



## Awareness about oral healthcare and disease prevention among Tiruvannamalai population

Dhivya Sri E<sup>1</sup>, Hannah R\*<sup>2</sup>

<sup>1</sup>Saveetha dental college and hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai – 600077, Tamil Nadu, India

<sup>2</sup>Department of Oral and Maxillofacial Pathology and Microbiology, Saveetha dental College and Hospital, Saveetha Institute of medical and technical sciences, Saveetha University, Chennai - 600 077, Tamil Nadu, India



### Article History:

Received on: 03 Aug 2020

Revised on: 25 Sep 2020

Accepted on: 08 Oct 2020

### Keywords:

Awareness,  
Oral health,  
Tiruvannamalai,  
Population,  
Health care

### ABSTRACT

Oral health care is the foundation upon which preventive evaluation and dental care must be built to enhance the opportunity for life free of preventable and oral diseases. The purpose of the study was to determine the oral health care and disease prevention among the Tiruvannamalai population. Self-administered questions were prepared. The questions were distributed in google forms, and 100 participants participated. The data was entered and statistically analysed. In this study, 88% maintain oral health as an integral part of our everyday practice. 65.1% maintain good oral health by using a toothbrush and paste, and 11% are flossing their teeth daily. 33% are cleaning the teeth to prevent dental disease. Within the limitations of the study, we can conclude that oral health knowledge among the Tiruvannamalai Population was considerably lower than what would be expected. Still, they showed a positive attitude toward oral healthcare.

### \*Corresponding Author

Name: Hannah R

Phone: +91-9962071806

Email: hannahr.sdc@saveetha.com

ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v11iSPL3.3482>

Production and Hosted by

IJRPS | <https://ijrps.com>

© 2020 | All rights reserved.

### INTRODUCTION

Oral health care is the foundation which helps in preventive dental care in order to protect, prevent and establish an opportunity to survive in an oral disease-free environment (Östberg *et al.*, 1999). The major chronic oral diseases are dental caries, gingival and periodontal diseases, oral reactive lesions, oral malignancies, etc. (Khami *et al.*, 2007; Shree

*et al.*, 2019). The oral diseases are dependent on a group of risk factors which can be chronic or acute (Al-Omari and Hamasha, 2005). These common risk factors are lifestyle-related, such as dietary habits, use of tobacco and excessive consumption of standard hygiene (Fukai *et al.*, 1999).

Oral diseases are considered as a public health problem as they impose a significant impact on society (Loe *et al.*, 1967). Tooth loss is a common manifestation of chronic oral disease and is associated with physical, emotional and economic impacts (Sharda and Shetty, 2010). Change in Physical appearance may also result in a negative impact on the patterns of the day to day life and social relationships (Timmerman *et al.*, 1996).

Oral diseases are related to lifestyle, and the recent drop in the prevalence of dental caries and periodontal disease is a testimony of the increased awareness and practice of healthy lifestyle (Sargod *et al.*, 2007). But there is still a lag in this aspect among the developing countries (Nishana *et al.*,

2018). Brushing habits and techniques seem to vary between the developing and developed countries, which may be the main reason behind the lag (Doshi et al., 2007).

Knowledge regarding oral health is considered an essential prerequisite for health, as oral health has a direct impact on systemic health and the quality of life (Åström and Masalu, 2001). Many studies have correlated increased knowledge with better oral health status among that population (Kumari et al., 2006). The general public should be advocated about oral health measures by Dentist and accessory dental health personnel (Mayamol, 2020). They play an important role in the health education of individuals and groups and act as role models for large communities (Mandel, 1988). The aim of this study is to determine awareness about oral healthcare and disease prevention among the Tiruvannamalai population.

