

## Kap Survey on The Awareness of Dental Insurance

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### ABSTRACT

**Introduction :** Nowadays, every person has to visit a dentist at least twice every six months to get their teeth checked. The IRDAI in August, 2018 said that the dental treatments will be a part of health insurance preferences for medical and dental plans. The way dental insurance is structured, including the use of annual maximum benefits and aim of the study is to make awareness about dental insurance

**Material and methods :** The sample size used for the study is 100. A self structured questionnaire is being prepared and uploaded in Google forms. Survey statistics were used in our study.

**Results :** In our study 77.31% of people are aware of dental insurance. In our study 41.18% of people came to know about dental insurance through a friend from dentistry, 40.34% by insurance company and 18.49% by newspaper. p-value: 0.05 ,(p<0.05)]. Hence statistically significant.

**Conclusion :** To raise dentists' knowledge regarding dental health insurance, more dentist awareness initiatives, such as seminars, lectures, or forums, educational articles, and discussions, are needed.

**Key Words:** dental insurance, awareness , knowledge, expenses, Innovative method

### INTRODUCTION

A dentist used to be able to treat a patient's suffering while also saving their tooth. Every person nowadays is required to see a dentist at least twice every six months to have their teeth examined.(1). The form of health insurance designed to pay the escalating treatment costs associated with dental care generally lacks knowledge about dental insurance. The IRDAI in August, 2018 said that the dental treatments will be a part of health insurance preferences for medical and dental plans(2–4). Dental plans can help you plan and adjust the budget for the cost of dental care along with basic dental coverage. Dental plans cover Preventive, Basic Major service, Access to a wide dental network, Direct payment to network, No age restrictions. It is provided for dental procedures that are deemed necessary by a medical profession(5,6). With limited knowledge of insurance we have to help our family and friends. The age limit for dental insurance is, children aged 90 days and above.

Dental health is also associated with diabetes, cardiovascular disorders and complications in pregnancy. Regular dental care helps to improve your smile and oral health(2,3,7). Generally dental offices have a fee

schedule for the dental service or procedures they offer like that dental insurance has a similar scheme according to the person(8).

The important aim of dental insurance is to reduce the cost of dental care. Waiting period for major dental plans will vary depending upon the people who are taking treatment(9). Waiting until there is a problem, means that the dental treatment will often be more intricate and expensive (10). The more intense the category of treatment, the longer you will have to wait before you can use your dental cover in your insurance. Dental treatments are covered in the event of an accident and it will be limited to repair the damage. Health plans offering dental insurance help individuals get coverage for dental care(11). Personal accident insurance plans provide coverage against accident dental and hospitalisation expenses that one might incur (12). Dental insurance is the thing which helps you to have more smiles(13). The increased cost of healthcare is due to the public's increasing demand for health services, ever growing technology of health care, lack of incentives in health care, and general inflation(14,15). It helps reduce your out-of-pocket costs for many procedures by sharing the cost with you. The way dental insurance is structured, including the use of annual maximum benefits and significant(16). Dental insurance must be structured to pay for the attainment of oral health and well-being rather than for checklists of procedures within arbitrary dollar limits.

It is a comprehensive health insurance plan offered by Apollo Munich which covers dental treatment expenses among others coverage(17). The increased cost of healthcare is due to the increasing public demand for health services, ever growing technology of health care, lack of incentive in health care, higher quality of health care and general inflation(18–21). The aim of the study is to raise awareness about dental insurance. Our team has extensive knowledge and research experience that has translated into high quality publications (22-41).

## **MATERIAL AND METHOD**

The sample size used for the study is 100. A self structured questionnaire is being prepared and uploaded in Google forms. This study employs an online survey method to make awareness about dental insurance. This standard questionnaire in Google forms is being circulated among the sample study population and at the end of the survey, all the data were collected and the data is been analysed by using Chi square analysis. The chi square analysis was done using the software IBM SPSS. The study was approved by SRB saveetha Dental College. The questionnaire regarding awareness about dental insurance is distributed to all the people and the patients coming for dental check up and treatment were included in the study. Those who refused to participate in the study were excluded from the study.

The questionnaire comprised a series of questions including their demographic characteristics like age, gender and highest level of education. The other questions are as follows:

- Are you aware of dental insurance
- Do you have any idea about dental insurance
- Do you have any idea about government scheme
- Did your family or friends already taken a dental insurance
- From where did you come to know about dental insurance
- What is the reason that you do not have dental insurance
- Dental insurance should be made mandatory for all dental students in India

## RESULT

In our study 77.31% of people were aware of dental insurance and 57.98% of people had some idea about government schemes. In our study 72.27% of people responded that dental insurance should be made mandatory for all dental students in India. In our study 77.31% of participants responded that they are aware of dental insurance (figure 1). 54.62% of participants responded that they have an idea of dental insurance (figure 2). 57.98% of participants responded that they have an idea of government schemes (figure 3). 53.78% of participants responded that their family or friends have already taken dental insurance (figure 4). 41.18% of participants responded that by friends from dentistry they came to know about dental insurance (figure 5). 47.90% of male participants are aware of dental insurance and 29.41% of female participants are aware of dental insurance (figure 6). 31.09% of male participants have an idea of government schemes and 26.89% of female participants have an idea of government schemes (figure 7). 44.54% of male participants responded yes for dental insurance should be made mandatory for all dental students in India and of female participants responded yes for dental insurance should be made mandatory for all dental students in India (figure 8).

