

Awareness on ill effects of tobacco usage among tobacco users

R. Nivethitha, L. Leelavathi

Department of Public Health Dentistry,
Saveetha Dental College and Hospitals,
Saveetha Institute of Medical and
Technical Sciences, Saveetha
University, Chennai, Tamil Nadu, India

J. Adv. Pharm. Technol. Res.

ABSTRACT

Tobacco use is reported to increase the chance of a person to get mouth, lip, and lung cancers, chronic bronchitis, cardiovascular diseases, etc. Tobacco-related deaths are reported to occur among almost six million individuals each year. The objective of the study is to assess awareness and perception on ill effects of tobacco usage among tobacco users in a dental institution. A self-administered survey form was distributed among 100 study participants. Google Forms were distributed in an online forum. The questions were related to awareness on ill effects of tobacco usage and perception regarding harmful effects of tobacco among tobacco users. Collected data were analyzed using statistical software. Among the 100 participants, 68% were males and 32% were females. 73% of the participants reported that they were aware that smoking causes lung disease. Graduated participants were more aware that reduced fertility and sexual impotence would develop among men due to tobacco use (Pearson Chi-square value - 29.380; $P = 0.01$). The present study suggested that even though most of the respondents had adequate knowledge about the effects of tobacco on general health, knowledge about the consequences of tobacco usage was still inadequate.

Key words: Innovative analysis, lung diseases, systemic health, tobacco

INTRODUCTION

Tobacco consumption is more prevalent in China, and next to China, tobacco consumption is more common in India. Around 700,000–900,000 deaths occur every year in India due to tobacco usage.^[1] Tobacco use is attributed to around six million deaths every year worldwide, out of which 5 million deaths are caused by direct tobacco use and even

passive smokers are also affected by secondhand smoke. Nearly 50% of the individuals who use tobacco will prone to die due to heart diseases, bronchus inflammation, and respiratory problems. Diseases related with tobacco use causes around sixty lakhs death each year.^[2]

Tobacco use is one of the major causes of preventable deaths worldwide, more so in developing countries. The tobacco situation in India is distinctive because of a wide spectrum of tobacco products available for smoking as well as smokeless use. Beedi usage and chewing tobacco have been practiced for ages in India.^[3]

Smoke produced from burning the leaves of tobacco plants is breathed in during cigarette consumption. Inflammation of the periodontium is more common among smokers, which leads to loss of tooth among smokers compared to those who do not smoke.^[4,5] Smoking has been considered one among

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Nivethitha R, Leelavathi L. Awareness on ill effects of tobacco usage among tobacco users. *J Adv Pharm Technol Res* 2022;13:S217-22.

Address for correspondence:

Dr. L. Leelavathi,
Department of Public Health Dentistry, Saveetha Dental College
and Hospitals, Saveetha Institute of Medical and Technical
Sciences, Saveetha University, Chennai - 600 077, Tamil Nadu,
India.
E-mail: leelavathi.sdc@saveetha.com

Submitted: 18-Apr-2022

Revised: 27-Jul-2022

Accepted: 05-Aug-2022

Published: 30-Nov-2022

Access this article online

Quick Response Code:



Website:

www.japtr.org

DOI:

10.4103/japtr.japtr_147_22

the risk factors for various systemic problems, including respiratory diseases, lung cancer, and coronary diseases. There is massive evidence that the use of tobacco induces ill effects in the oral cavity including change in tooth color and oral cancer.^[6-8] Most of the oral health issues caused by tobacco can be prevented and their onset can be reversed.^[9] Smoking is one among the factors which is related with high morbidity diseases, according to the World Health Organization's common risk factor approach.^[10]

Smoking has been observed to be related to cardiovascular problems, respiratory problems, and pregnancy-related adverse effects. High blood pressure, tobacco smoking, and obesity are considered the most preventable causes of death in the world. It has been reported that nearly one-fourth of men and women in Croatia are smokers, and smoking is estimated to be the cause for one in five deaths.^[11] Researches have been conducted for the welfare of the community and hence to reduce the burden of oral diseases.^[12-25]

Hence, a study was to assess awareness and perception on harmful effects of tobacco usage among tobacco users.