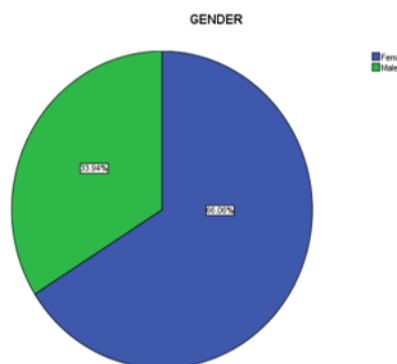
**MATERIALS AND METHODS**

A cross-sectional survey was conducted among the Tiruvannamalai population. Convenience sampling was done, and the sample size was 100. The study was approved by the scientific review board. The questionnaire is a self-structured questionnaire with 10 questions. The questionnaire was first validated by face validation followed by pilot testing in 20 respondents, analysis of the dataset, review and preparation of the final questionnaire was then done. The data collection online platform used was Google forms. The data collected was tabulated as an excel - spreadsheet. Each output variable from question 1 to 10 was ordinal data and was represented as a pie chart. The data was then exported to SPSS. Descriptive statistics and Chi-square test was done to compare between the genders.

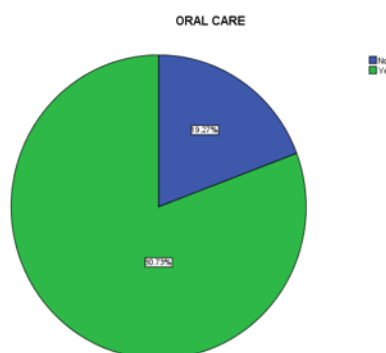
**RESULTS AND DISCUSSION**

66.1 % are female and 33.9 % are Male (Figure 1). 80.7 % are aware of the importance of oral healthcare, and 19.3 % are not aware of the importance of oral healthcare (Figure 2). Male participants were more aware of oral health than females, p=0.000. Chi-square test shows statistical significance with male participants being more aware (p= .000) (Figure 3). 88.1 % maintain oral health as an integral part of our everyday practice, and 11.9 % do not agree with this (Figure 4). Females consider oral health an integral part of their everyday practice, p=0.033. Comparison shows statistical significance (Figure 5). About 65.1 % maintain good oral health and using a toothbrush and paste, and 11 % are flossing daily, 9.2 % tooth powder and 9.2 % herbal

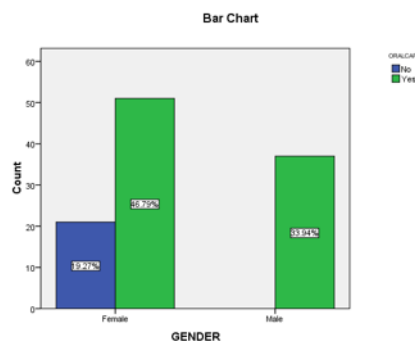
products. 11.01% are flossing daily, 9.17% are using herbal products, 5.50% are using salt with the finger, 65.14% are using Toothbrush and paste, 9.17% are using Toothpowder (Figure 6). There was no difference in the oral hygiene practices between males and females, p= .594. The comparison shows no statistical significance (Figure 7).



**Figure 1: Gender distribution of the participants**



**Figure 2: Pie chart depicting the response of the participants regarding their awareness about oral health care**



**Figure 3: Bar chart depicting the association of responses with male and female participants regarding their awareness about oral health care**

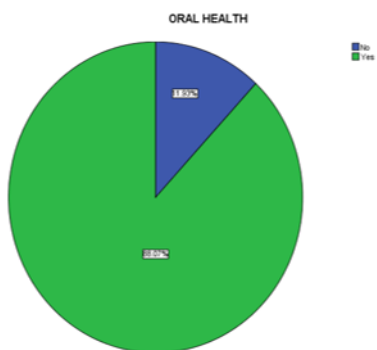


Figure 4: Pie chart representing whether the participants consider oral health an integral part of their everyday practice

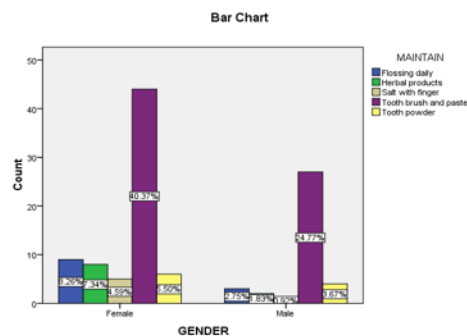


Figure 7: Bar chart depicts the comparison of opinion regarding the different ways to maintain good oral health between male and female