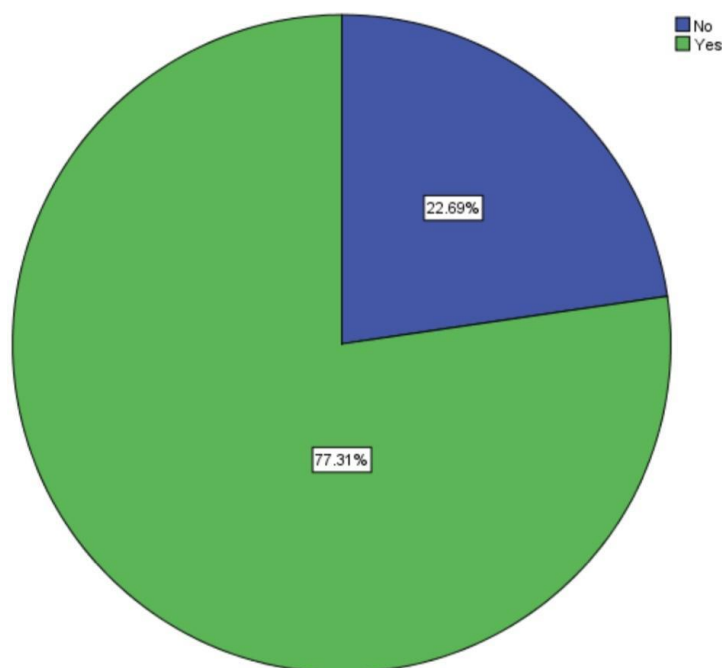


FIGURE 1 : Pie chart showing the percentage distribution of whether you are aware of dental insurance. Where the green colour represents yes (77.31%) and blue colour represents no (22.69%). Majority of the study participants are aware of dental insurance.

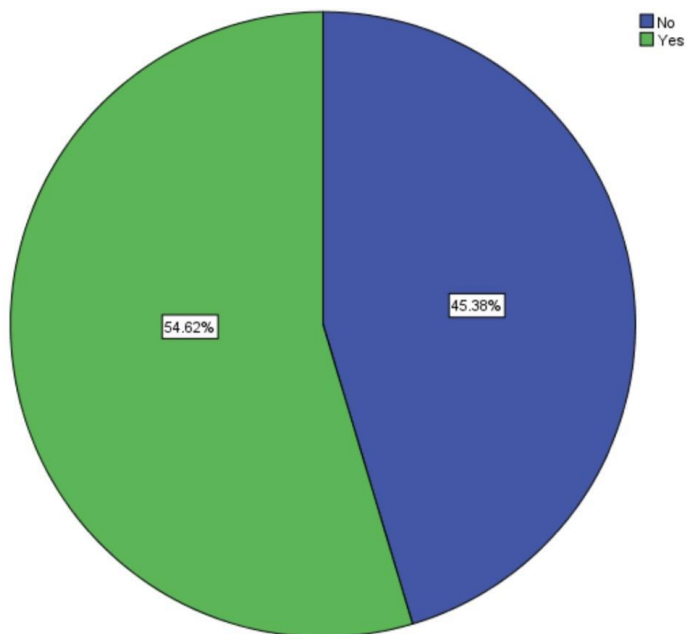


FIGURE 2 : Pie chart showing the percentage distribution about whether you have any idea about dental insurance. Where green represents yes (54.62%) and blue colour represents no (45.38%). Majority of the study population had an idea about dental insurance.

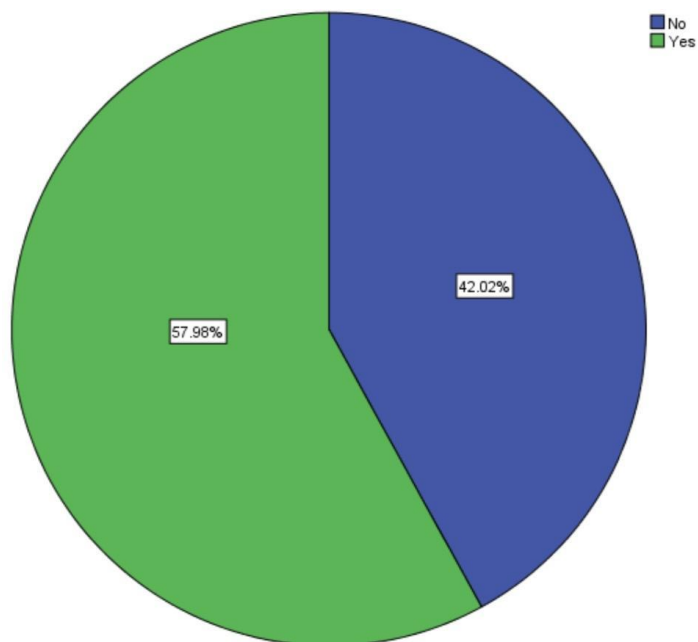


FIGURE 3 : Pie chart showing the percentage distribution about do you have any idea about government schemes. Green colour represents yes (57.98%) and blue colour no (42.02%). Majority of the study population had an idea about government schemes.