MATERIALS AND METHODS

Study setting

This is the online survey-based study conducted among the Chennai population. A questionnaire was created among people through Google Forms in an online forum. The study was approved by the international review board (IHEC/SDC/PHD/21/208).

Sampling

The sample size was 100 people. Convenient sampling method was used.

Inclusion criteria

Participants whomever willing to participate and consented to respond were included.

Data collection

Knowledge was assessed and collected through a questionnaire containing 16 questions.

Data analysis

Percentages of the responses were assessed, and responses were analyzed using statistical software (Version 20.0, SPSS Inc., Chicago, Illinois, USA).

RESULTS

This study was conducted among 100 participants. Among 100 participants, there were 68% males and 32% females. The most common age group participating in this study was 36–55 years (46%) followed by 18–35 years (40%) and above 55 years (14%). Based on education, 47% were graduates,

20% were primary, 18% were higher secondary, 10% were secondary, 3% were illiterate, and 2% were postgraduation. Majority of the respondents (72%) reported using smoking tobacco products, 12% smokeless, and 16% both. More than 80% of the respondents began to smoke before 18 years of age. About 66% smoked more than 20 cigarettes, and 52% did not feel the urge to smoke right after waking up in the morning.

52% were under the impression that smoking helps to beat stress, 40% did not know, and 8% were not under the impression that smoking helps to beat stress. 82% of the participants reported that they are aware that smoking leads to heart disease [Figure 1]. 62% of the participants are aware that smoking is the main cause of throat and oral cancer [Figure 2], and 73% of the participants are aware that smoking leads to lung disease [Figure 3]. Furthermore, 56% of the participants are aware that pregnant women exposed to passive smoke may deliver lower weight babies [Figure 4], and 51% of the participants are aware that men who use tobacco products may develop reduced fertility and sexual impotence [Figure 5]. About 83% are aware that smoking causes stained teeth and tongue [Figure 6].

The respondents in the age group of 36–55 years were more aware that smoking leads to heart disease [Figure 7]. Male participants were more aware that smoking is the main cause of throat and oral cancer [Figure 8]. Male participants were more aware that smoking leads to lung disease [Figure 9]. Graduated participants were more aware that men who use tobacco products may develop reduced fertility and sexual impotence [Figure 10]. Graduated participants were more aware that pregnant women exposed to passive smoke may deliver lower weight babies [Figure 11].