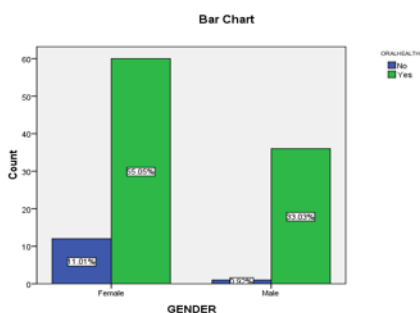


Figure 5: Bar chart depicts a comparison between male and female on whether the participants consider oral health an integral part of their everyday practice

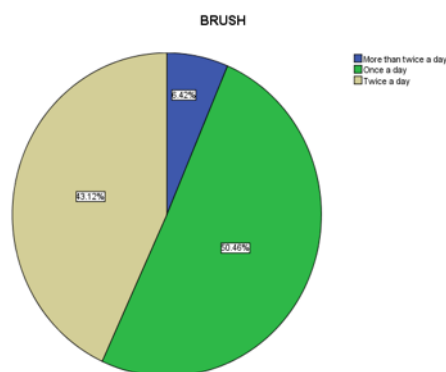


Figure 8: Graph showing the participants frequency of brushing their teeth

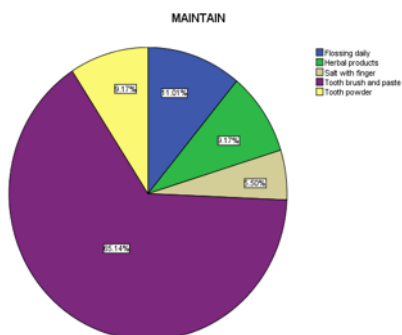


Figure 6: Graph indicating the opinion of the participants regarding the different ways to maintain good oral health

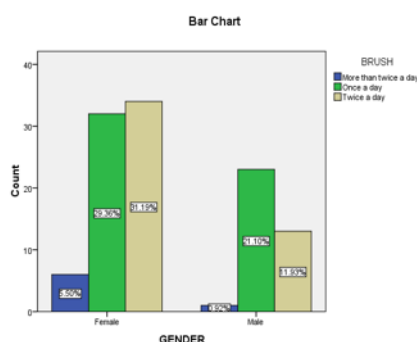


Figure 9: Bar chart depicting the frequency of brushing teeth between male and female

6.42% is more than twice a day, 50.46% are brushing once a day, 43.12% are Twice a day (Figure 8). There was no difference in the frequency of brushing between males and females,  $p=0.169$ . Comparison shows no statistical significance (Figure 9). 68.8% are using mouthwash, and 31.2% do not use mouthwash (Figure 10). There was no difference in the use of mouthwash between males and females,  $p=0.501$ . A comparison shows different no

statistical significance (Figure 11). 33% are cleaning the teeth to prevent dental disease, 33% clean to prevent bad breath and 14.7% to prevent bleeding gums. 14.68% to prevent bad breath, 12.84% to prevent bleeding of gums, 33.03% to prevent dental disease 38.53% all of the above, 0.92% None of the above (Figure 12). There was no difference in the awareness between the genders regarding the purpose of cleaning the teeth,  $P=0.778$ . Chi square

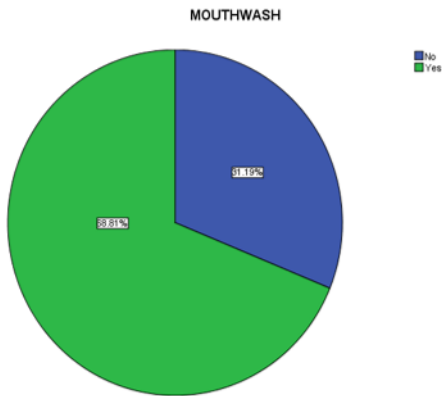


Figure 10: Graph showing the response of the participants on whether they use mouthwash