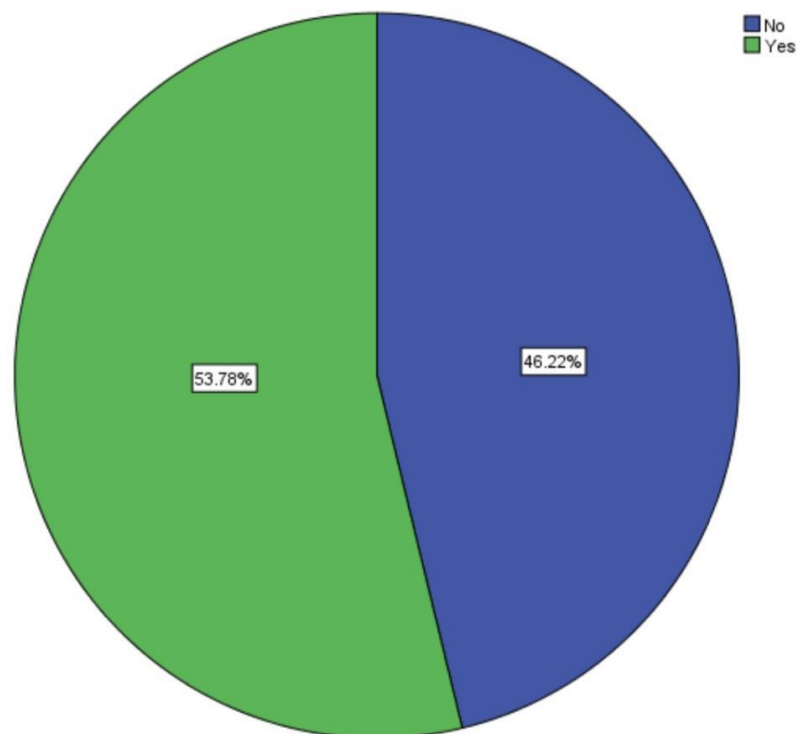


FIGURE 4 : Pie chart showing the percentage distribution about whether your family or friends have already taken dental insurance. Green represents yes (53.78%) and blue colour represents no (46.22%). Majority of the study participants have already taken dental insurance.

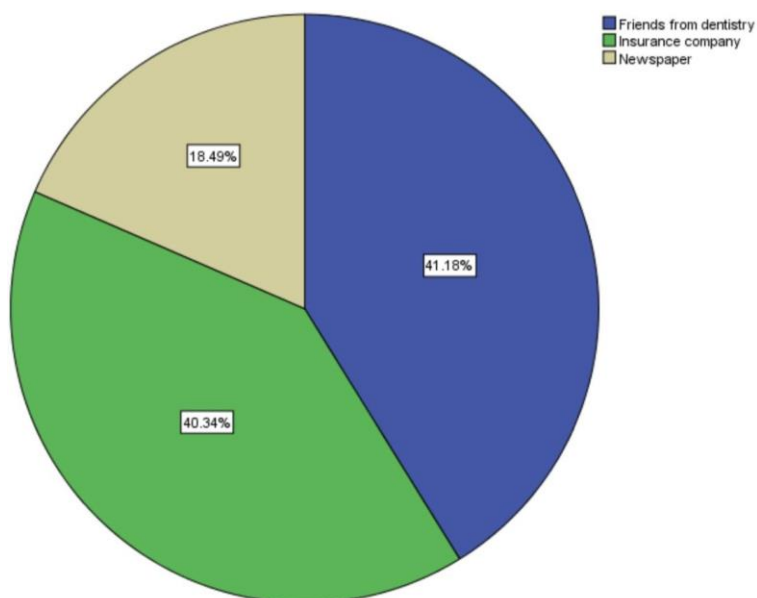


FIGURE 5 : Pie chart showing the percentage distribution about where they came to know about dental insurance. Blue represents friends from dentistry (41.18%), green represents insurance company (40.34%), beige colour represents newspaper (18.5%). Majority of the participants came to know about dental insurance through friends from dentistry.