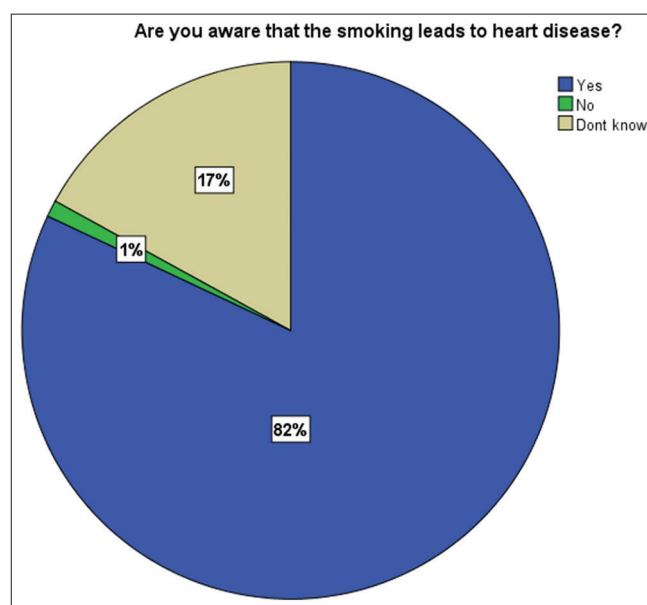


Figure 1: 82% of the participants knew that smoking causes heart disease

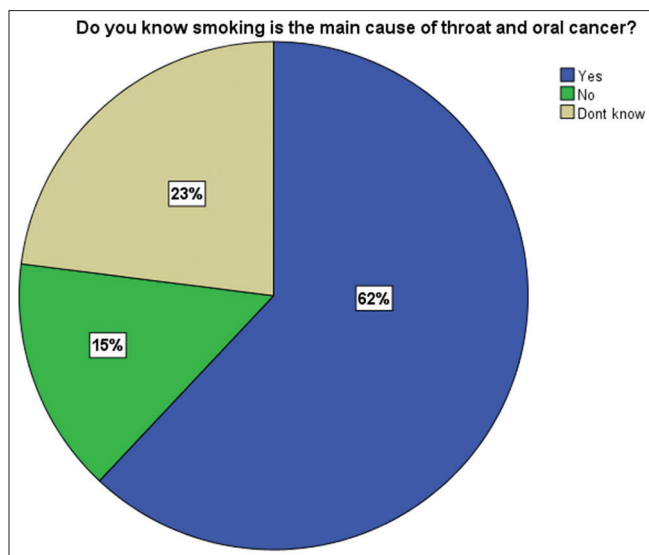


Figure 2: 62% of the participants are aware that smoking is important etiological factor for throat and oral cancer

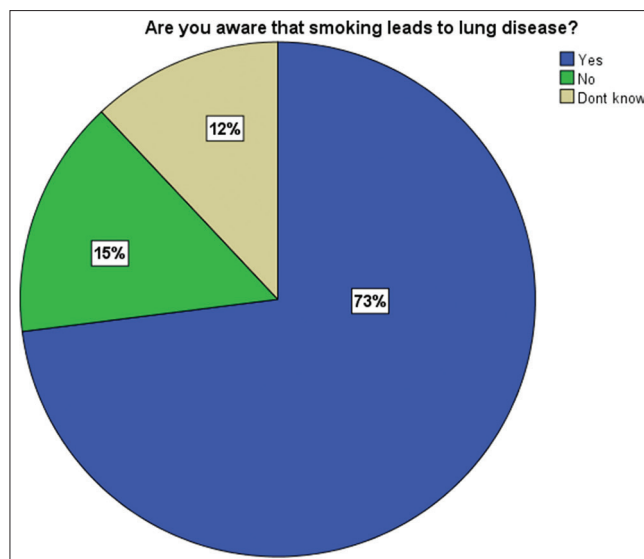


Figure 3: 73% of the respondents knew that smoking leads to respiratory disease

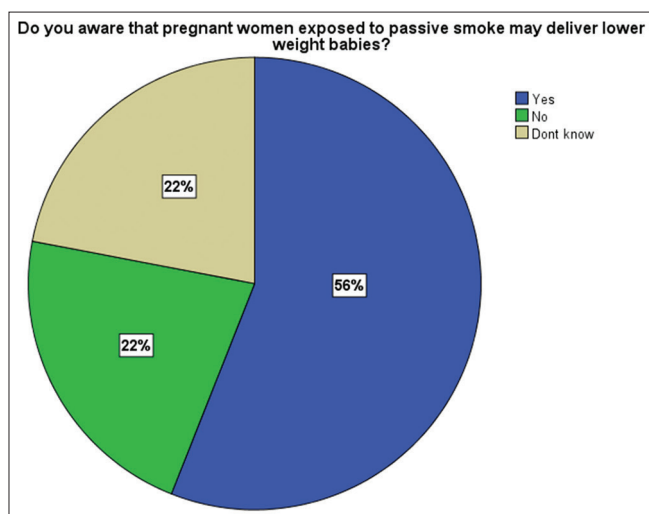


Figure 4: 56% of the participants are aware that pregnant women exposed to passive smoke may deliver lower weight babies

