Association Of Age And Gender Of Patients Who Underwent Amalgam Restoration In Maxillary Second Premolar With Class 1 Dental Caries

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Abstract: Dental restoration restores the parts of the tooth structure and missing teeth. An economic, stable and aesthetic restorative material for posterior teeth as an alternative to silver amalgam has long eluded the dental profession. It has been used for more than 150 years and constitutes approximately 75% of all restorative materials used by dentists. Both composite and amalgam are considered to be suitable direct filling materials for restoring class 1 and 2 cavities. Nowadays, the use of amalgam is reducing and gradually composite resin is expected to replace it in near future. The purpose of the study was to evaluate the association of age and gender of patients who underwent amalgam restoration in maxillary second premolar with class 1 cavity.

This is a descriptive study which was performed under a university setting in the year 2020. The data of patients who underwent amalgam restoration in the second maxillary premolars from June 2019 to March 2020 was collected by reviewing patients records and analysing data of 86000 patients. The collected data was compiled , reviewed, tabulated and entered in SPSS software for statistical analysis. The study showed a female predilection (64%) and class 1 amalgam restoration in maxillary second premolar were common in patients of 34 years of age. There is no significance of age and gender. Within the limits of the study , it is evident that class 1 amalgam restorations in the maxillary second premolars were more common among the patients of 34 years of age and prevalent among the females. The study also showed that males of 41 years of age and females of 34 years of age were commonly found to have class 1 amalgam restoration in maxillary second premolars. Chi square test was done and Pearson chi square value was found to be p=0.462; hence statistically not significant (p>0.05).

Keywords: Amalgam restoration, Class 1 cavity, Maxillary second premolar, Age , Gender.

INTRODUCTION

Dental restorations restores the parts of the tooth structure and missing teeth An economic, stable, and esthetic restorative material for posterior teeth as an alternative to silver amalgam has long eluded the dental profession (Ahmad, 2008; Ramamoorthi, Nivedhitha and Divyanand, 2015; Ramanathan and Solete, 2015). Dental amalgam ,which is one of the most commonly used restorative material and is one of the most versatile restorative materials used in dentistry . It has been used for more than 150 years and constitutes approximately 75% of all restorative materials used by dentists (Brigato et al., 2009; Janani, Palanivelu and Sandhya, 2020; Jose, P. and Subbaiyan, 2020). Dental amalgam is proven to be a reliable material for long term load bearing situations and is cost efficient making it unmatched by other dental restorative material . It has low technique sensitivity, better self-sealing property and longevity (Manohar and Sharma, 2018; Nasim and Nandakumar, 2018; R, Rajakeerthi and Ms, 2019). There is still no adequate economic alternative for dental amalgam due to its high compressive strength. Composition of amalgam which is currently used , is an alloy composed of silver 40–70%, tin 12–30% and copper 12–24%. It may also include indium 0–4%, palladium 0.5% and zinc up to 1%. The reason for the lower mercury emission from amalgam is that it is prepared with indium which rapidly forms indium oxide and tin oxide films which in turn reduce mercury release (Hollenback, 1970; Levey, Carson and Innes, 2015).

In a study by O'Brien , composite restorations were compared equally to amalgam (O'Brien, 1997; Rajendran et al., 2019) .Both, Composite resin and amalgam are considered suitable direct filling materials for restoring class I and II cavities(Bernardo et al., 2007; Nasim et al., 2018). Nowadays , the use of amalgam is reducing and gradually composite resin is expected to replace it in the near future (Opdam et al., 2007; Teja and Ramesh,