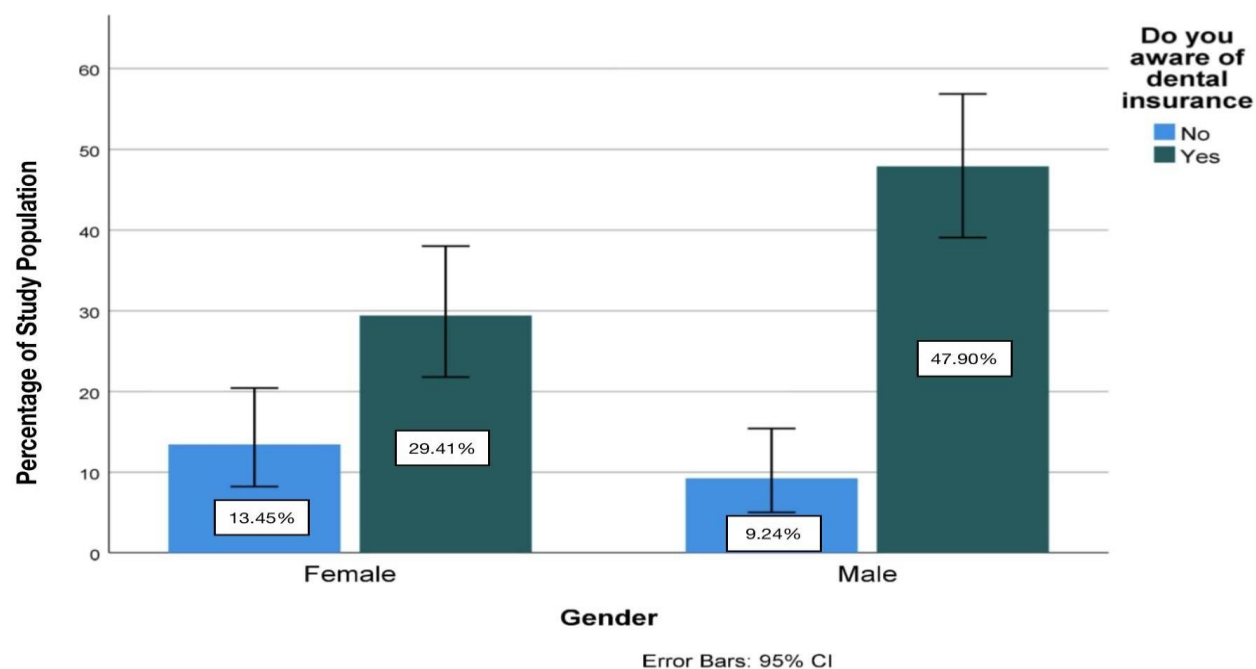


FIGURE 6 : Bar graph showing association between gender and are you aware of dental insurance. X-axis represents gender and Y-axis represents percentage of responses . Green colour represents yes and blue colour represents no. 47.90% of male responded yes and 29.41% of females responded yes. Chi-square test was done and association was found to be statistically significant[Chi square value: 3.837 and p-value: 0.05 ,(p value is equal to 0.05)]. Hence statistically significant. Majority of males are aware of dental insurance.