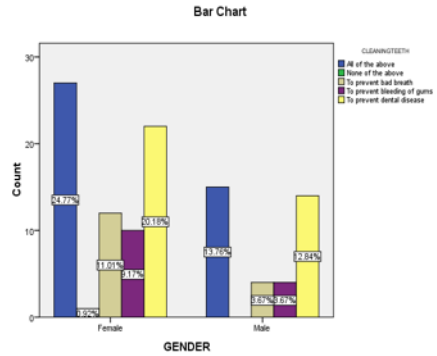


Figure 13: Bar chart depicts the comparison between the awareness of male and female on the purpose of cleaning teeth

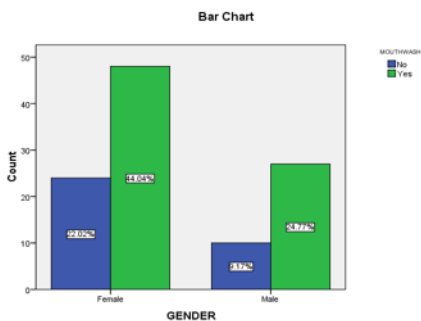


Figure 11: Bar chart depicts a comparison between male and female on the use of mouthwash

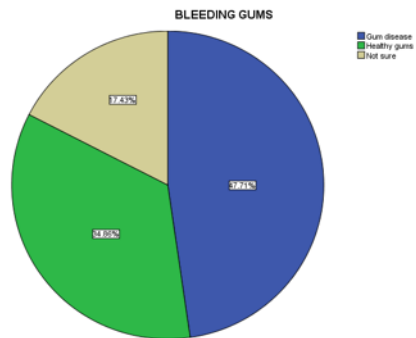


Figure 14: Graph representing the awareness of the participants about the indication of bleeding gums

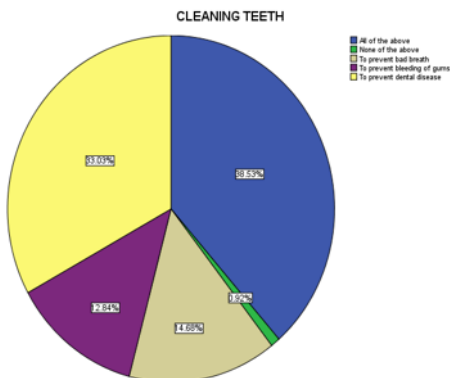


Figure 12: Graph indicating the awareness of the participants on the purpose of cleaning teeth

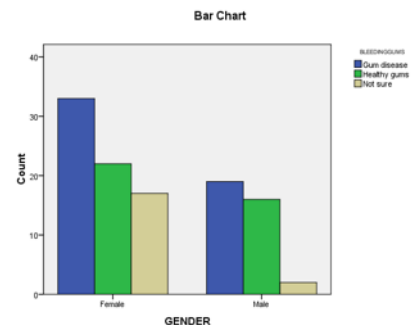
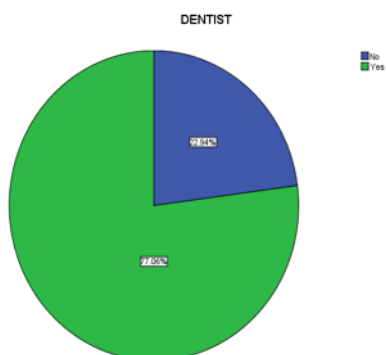
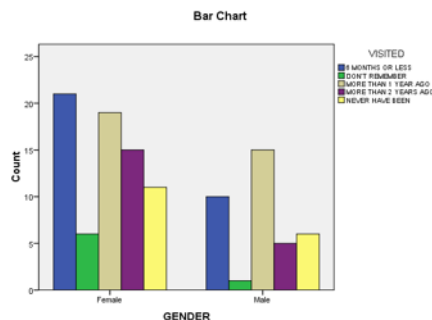


Figure 15: Bar chart depicts the comparison of awareness about the indication of bleeding gums among male and female participants