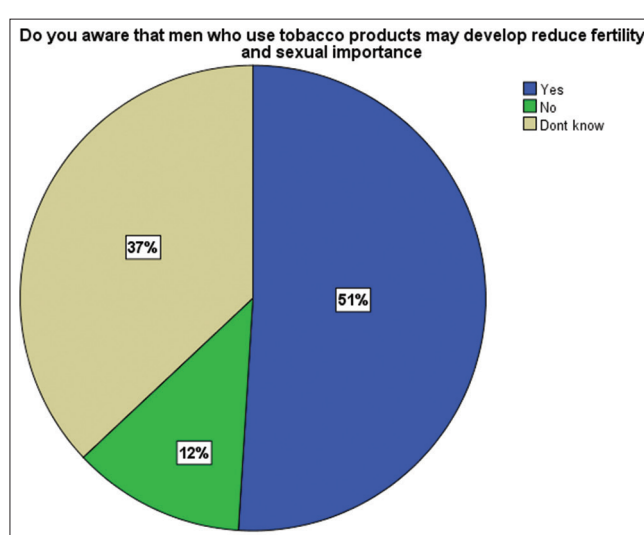


Figure 5: 51% of the participants are aware that men who use tobacco products may develop reduced fertility and sexual impotence

DISCUSSION

In this study, we observed that male participants were more aware that smoking leads to respiratory problems compared to female participants. Thirty-four percent of men were reported to get affected by lung cancer, whereas 13.5% of women were reported to have lung cancer. It has been shown that among men, the age-standardized ratio for cancer incidence is 33.81% and for mortality is 29.2%.^[26,27] Majority of the respondents in the age group of 18–35 years and 36–55 years were more aware that smoking leads to systemic disease, when compared with respondents in the age group of above 55 years. Awareness about pictorial warning interpretation was reported to be more among younger age groups, urban population, and also those with good educational status.^[28]

Eighty-three percent of the participants reported that they are aware that smoking causes stained teeth and tongue. Kottke *et al.* reported that the smokers' teeth tend to develop brown, yellow, dark brown, black stains depending on the frequency and duration of tobacco use.^[29] Alkhatib *et al.* reported unsimilar evidence that tooth discolorations may be caused not only by tobacco use but also by other causes including fluorosis.^[30]

In this study, 62% of the participants reported that they are aware that smoking is one of the etiological agents for cancers, such as oral cancer and throat cancer. Smoking and tobacco chewing are the important extrinsic etiologies for oral malodor. Furthermore,

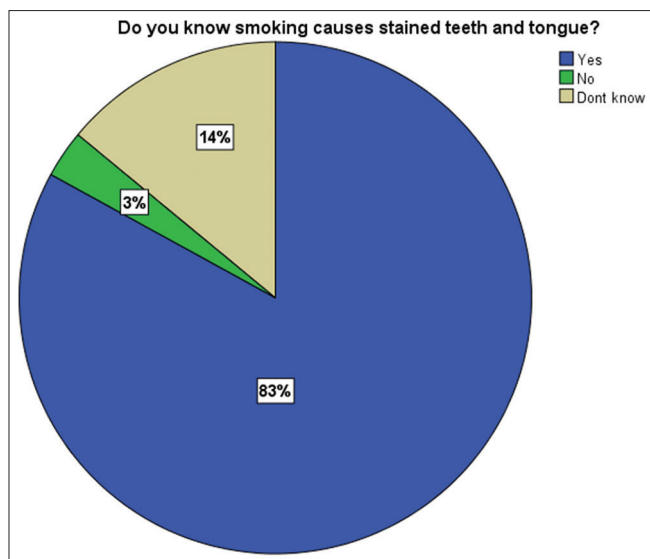


Figure 6: 83% of the respondents are aware that smoking causes stained teeth and tongue

