded that majority of medical practitioners had heard about the department of OMFS, most of them were not aware of the wide surgical scope of this speciality [13].

Themedical practitioners had limited knowledge of Periodontitis, Oral maxillo-facial surgery and orthodontics as a speciality and also had a very little knowledge about the impact of malocclusion on the well-being of the individual. Many medical professionals were unfamiliar with the oral diseases and oral health research[14, 15, 16]. The knowledge of medical practitioners was most important since most of the people in rural areas reported their dental problems only to the medical practitioners. So the medical doctors should have an adequate knowledge about the specialities of dentistry to guide and refer the patients to particular specialities of dentistry for the maximum benefits of people.

This was in contrast with the study conducted by Thirunavukarasu et al in the year 2019 had discussed about the awareness of orthodontic treatments among parents in Kanchipuram district and concluded that 90% of the parents were aware of the orthodontic specialities in dentistry and had an adequate knowledge regarding the importance of orthodontic treatment [17]. The study conducted byMoshkelgoshaet al in the year 2017 had discussed about the orthodontic knowledge among parents in Iran and concluded that the parents with high socio-economic status had a good knowledge and awareness of orthodontic treatments compared to parents with poor socio-economic position [18]. This was in line with the present study that the people belonged to poor socio-economic status had a poor knowledge and awareness compared to other classes.

Overall analysis of this present study concluded that people with poor socio-economic status had a poor knowledge and awareness of dental specialities. Age does not have an impact on knowledge and awareness of the different specialities in dentistry. The awareness of dental specialities was found to be statistically significant with gender and socio-economic status whereas there was no significant relation was found between gender and knowledge of dental specialities.

The lack of importance to dental problems and unavailability of dental facilities in rural areas were the most important factor for the prevalence of oral diseases. Further efforts are needed to provide appropriate and systematic oral care training to caregivers and to develop improved oral care techniques and equipment for the benefits of the people.

**LIMITATIONS:**

There might be a chance of social acceptability bias due to overestimated or underestimated responses from the people. The gender bias and age bias might affect the outcome of results. Only small number of samples was included in this study. Further longitudinal studies should be conducted to get more relevant outcome.

**CONCLUSION:**

The socio-economic status plays a crucial role in determining the knowledge and awareness of dental specialities. To enhance the knowledge on dental specialities, dental education programmes should be conducted to school students and the parents.Many people have misbelief that all of their dental problems can be treated by the general dental practitioner. It is the present need to spread the awareness among public regarding the different specialities of dentistry to ensure proper referral practices of the patients they come across.The dentists should create awareness to the public based on the information of developments in vital combination of oral hygiene, diagnosis, and overall health needs.

Dental neglect is one of the major obstacles that should be taken care to improve the awareness among the people regarding various dental specialities. The study concluded that the overall awareness and knowledge of people on dental specialities was very poor and the necessary measures should be taken to ensure better knowledge.

**REFERENCES:**

1. Baiju RM, Peter EL, Varghese NO, Sivaram R. Oral health and quality of life: current concepts. Journal of clinical and diagnostic research. 2017 Jun;11(6):ZE21-ZE26.
2. Azodo CC, Ehigiator O, Ehizele AO, Ololo O. Medical doctors' knowledge of dental specialty: Implication for referral. Saratov J Med Sci Res. 2010;6:140-143.
3. Nagrik AP, Bhagat BA, Yemle SB, Maidapwad S. Awareness of specialties of dentistry among medical trainees and teaching faculty of medical college in the central West India. Journal of International Society of Preventive and Community Dentistry. 2019 May;9(3):269.
4. Umeizudike KA, Onajole AT, Ayanbadejo PO. Periodontal health knowledge of nonmedical professionals and their oral hygiene behavior in a teaching hospital in Nigeria. European Journal of General Dentistry. 2015 May 1;4(2):48-54.
5. Sofola OO. Implications of low oral health awareness in Nigeria.Nigerian Medical Journal. 2010 Jul 1;51(3):131.
6. Jain N, Mitra D, Ashok KP, Dundappa J, Soni S, Ahmed S. Oral hygiene-awareness and practice among patients attending OPD at Vyas Dental College and Hospital, Jodhpur. Journal of Indian Society of Periodontology. 2012 Oct;16(4):524-28.
7. Mehrotra V, Garg K, Sharma P, Sajid Z, Singh R. A study based on Dental awareness, knowledge and attitudes among the medical practitioners in and around Kanpur city (india). J Interdiscipl Med Dent Sci. 2015 Jul;3(4):1-9.
8. Oyetola EO, Oyewole T, Adedigba M, Aregbesola ST, Umezudike K, Adewale A. Knowledge and awareness of medical doctors, medical students and nurses about dentistry in Nigeria. Pan African Medical Journal. 2016;23(1).
9. Park JB, Han K, Park YG, Ko Y. Association between socio-economic status and oral health behaviors: The 2008-2010 Korea national health and nutrition examination survey. Experimental and therapeutic medicine. 2016 Oct 1;12(4):2657-64.
10. Elavarasu S, Suthanthiran T, Thangavelu A, Kattack AK, Pavithran A, Susan AB, Mohandas L. Evaluating oral hygiene awareness and the differences in gender and socio-economic status among patients attending for oral prophylaxis. Journal of Indian Academy of Dental Specialist Researchers.2017 Jul;4(2) 54-60.
11. Sumi Y, Nakamura Y, Nagaosa S, Michiwaki Y, Nagaya M. Attitudes to oral care among caregivers in Japanese nursing homes. Gerodontology. 2001 Jul;18(1):2-6.
12. Radha G, Ali KS, Pushpanjali K. Knowledge, attitude and practice of oral health among nursing staff and nursing students of Bangalore city. Journal of Indian Association of public health dentistry. 2008 Jan 1;6(11):17-21.
13.Sharma R, Atri G, Verma M. Awareness of oral and maxillofacial surgery among medical practitioners in North India: A survey. J Postgrad Med Edu Res. 2015;49(2):70-3.
14.Shah N, Patel N, Mahajan A, Shah R. Knowledge, attitude and awareness of speciality of oral and maxillofacial surgery amongst medical consultants of Vadodara District in Gujarat State. Journal of maxillofacial and oral surgery. 2015 Mar 1;14(1):51-6.
15. Adegbite KO, Ogunbanjo BO, Ajisafe OA, Adeniyi AA. Knowledge of orthodontics as a dental specialty: A preliminary survey among LASUCOM students. Annals of medical and health sciences research. 2012;2(1):14-8.
16.Anandakumar AS, Sankari R. Awareness about periodontal disease and its association with systemic disease among medical practitioners: A pilot study. Journal of Contemporary Dentistry. 2016 May;6(2):104-7.

17. ThirunavukkarasuR ,Muralidharan D , Nirupama C , Prashanth C , Gaurav Gupta , Karthikeyan E and Sakthisri V.Awareness of orthodontic treatment among parents of children 5-17 years of age in Kanchipuram district – A survey. Oral Health Care. 2019; 4: 1-5.

18.Moshkelgosha. V, Kazemi. M, Pakshir. H and Safari. R. Parental Knowledge and Attitude Towards Early OrthodonticTreatment for Their Primary School Children. Iran J Ortho. 2017; 12(2): e7377.