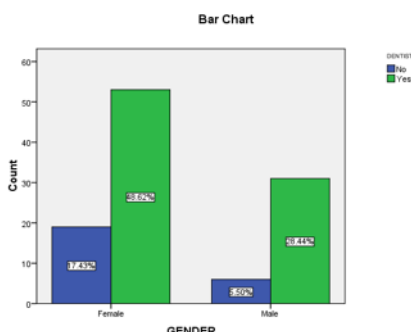
test shows no statistical significance (Figure 13). 47.7% agreed bleeding gums indicate gum disease, but 34.9% thought it to depict healthy gums, and 17.4% were not sure (Figure 14). Females were more aware than males in this regard, and the result was statistically significant ( $P = .05$ ). The comparison shows that females were more aware than males and the result is statistically significant (Figure 15). 77.1 % of the participants agreed that a regular visit



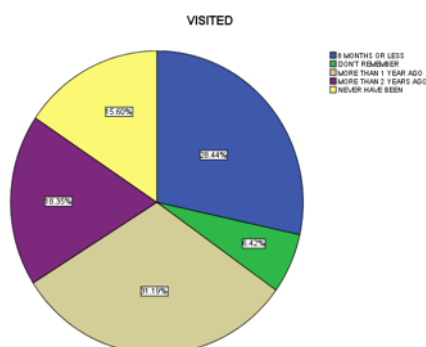
**Figure 16:** Pie chart showing the response of the participants on whether the regular visit to the dentist is important to maintain good oral health



**Figure 19:** Bar chart depicts the comparison of the last time of the visit to the dentist between male and female



**Figure 17:** Bar chart depicts the comparison of opinion between male and female on whether the regular visit to the dentist is important to maintain good oral health



**Figure 18:** Pie chart indicating the last time of the visit to the dentist by the participant

to the dentist is important to maintain good oral health, and 22.9 % do not agree. Comparison shows no statistical significance (Figure 16 & Figure 17). About 31.2 % have visited the dentist within six months or less, 28.4% more than one year ago, 18.3 % more than two years ago and 15.6% have never visited a dentist. 28.44% is 6 months are less, 6.42% are don't remember, 31.19% was more than 1 year ago, 18.35% is more than 2 years ago (purple zone), 15.60% ate never have been. Chi-square test shows no statistical significance (P= .471) (Figure 18 & Figure 19).

Knowledge about oral health does not always translate into good oral health behaviour. Still, it initiates a spark which enables them to take control of their oral health status and adopt better self-care practices (Palati *et al.*, 2020). There are no studies pertaining to Tiruvannamalai population with regard to oral health practice, and this is the first of its kind. 80% of the participants were aware of the importance of oral health care (Uma *et al.*, 2018; Prasanna and Gheena, 2016). A similar survey was also conducted among other populations, and they seemed to be well aware of personal health care and the need for a lifestyle change (Krishnan *et al.*, 2018; Ahad and Gheena, 2016). The increased awareness about oral health care can be attributed to the various advertisements and campaigns which are done over social media nowadays.

Most of the participants have advocated oral health as being an integral part of their everyday practice, which is by a national oral health survey which was done 20 years ago (Mithra, 2019). Tooth brushing is the most common method of maintaining oral health affirmed by the participants, but most of them brushed only once a day. However, tooth brushing carried out using the right technique, along with other adjuncts like flossing, should be advocated by the dentist. The patients can be motivated to follow

these protocols by sequential dental photographs showcasing the improvement in dental health and hygiene (Hannah *et al.*, 2018). Using wrong brushing techniques can also result in adverse effects like tooth sensitivity. Hence, it is important to create awareness regarding the same (Gunasekaran and R, 2016; Harrita and Santhanam, 2019; Sukumaran and Padavala, 2018). Majority of the participants agreed that the reason for maintaining oral health was to protect from various dental and oral diseases (Zafar *et al.*, 2019; Sheriff and Santhanam, 2018).

On analysing the awareness about bleeding gums, most of the participants attributed it to gum disease. The wide umbrellas of gum disease can be gingival or periodontal in origin with the main etiology being, the altered microbial colonies in the plaque due to poor oral hygiene (Sarbeen and Gheena, 2016; Manohar and Abilasha, 2019). On analysing the frequency of visit to the dentist, most of the participants affirm that it has been more than a year since they visited the dentist. Dentists not only enable the creation of awareness to maintain good oral health, but dental records can also be used as forensic evidence (Palati *et al.*, 2019).