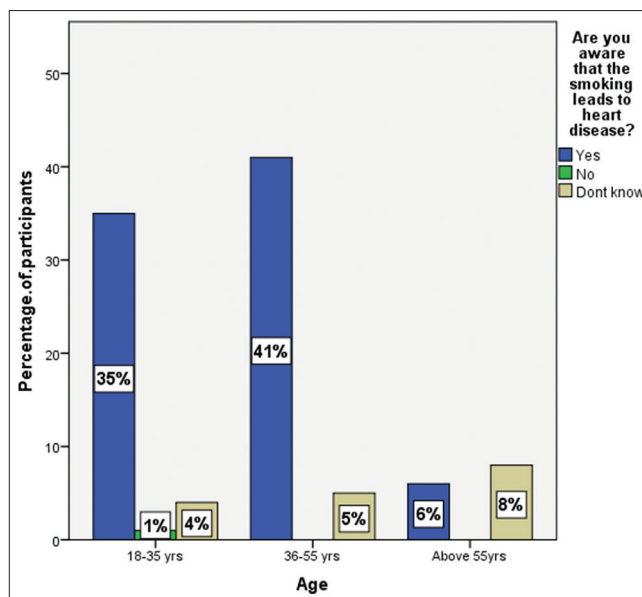


Figure 7: Respondents in the age group of 18–35 years and 36–55 years were more aware that smoking leads to cardiac disease, when compared with respondents in the age group of above 55 years (Pearson Chi-square value - 19.989; $P = 0.01$)

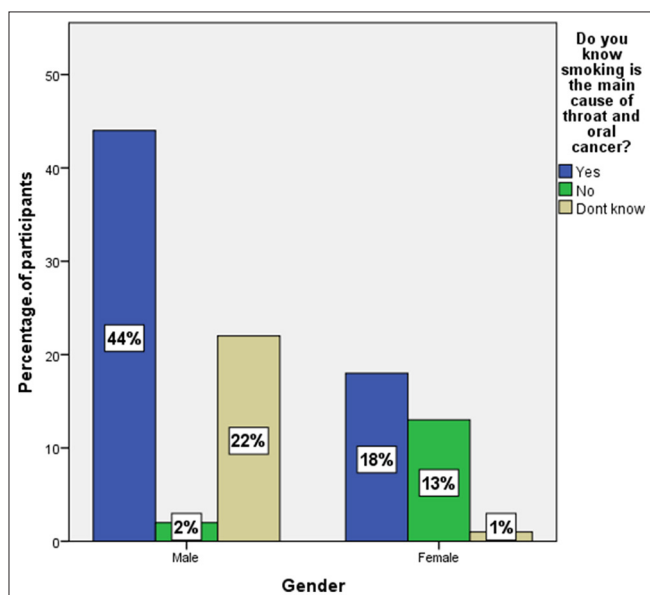


Figure 8: Represents association between gender and responses to the question, “Do you know smoking is the main cause of throat and oral cancer?” Male participants were more aware that smoking is the main cause of throat and oral cancer (Pearson Chi-square value - 28.934; $P = 0.00$)

smoking reduces olfactory sensitivity, thus impairing an individual’s ability for self-perception of halitosis.^[31] Many studies demonstrated the use of tobacco products and its relation with risk of oral cancer.^[32]

Fifty-one percent of the participants reported that they are aware that men who use tobacco products may develop reduced fertility and sexual impotence. Kentala *et al.* reported the similar evidence that the most of warning labels on tobacco products are focused at severe health