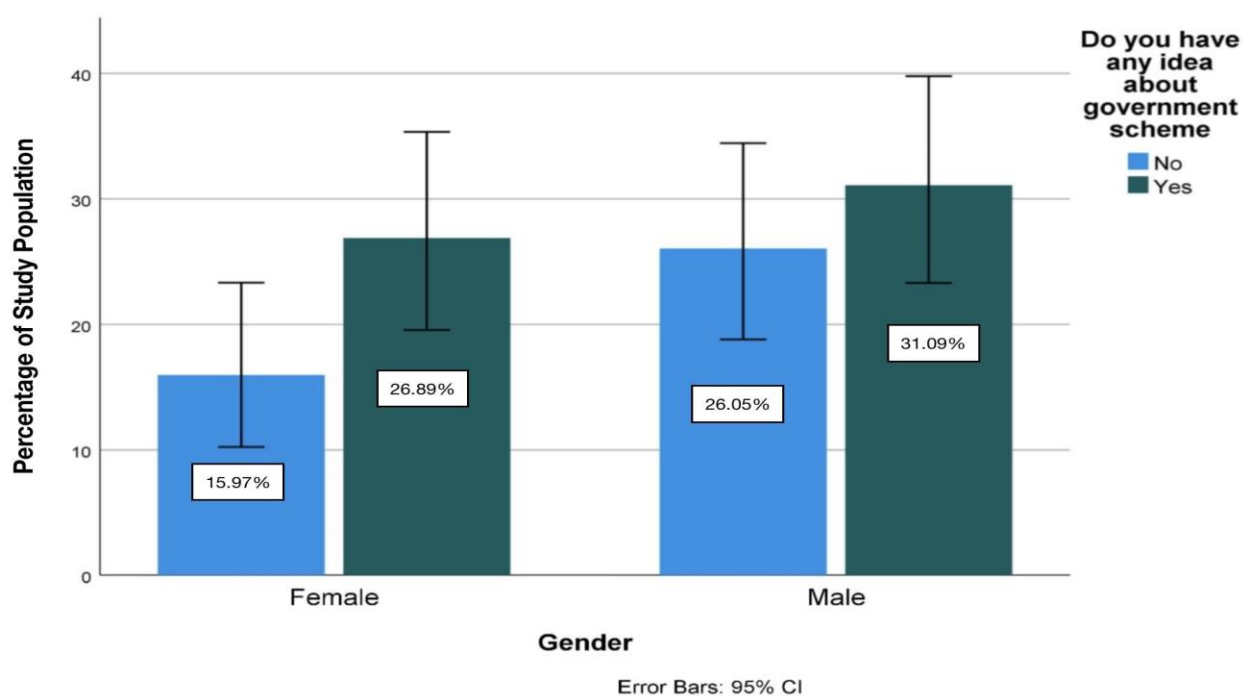


FIGURE 7 : Bar graph showing association between gender and do you have any idea about government schemes. X-axis represents gender and Y-axis represents percentage of responses . Green colour represents yes, blue colour represents no. 31.09% of male responded yes and 26.89% of females responded yes. Chi-square test was done and association was found to be statistically not significant. Chi square value: 0.831 and p-value: 0.362,( $p > 0.05$ ). Hence statistically not significant. Majority of males had ideas about government schemes.

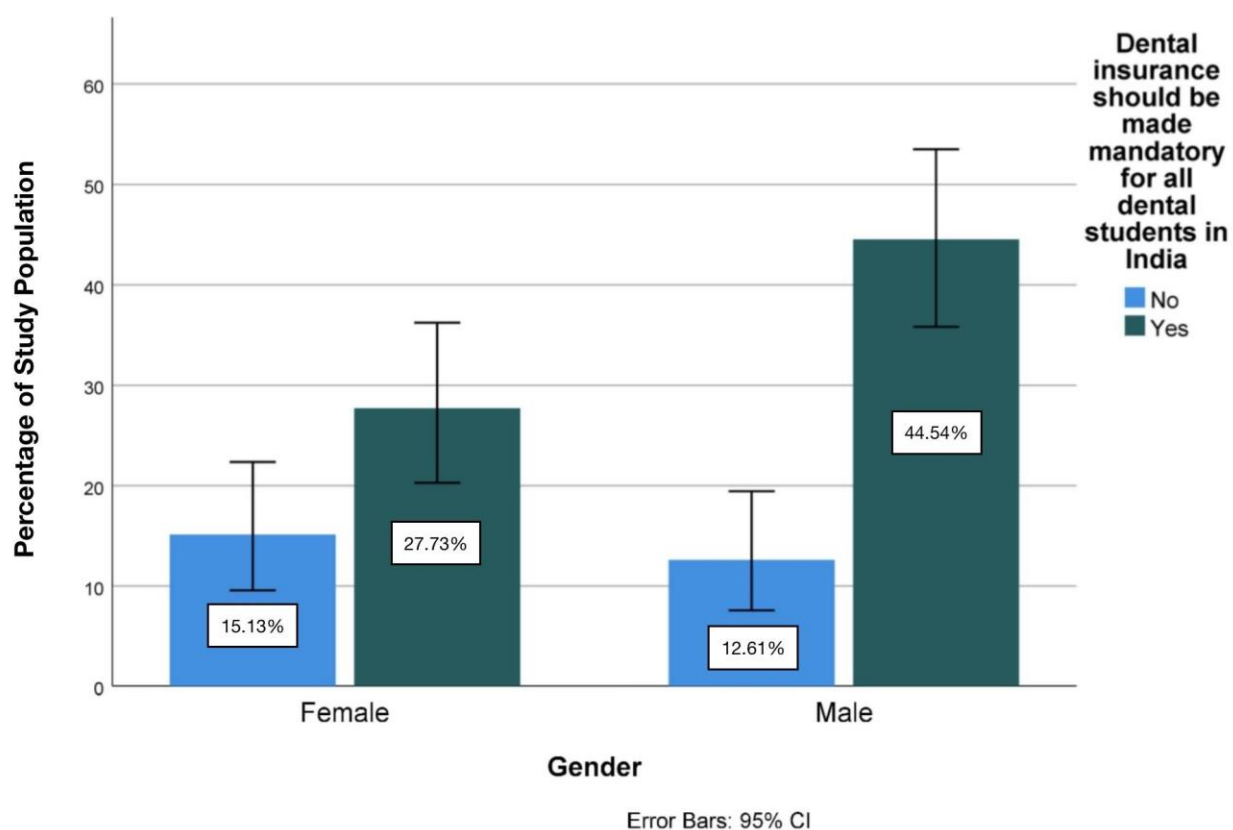


FIGURE 8: Bar graph showing association between gender and dental insurance should be made mandatory for all dental students in India. X-axis represents gender and Y-axis represents percentage of response. Green colour represents yes and blue colour represents no. 44.54% of male responded yes and 27.73% of females responded yes. Chi-square test was done and association was found to be statistically not significant. Chi square value: 2.547 and p-value: 0.110, ( $p > 0.05$ ). Hence statistically not significant implying that the majority of males considered dental insurance should be made mandatory for all the dental students.