The current study has opened our eyes to the level of awareness about oral health care among the Tiruvannamalai population. It is the responsibility of Dentists and other oral health care workers to create awareness and follow these patients to improve oral health and in turn, improve systemic health too.

## CONCLUSION

Within the limitations of the study, we can conclude that oral health knowledge among the Tiruvannamalai population was considerably lower than what would be expected. Therefore, we suggest and recommend that dentists and other oral health care workers be encouraged to provide the necessary awareness in order to improve the oral health of the individuals in this locality.

## Conflict of Interest

The authors declare that they have no conflict of interest for this study.

## Funding Support

The authors declare that they have no funding support for this study.

## REFERENCES

Ahad, M., Gheena, S. 2016. Awareness, attitude and knowledge about evidence based dentistry among the dental practitioner in Chennai city. *Research*

*Journal of Pharmacy and Technology*, 9(11):1863–1866.

Al-Omari, Q. D., Hamasha, A. A.-H. 2005. Gender-Specific Oral Health Attitudes and Behavior among Dental Students in Jordan. *The Journal of Contemporary Dental Practice*, 6(1):107–114.

Åström, A. N., Masalu, J. R. 2001. Oral health behavior patterns among Tanzanian university students: a repeat cross-sectional survey. *BMC Oral Health*, 1(1):1–7.

Doshi, D., Baldava, P., Anup, N., Sequeira, P. S. 2007. A Comparative Evaluation of Self-Reported Oral Hygiene Practices Among Medical and Engineering University Students with Access to Health-promotive Dental Care. *The Journal of Contemporary Dental Practice*, 8(1):68–75.

Fukai, K., Takaesu, Y., Maki, Y. 1999. Gender Differences in Oral Health Behavior and General Health Habits in an Adult Population. *The Bulletin of Tokyo Dental College*, 40(4):187–193.

Gunasekaran, G., R, A. 2016. Tooth sensitivity among Residential University students in Chennai. *Asian Journal of Pharmaceutical and Clinical Research*, 9(2):63–65.

Hannah, R., Ramani, P., Sherlin, H. J., Ranjith, G., Ramasubramanian, A., Jayaraj, G., Don, K. R., Archana, S. 2018. Awareness about the use, Ethics and Scope of Dental Photography among Undergraduate Dental Students Dentist Behind the lens. *Research Journal of Pharmacy and Technology*, 11(3):1012–1016.

Harrita, S., Santhanam, A. 2019. Determination of Physical Height Using Clinical Crown Height of Deciduous Teeth. *Indian Journal of Forensic Medicine & Toxicology*, 13(4):23–27.

Khami, M. R., Virtanen, J. I., Jafarian, M., Murtooma, H. 2007. Prevention-oriented practice of Iranian senior dental students. *European Journal of Dental Education*, 11(1):48–53.

Krishnan, R. P., Ramani, P., Sherlin, H., Sukumaran, G., Ramasubramanian, A., Jayaraj, G., Don, K. R., Santhanam, A. 2018. Surgical specimen handover from operation theater to laboratory: A survey. *Annals of Maxillofacial Surgery*, 8(2):234–238.

Kumari, N. R., Sheela, S., Sarada, P. N. 2006. Knowledge and attitude on infant oral health among graduating medical students in Kerala. *Journal of Indian Society of Pedodontics and Preventive Dentistry*, 24(4):173–176.

Loe, H., Theilade, E., Jensen, S. B., SchiOtt, C. R. 1967. Experimental gingivitis in man. *Journal of Periodontal Research*, 2(4):282–289.