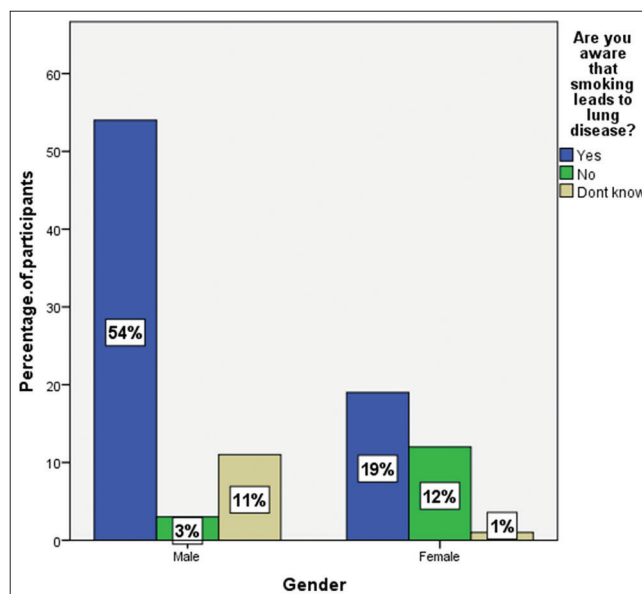


Figure 9: Male participants were more aware that smoking leads to lung disease compared to female participants (Pearson Chi-square value - 20.168; $P = 0.00$)

problems of tobacco use; they are more often aimed on lung cancer, passive smoking, and sexual impotence.^[33,34] Appropriate interventions are needed to reduce tobacco use among tobacco users in India. Such interventions should raise awareness of the social and economic implications of tobacco usage and equip users to overcome peer influence, while at the same time providing help to quit tobacco use.

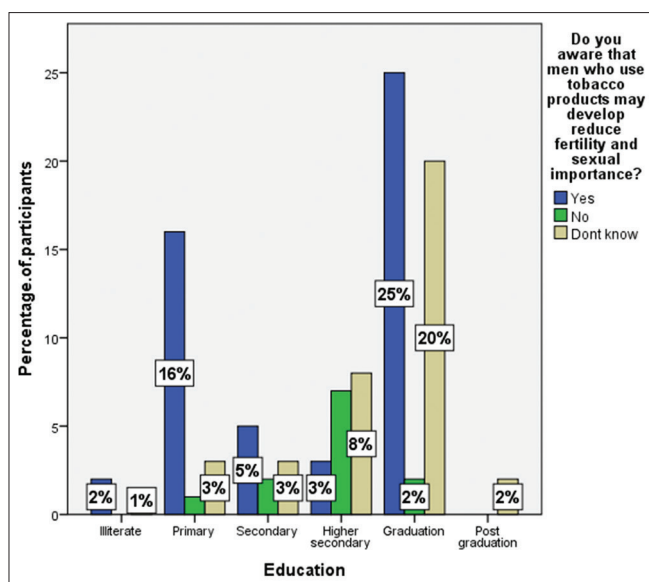


Figure 10: Graduated participants were more aware that men who use tobacco products may develop reduced fertility and sexual importance (Pearson Chi-square value - 29.380; $P = 0.01$)

CONCLUSION

The present research suggested that the most of the participants had adequate awareness about the harmful effects of smoking on systemic health, and knowledge about the consequences of tobacco usage was inadequate. Therefore, this study emphasizes the necessity for more awareness programs pertaining to the detrimental effects of tobacco usage among tobacco users.

Acknowledgment

We thank Saveetha Dental College and Hospitals for providing us the support to conduct the study.

Financial support and sponsorship

The present project is supported/funded/sponsored by Saveetha Institute of Medical and Technical Sciences, Saveetha Dental College and Hospitals, Saveetha University, and Pavithra Harvester and Earth Movers.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Mishra GA, Pimple SA, Shastri SS. An overview of the tobacco problem in India. *Indian J Med Paediatr Oncol* 2012;33:139-45.
- Adejuwon GA. Tobacco use and second hand smoke as risk factors for diseases in Nigeria: Implications for collaborative research and multilevel tobacco control strategies. *Afr J Med Med Sci* 2009;38 Suppl 2:21-9.
- Shrestha R. Knowledge, attitude and practice regarding use of tobacco among medical students of a medical college of Eastern region Nepal. *Tob Induc Dis* 2018;16:406.
- Tomar SL, Asma S. Smoking-attributable periodontitis in the