## DISCUSSION

In our study 77.31% of people are aware of dental insurance and 22.69% of people are not aware but in another study 63% of people are aware of dental insurance and 37% of people are not aware(42). In our study 53.78% of people family or friends have already taken dental insurance 46.22% of people family or friends were not taken but in a study, 67% of people family or friends have already taken and 33% of

people were not taken(1). In our study 41.18% of people came to know about dental insurance by friend from dentistry, 40.34% by insurance company and 18.49% by newspaper but in a study 38% of people came to know about dental insurance by friend from dentistry, 31% by insurance company and 31% by newspaper(18). In our study 57.98% of people have some idea about government schemes and 42.02% of people do not have any idea but in a study 39% of people have ideas about government schemes and 61% of people do not have any idea(43). In our study 72.27% of people responded that dental insurance should be mandatory for all dental students in India but in a study 82% of people responded that dental insurance should be mandatory for all dental students in India(16). The limitation of our study is the population was among dental students in Saveetha Dental College. More samples should be included for better results. Our future scope is to take surveys among medical and engineering students.

### **CONCLUSION**

From our study we can conclude that the majority of the public are aware of dental insurance. To raise the public's knowledge regarding dental health insurance, more public awareness initiatives, such as seminars, lectures, or forums, educational articles, and discussions, are needed.

### **AUTHORS CONTRIBUTION**

Priyan.I Literature search, data collection analysis, manuscript drafting.

Dr. Palati Sinduja : Aided in conception of the topic, has participated in the study design, statistical analysis and has supervised the preparation and final corrections of the manuscript.

Dr. Lakshmi.T.A : Data verification, manuscript drafting, preparation of the manuscript.

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### **CONFLICT OF INTEREST**

The author declares that there was no conflict of interest in the present study

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## REFERENCE

1. Garla B, Satish G, Divya KT. Dental insurance: A systematic review [Internet]. Vol. 4, Journal of International Society of Preventive and Community Dentistry. 2014. p. 73. Available from: <http://dx.doi.org/10.4103/2231-0762.146200>
2. Gupta G, Muthusekhar MR, Kumar SP. Efficacy of Hemocoagulase as a Topical Hemostatic Agent After Dental Extractions: A Systematic Review [Internet]. Cureus. 2018. Available from: <http://dx.doi.org/10.7759/cureus.2398>
3. G P, Prerana G, Kumar APR, . G. Advanced Molecular Biology Concepts: Oral Medicine Rejuvenated - A Systematic Review [Internet]. Vol. 4, Acta Scientific Dental Sciencs. 2020. p. 65–8. Available from: <http://dx.doi.org/10.31080/asds.2020.04.0812>
4. Krishnan L, Iyer K, Kumar PDM. Barriers to utilisation of dental care services among children with special needs: A systematic review [Internet]. Vol. 31, Indian Journal of Dental Research. 2020. p. 486. Available from: [http://dx.doi.org/10.4103/ijdr.ijdr\\_542\\_18](http://dx.doi.org/10.4103/ijdr.ijdr_542_18)
5. Gnanamanickam ES, Teusner DN, Arrow PG, Brennan DS. Dental insurance, service use and health outcomes in Australia: a systematic review [Internet]. Vol. 63, Australian Dental Journal. 2018. p. 4–13. Available from: <http://dx.doi.org/10.1111/adj.12534>
6. Patnana AK, Chugh A, Chugh VK, Kumar P, Vanga NRV, Singh S. The prevalence of traumatic dental injuries in primary teeth: A systematic review and meta-analysis [Internet]. Dental Traumatology. 2020. Available from: <http://dx.doi.org/10.1111/edt.12640>
7. Thompson B, Cooney P, Lawrence H, Ravaghi V, Quiñonez C. The potential oral health impact of cost barriers to dental care: findings from a Canadian population-based study [Internet]. Vol. 14, BMC Oral Health. 2014. Available from: <http://dx.doi.org/10.1186/1472-6831-14-78>
8. Elani HW, Allison PJ, Kumar RA, Mancini L, Lambrou A, Bedos C. A Systematic Review of Stress in Dental Students [Internet]. Vol. 78, Journal of Dental Education. 2014. p. 226–42. Available from: <http://dx.doi.org/10.1002/j.0022-0337.2014.78.2.tb05673.x>
9. Divya R, Lavanya R. A Systematic Review on Gait Based Authentication System [Internet]. 2020 6th International Conference on Advanced Computing and Communication Systems (ICACCS). 2020. Available from: <http://dx.doi.org/10.1109/icaccs48705.2020.9074361>
10. Ramraj C, Azarpazhooh A, Dempster L, Ravaghi V, Quiñonez C. Dental treatment needs in the Canadian population: analysis of a nationwide cross-sectional survey [Internet]. Vol. 12, BMC Oral Health. 2012. Available from: <http://dx.doi.org/10.1186/1472-6831-12-46>
11. Anil CK, Divya Jyoti College of Dental science and Research, Modinagar GZB, UP, India, Shukla P, et al. Comparative evaluation of osteoprotegerin levels in patient with chronic periodontitis before and