- Mandel, I. D. 1988. Chemotherapeutic agents for controlling plaque and gingivitis. *Journal of Clinical Periodontology*, 15(8):488-498.
- Manohar, J., Abilasha, R. 2019. A Study on the Knowledge of Causes and Prevalance of Pigmentation of Gingiva among Dental Students. *Indian Journal of Public Health Research and Development*, 10(8):95-100.
- Mayamol, T. R. 2020. Knowledge and Attitude towards Organ Donation among Medical Students of a Government Medical College in Northern Kerala. *Journal of Medical Science And clinical Research*, 08(03):288-294.
- Mithra, S. 2019. Knowledge, Attitude and Practice of Hand Hygiene among Medical Students/Practitioners-A Survey. *Research Journal of Science and Technology*, 11(4):259-264.
- Nishana, E., Bhat, S. S., Hegde, S. K., T, A. R. H., Bhat, V. S. 2018. Knowledge, Beliefs and Practices Associated with Teething Among Mothers in Mangalore Taluk, South India. *Annals of Oral Health and Dental Research*, 2(2):21-27.
- Östberg, A.-L., Halling, A., Lindblad, U. 1999. Gender differences in knowledge, attitude, behavior and perceived oral health among adolescents. *Acta Odontologica Scandinavica*, 57(4):231-236.
- Palati, S., Ramani, P., Sherlin, H. J., Gheena, S., Don, K. R., Jayaraj, G., Santhanam, A. 2019. Age Estimation of an Individual Using Olze's Method in Indian Population-A Cross-Sectional Study. *Indian Journal of Forensic Medicine and Toxicology*, 13(3):121-124.
- Palati, S., Ramani, P., Shrelin, H., Sukumaran, G., Ramasubramanian, A., Don, K. R., Jayaraj, G., Santhanam, A. 2020. Knowledge, Attitude and practice survey on the perspective of oral lesions and dental health in geriatric patients residing in old age homes. *Indian Journal of Dental Research*, 31(1):22-25.
- Prasanna, G. E., Gheena, S. 2016. A study of empathy across students from 4 health disciplines among 1st years and Final years. *Research Journal of Pharmacy and Technology*, 9(9):1472-1776.
- Sarbeen, J. I., Gheena, S. 2016. Microbial variation in climatic change and its effect on human health. *Research Journal of Pharmacy and Technology*, 9(10):1777-1781.
- Sargod, S. S., Usman, S., Bhat, S. S. 2007. Oral Health Knowledge and Behavior of Clinical Medical, Dental And Paramedical Students In Mangalore. *Journal of Oral Health and Community Dentistry*, 1(3):46-48.
- Sharda, A. J., Shetty, S. 2010. A comparative study of oral health knowledge, attitude and behaviour of non-medical, para-medical and medical students in Udaipur city, Rajasthan, India. *International Journal of Dental Hygiene*, 8(2):101-109.
- Sheriff, K. A. H., Santhanam, A. 2018. Knowledge and Awareness towards Oral Biopsy among Students of Saveetha Dental College. *Research Journal of Pharmacy and Technology*, 11(2):543-546.
- Shree, K. H., Ramani, P., Sherlin, H., Sukumaran, G., Jeyaraj, G., Don, K. R., Santhanam, A., Ramasubramanian, A., Sundar, R. 2019. Saliva as a Diagnostic Tool in Oral Squamous Cell Carcinoma - a Systematic Review with Meta Analysis. *Pathology and Oncology Research*, 25(2):447-453.
- Sukumaran, G., Padavala, S. 2018. Molar incisor hypomineralization and its prevalence. *Contemporary Clinical Dentistry*, 9(6):246-250.
- Timmerman, E. M., Hoogstraten, J., Nauta, M., Meijer, K. 1996. Structural comparison of a translated dental attitude questionnaire: a factor analytic study. *Community Dentistry and Oral Epidemiology*, 24(4):236-239.
- Uma, P. K., Ramani, P., Sherlin, H., Gheena, S., Ramasubramanian, A., Don, K. R., Jayaraj, G., Santhanam, A. 2018. Diet and exercise among students of a wellreputed dental college in Chennai: A questionnaire-based survey. *International Journal of Orofacial Biology*, 2(2):47-52.
- Zafar, A., Ramani, P., Sherlin, H. J., Gheena, Abhilasha, R., Jayaraj, G., Don, K. R., Archana, S. 2019. Light Green Stain, Nuclear Fast Red Stain used an Alternative Routine Haematoxylin and Eosin Stain. *Research Journal of Pharmacy and Technology*, 12(1):79-82.