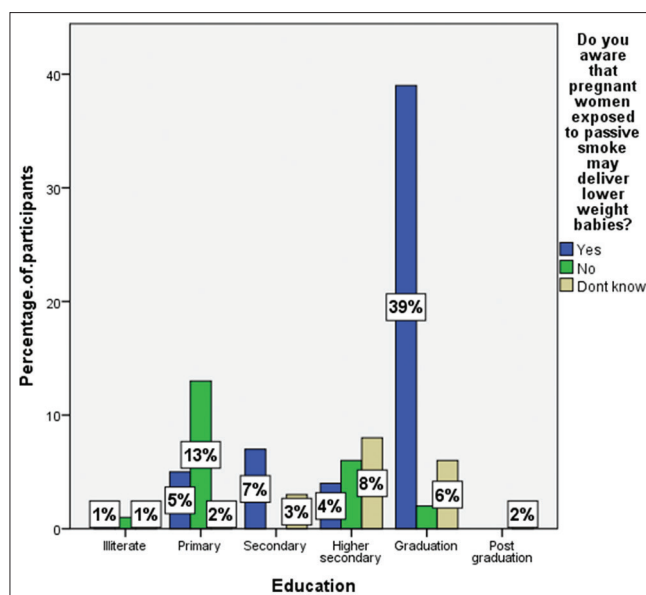


Figure 11: Graduated participants were more aware that pregnant women exposed to passive smoke may deliver lower weight babies (Pearson Chi-square value - 55.605; $P = 0.00$)

United States: Findings from NHANES III. *National Health and Nutrition Examination Survey. J Periodontol* 2000;71:743-51.

- Srivarsha R, Leelavathi L. A nutritional approach towards periodontal health. *Int J Early Childhood Spec Educ* 2022;14:2066-80.
- Reibel J. Tobacco and oral diseases. Update on the evidence, with recommendations. *Med Princ Pract* 2003;12 Suppl 1:22-32.
- Dharman S, Maragathavalli G, Shanmugasundaram K, Sampath RK. A systematic review and meta-analysis on the efficacy of curcumin/turmeric for the prevention and amelioration of radiotherapy/radiochemotherapy induced oral mucositis in head and neck cancer patients. *Asian Pac J Cancer Prev* 2021;22:1671-84.
- Leelavathi L, Ganapathy D. Genetics and smoking cessation – An overview. *Int J Dentistry Oral Sci* 2021;8:3371-3.
- Sharda AJ, Shetty S. Relationship of periodontal status and dental caries status with oral health knowledge, attitude and behavior among professional students in India. *Int J Oral Sci* 2009;1:196-206.
- Sheiham A. Dietary effects on dental diseases. *Public Health Nutr* 2001;4:569-91.
- Komar K, Glavina A, Boras VV, Verzak Ž, Brailo V. Impact of smoking on oral health: Knowledge and attitudes of Croatian dentists and dental students. *Acta Stomatol Croat* 2018;52:148-55.
- Mathew MG, Samuel SR, Soni AJ, Roopa KB. Evaluation of adhesion of *Streptococcus mutans*, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: Randomized controlled trial. *Clin Oral Investig* 2020;24:3275-80.
- Samuel SR. Can 5-year-olds sensibly self-report the impact of developmental enamel defects on their quality of life? *Int J Paediatr Dent* 2021;31:285-6.
- Samuel SR, Kuduruthullah S, Khair AM, Al Shayeb M, Elkaseh A, Varma SR, *et al*. Impact of pain, psychological-distress, SARS-CoV2 fear on adults' OHRQOL during COVID-19 pandemic. *Saudi J Biol Sci* 2021;28:492-4.
- Samuel SR, Kuduruthullah S, Khair AM, Shayeb MA, Elkaseh A, Varma SR. Dental pain, parental SARS-CoV-2 fear and distress on quality of life of 2 to 6 year-old children during COVID-19. *Int J Paediatr Dent* 2021;31:436-41.
- Samuel SR, Acharya S, Rao JC. School Interventions-based