- after scaling and root planning ( a clinico biochemical study) [Internet]. Vol. 5, Asian Pacific Journal of Health Sciences. 2018. p. 57–66. Available from: <http://dx.doi.org/10.21276/apjhs.2018.5.3.8>
12. Kim Y-G, Kim E-J, Nho S-H, Baek E-J, Shin M-S, Hwang S-J. Some Adults' Opinions about Private Dental Insurance and National Dental Insurance according to Stress of Dental Treatment Cost [Internet]. Vol. 15, Journal of dental hygiene science. 2015. p. 703–11. Available from: <http://dx.doi.org/10.17135/jdhs.2015.15.6.703>
  13. Yordanova G, Department of Orthodontics, Faculty of Dental Medicine, Medical University-Sofia, Bulgaria, Mladenov M, et al. COMBINING THE ACTION OF THE PENDULUM APPLIANCE WITH RAPID PALATAL EXPANSION [Internet]. Vol. 23, Journal of IMAB - Annual Proceeding (Scientific Papers). 2017. p. 1752–7. Available from: <http://dx.doi.org/10.5272/jimab.2017234.1752>
  14. Follmann JF. Dental Insurance Today and Tomorrow [Internet]. Vol. 5, Compensation Review. 1973. p. 40–3. Available from: <http://dx.doi.org/10.1177/088636877300500407>
  15. Anand V, Satish Kumar SR. Seismic Soil-structure Interaction: A State-of-the-Art Review [Internet]. Vol. 16, Structures. 2018. p. 317–26. Available from: <http://dx.doi.org/10.1016/j.istruc.2018.10.009>
  16. Farmer LR. The First Year's Experience with Dental Insurance: Dental Care Coverage Administered by an Insurance Company [Internet]. Vol. 62, The Journal of the American Dental Association. 1961. p. 200–4. Available from: <http://dx.doi.org/10.14219/jada.archive.1961.0040>
  17. Teusner DN, Brennan DS, John Spencer A. Dental insurance, attitudes to dental care, and dental visiting [Internet]. Vol. 73, Journal of Public Health Dentistry. 2013. p. 103–11. Available from: <http://dx.doi.org/10.1111/j.1752-7325.2012.00345.x>
  18. Zivkovic N, Aldossri M, Gomaa N, Farmer JW, Singhal S, Quiñonez C, et al. Providing dental insurance can positively impact oral health outcomes in Ontario. *BMC Health Serv Res*. 2020 Feb 17;20(1):124.
  19. Zivkovic N, Aldossri M, Gomaa N, Farmer JW, Singhal S, Quiñonez C, et al. Correction to: Providing dental insurance can positively impact oral health outcomes in Ontario [Internet]. Vol. 21, BMC Health Services Research. 2021. Available from: <http://dx.doi.org/10.1186/s12913-021-06237-2>
  20. Fang C, Aldossri M, Farmer J, Gomaa N, Quiñonez C, Ravaghi V. Changes in income-related inequalities in oral health status in Ontario, Canada [Internet]. Vol. 49, Community Dentistry and Oral Epidemiology. 2021. p. 110–8. Available from: <http://dx.doi.org/10.1111/cdoe.12582>
  21. Moeller J, Singhal S, Al-Dajani M, Gomaa N, Quiñonez C. Assessing the relationship between dental appearance and the potential for discrimination in Ontario, Canada [Internet]. Vol. 1, SSM - Population Health. 2015. p. 26–31. Available from: <http://dx.doi.org/10.1016/j.ssmph.2015.11.001>
  22. Princeton B, Santhakumar P, Prathap L. Awareness on Preventive Measures taken by Health Care Professionals Attending COVID-19 Patients among Dental Students. *Eur J Dent*. 2020 Dec;14(S

01):S105–9.