- Prevention of Early-Childhood Caries among 3-5-year-old children from very low socioeconomic status: Two-year randomized trial. *J Public Health Dent* 2020;80:51-60.
17. Vikneshan M, Saravanakumar R, Mangaiyarkarasi R, Rajeshkumar S, Samuel SR, Suganya M, *et al.* Algal biomass as a source for novel oral nano-antimicrobial agent. *Saudi J Biol Sci* 2020;27:3753-8.
 18. Rani CL, Rajeshkumar S, Arumugham IM, Raj SS. Biogenic nanoselenium synthesis, its antimicrobial, antioxidant activity and toxicity. *Bioinspired Biomim Nanobiomaterials* 2020;9:184-9.
 19. Samuel SR, Mathew MG, Suresh SG, Varma SR, Elsubeihi ES, Arshad F, *et al.* Pediatric dental emergency management and parental treatment preferences during COVID-19 pandemic as compared to 2019. *Saudi J Biol Sci* 2021;28:2591-7.
 20. Barma MD, Muthupandiyan I, Samuel SR, Amaechi BT. Inhibition of *Streptococcus mutans*, antioxidant property and cytotoxicity of novel nano-zinc oxide varnish. *Arch Oral Biol* 2021;126:105132.
 21. Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. *J Oral Pathol Med* 2019;48:299-306.
 22. Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, Ramasubramanian A, *et al.* CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a] pyrene. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2020;130:306-12.
 23. Pradeep CJ, Marimuthu T, Kirithika C, Devadoss P, Kumar SM. Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study. *Clin Implant Dent Relat Res* 2018;20:531-4.
 24. Wahab PU, Madhulaxmi M, Senthilnathan P, Muthusekhar MR, Vohra Y, Abhinav RP. Scalpel versus diathermy in wound healing after mucosal incisions: A split-mouth study. *J Oral Maxillofac Surg* 2018;76:1160-4.
 25. Mudigonda SK, Murugan S, Velavan K, Thulasiraman S, Krishna Kumar Raja VB. Non-suturing microvascular anastomosis in maxillofacial reconstruction-A comparative study. *J Craniomaxillofac Surg* 2020;48:599-606.
 26. Luu DC, Mamet R, Zornosa CC, Joyce CN, D'Amico TA, Gregory P, *et al.* Retrospective analyses of the impact of age on overall survival in patients with non-small cell lung cancer. *J Clin Oncol* 2012;30:E18018.
 27. Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. *CA Cancer J Clin* 2011;61:69-90.
 28. Karinagannanavar A, Raghavendra B, Hemagiri K, Goud TG. Awareness about pictorial warnings on tobacco products and its impact on tobacco consumers in Bellary, India. *Asian Pac J Cancer Prev* 2011;12:2485-9.
 29. Kottke TE, Battista RN, DeFries GH, Brekke ML. Attributes of successful smoking cessation interventions in medical practice. A meta-analysis of 39 controlled trials. *JAMA* 1988;259:2883-9.
 30. Alkhatib MN, Holt RD, Bedi R. Smoking and tooth discoloration: Findings from a national cross-sectional study. *BMC Public Health* 2005;5:27.
 31. Deokar RN, Dodamani AS, Vishwakarma KP, Hoshing AA, Jain VM, Mali GV. Assessment of self-perceived oral malodor, oral hygiene practices, and smoking habits among dental and engineering students: A cross-sectional study. *J Indian Assoc Public Health Dent* 2022;20:206-11.
 32. Llewelyn J, Mitchell R. Smoking, alcohol and oral cancer in south east Scotland: A 10-year experience. *Br J Oral Maxillofac Surg* 1994;32:146-52.
 33. Kentala J, Utriainen P, Pahkala K, Mattila K. Can brief intervention through community dental care have an effect on adolescent smoking? *Prev Med* 1999;29:107-11.
 34. Yadav A, Glantz SA. Tobacco industry thwarts ad ban legislation in India in the 1990s: Lessons for meeting FCTC obligations under Articles 13 and 5.3. *Addict Behav* 2022;130:107306.