23. 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 Sep;24(9):3275–80.
24. 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 Apr;48(4):299–306.
25. R H, Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene [Internet]. Vol. 130, *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. 2020. p. 306–12. Available from: <http://dx.doi.org/10.1016/j.oooo.2020.06.021>
26. Antony JVM, Ramani P, Ramasubramanian A, Sukumaran G. Particle size penetration rate and effects of smoke and smokeless tobacco products - An invitro analysis. *Heliyon*. 2021 Mar 1;7(3):e06455.
27. Sarode SC, Gondivkar S, Sarode GS, Gadabail A, Yuwanati M. Hybrid oral potentially malignant disorder: A neglected fact in oral submucous fibrosis. *Oral Oncol*. 2021 Jun 16;105390.
28. Hannah R, Ramani P, WM Tilakaratne, Sukumaran G, Ramasubramanian A, Krishnan RP. Author response for “Critical appraisal of different triggering pathways for the pathobiology of pemphigus vulgaris—A review” [Internet]. Wiley; 2021. Available from: <https://publons.com/publon/47643844>
29. Chandrasekar R, Chandrasekhar S, Sundari KKS, Ravi P. Development and validation of a formula for objective assessment of cervical vertebral bone age. *Prog Orthod*. 2020 Oct 12;21(1):38.
30. Subramanyam D, Gurunathan D, Gaayathri R, Vishnu Priya V. Comparative evaluation of salivary malondialdehyde levels as a marker of lipid peroxidation in early childhood caries. *Eur J Dent*. 2018 Jan;12(1):67–70.
31. Jeevanandan G, Thomas E. Volumetric analysis of hand, reciprocating and rotary instrumentation techniques in primary molars using spiral computed tomography: An in vitro comparative study. *Eur J Dent*. 2018 Jan;12(1):21–6.
32. Ponnulakshmi R, Shyamaladevi B, Vijayalakshmi P, Selvaraj J. In silico and in vivo analysis to identify the antidiabetic activity of beta sitosterol in adipose tissue of high fat diet and sucrose induced type-2 diabetic experimental rats. *Toxicol Mech Methods*. 2019 May;29(4):276–90.
33. Sundaram R, Nandhakumar E, Haseena Banu H. Hesperidin, a citrus flavonoid ameliorates hyperglycemia by regulating key enzymes of carbohydrate metabolism in streptozotocin-induced diabetic rats. *Toxicol Mech Methods*. 2019 Nov;29(9):644–53.
34. Alsawalha M, Rao CV, Al-Subaie AM, Haque SKM, Veeraraghavan VP, Surapaneni KM. Novel

- mathematical modelling of Saudi Arabian natural diatomite clay. *Mater Res Express*. 2019 Sep 4;6(10):105531.
35. Yu J, Li M, Zhan D, Shi C, Fang L, Ban C, et al. Inhibitory effects of triterpenoid betulin on inflammatory mediators inducible nitric oxide synthase, cyclooxygenase-2, tumor necrosis factor-alpha, interleukin-6, and proliferating cell nuclear antigen in 1, 2-dimethylhydrazine-induced rat colon carcinogenesis. *Pharmacogn Mag*. 2020;16(72):836.
  36. Shree KH, Hema Shree K, Ramani P, Herald Sherlin, Sukumaran G, Jeyaraj G, et al. Saliva as a Diagnostic Tool in Oral Squamous Cell Carcinoma – a Systematic Review with Meta Analysis [Internet]. Vol. 25, *Pathology & Oncology Research*. 2019. p. 447–53. Available from: <http://dx.doi.org/10.1007/s12253-019-00588-2>
  37. Zafar A, Sherlin HJ, Jayaraj G, Ramani P, Don KR, Santhanam A. Diagnostic utility of touch imprint cytology for intraoperative assessment of surgical margins and sentinel lymph nodes in oral squamous cell carcinoma patients using four different cytological stains. *Diagn Cytopathol*. 2020 Feb;48(2):101–10.
  38. Karunagaran M, Murali P, Palaniappan V, Sivapathasundharam B. Expression and distribution pattern of podoplanin in oral submucous fibrosis with varying degrees of dysplasia – an immunohistochemical study [Internet]. Vol. 42, *Journal of Histotechnology*. 2019. p. 80–6. Available from: <http://dx.doi.org/10.1080/01478885.2019.1594543>
  39. Sarode SC, Gondivkar S, Gadbill A, Sarode GS, Yuwanati M. Oral submucous fibrosis and heterogeneity in outcome measures: a critical viewpoint. *Future Oncol*. 2021 Jun;17(17):2123–6.
  40. Raj Preeth D, Saravanan S, Shairam M, Selvakumar N, Selestin Raja I, Dhanasekaran A, et al. Bioactive Zinc(II) complex incorporated PCL/gelatin electrospun nanofiber enhanced bone tissue regeneration. *Eur J Pharm Sci*. 2021 May 1;160:105768.
  41. Prithviraj N, Yang GE, Thangavelu L, Yan J. Anticancer Compounds From Starfish Regenerating Tissues and Their Antioxidant Properties on Human Oral Epidermoid Carcinoma KB Cells. In: PANCREAS. LIPPINCOTT WILLIAMS & WILKINS TWO COMMERCE SQ, 2001 MARKET ST, PHILADELPHIA ...; 2020. p. 155–6.
  42. Teusner D, Smith V, Gnanamanickam E, Brennan D. Examining dental expenditure and dental insurance accounting for probability of incurring expenses [Internet]. Vol. 45, *Community Dentistry and Oral Epidemiology*. 2017. p. 101–11. Available from: <http://dx.doi.org/10.1111/cdoe.12264>
  43. Slade GD, Roberts-Thomson KF, Spencer AJ. Australia's Dental Generations: The National Survey of Adult Oral Health 2004-06. 2007. 274 p.