2019). Amalgam restorations do not bond chemically to tooth or completely seal the prepared cavities (Kidd, 1976). On exposure to the oral environment, the newly placed amalgam restoration is subjected to corrosion, and the products of this corrosion are deposited in the gap resulting in microleakage (Ben-Amar, Cardash and Judes, 1995). .But, from Longitudinal clinical studies on posterior restorations with an observation period of 8 years or more, reveal a wide range of annual failure rates of 1% to 6% as compared to amalgam restorations which is 0–7%(Manhart and Hickel, 1999; Pallesen and Qvist, 2003; Ravinthar and Jayalakshmi, 2018) . Most retrospective studies show that amalgam has a lower failure rate than dental composite (Mjör, Dahl and Moorhead, 2000; Fernández et al., 2015; van de Sande, 2016; Siddique et al., 2019). The satisfactory functioning of the amalgam restorations over a long period of time is due to the prevention mechanical failure of amalgam restorations such as marginal fracture, bulk fracture and tooth fracture (Anusavice, 1988; Letzel et al., 1997; Kumar and Delphine Priscilla Antony, 2018) . Amalgam has been widely used as a posterior restorative material and the reported cases of hypersensitivity to amalgam are relatively infrequent (Noor and Others, 2016). By far the most common type of hypersensitivity reaction may be the delayed oral lichenoid reaction (OLR) (Jolly et al., 1986; Eley, 1997; Teja, Ramesh and Priya, 2018). Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J et al., 2018; Menon et al., 2018; Prabakar et al., 2018; Rajeshkumar et al., 2018, 2019; Vishnu Prasad et al., 2018; Wahab et al., 2018; Dua et al., 2019; Duraisamy et al., 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu et al., 2019; Mehta et al., 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran et al., 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma et al., 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi et al., 2020; Samuel, Acharya and Rao, 2020)

MATERIALS AND METHODS
This is a retrospective study which was performed under a university setting in the year 2020. The data of patients who underwent amalgam restoration in the second maxillary premolars from June 2019 to March 2020 was collected by reviewing patients records and analysing data of 86000 patients. The ethical approval of the current study was obtained from the institutional ethical board (Ethical approval number : SDC/SIHEC/2020/DIASDATA/0619-0320) . The collected data was cross verified with photographs and were compiled for statistical analysis on SPSS software. All patients applicable for the study (sample size)=25. Data of all patients who underwent class 1 amalgam restoration in maxillary 2nd premolar was included in the study. All Incomplete and censored data were excluded. Data entry was done in SPSS software for statistical analysis,

RESULTS AND DISCUSSION
From our study, it is evident that class 1 amalgam restoration in maxillary first premolar (tooth number : 15 and 25) were more commonly found in people of 34 years of age (3 cases -12%). There were 2 cases of people aged 36 years and 41 years of each [Graph 1]. 16 patients were females (64%) and 9 patients were males (36%) showing a female predilection [Graph 2]. Graph 3 shows that males of 41 years of age and females of 34 years of age were commonly found to have class 1 amalgam restoration in maxillary second premolars. The chi square test values were found to have no statistical significance for age and gender [Table 1].
Both composite resin and amalgam are considered as suitable materials for direct posterior filling. Currently, the use of amalgam is declining, and composite resin is used more often. However, prospective clinical studies have shown comparable annual failure rates of both the materials (Manhart et al., 2004). A retrospective study comparing the posterior composite and amalgam restorations placed in a general dental practice found no differences in longevity, but observed relatively more secondary caries in relation to composite and more fracture failures related to amalgam restorations (Opdam et al., 2007).
In the current study, class 1 amalgam restoration in maxillary 2nd premolar was found to be more common in age of 34 years (12%) [Graph 1].Lubisich E.B revealed that amalgam restoration is more common in older patients . He reported that patients of age 65 years were found to have amalgam restoration 1.5 times more when compared to patients of 18-64 years of age showing contradictory results (Lubisich et al., 2011). The chi square test was done and was statistically not significant (p>0.05).
Graph 2 shows a female predilection (64%) , indicating that class 1 amalgam restoration in the second maxillary premolar was more common in female patients than males . This is similar to the results obtained by Monacada G in his study (Moncada et al., 2015). His results show 58% of females and 42% of males. Lubisich E.B reported that there is no significant difference in amalgam restoration between the two genders. The chi square test was done and was statistically not significant (p>0.05).
Current study shows that males of 42 years of age and females of 30 years of age were commonly found to have class 1 amalgam restoration in maxillary second premolars (Lubisich et al., 2011). According to Lubisich E.B amalgam restorations were found to be 2.5 times more in molars when compared to the bicuspids (Lubisich

et al., 2011). Chi square test was done and Pearson chi square value was found to p=0.462; hence statistically not significant (p>0.05).

Overall, the study shows that class 1 amalgam restorations in the second maxillary premolar were more common among the patients of 34 years of age and more prevalent among the female population. The study was limited to a particular geographical area and a small sample size. Studying a greater population with patients from different geographical areas and ethnicities will yield a better result regarding the association of age and gender with the prevalence of class 1 amalgam restorations. Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh et al., 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai et al., 2019; Sridharan et al., 2019; Vijayashree Priyadharsini, 2019; Mathew et al., 2020)

CONCLUSION

Within the limits of the study , it is evident that class 1 amalgam restorations in the maxillary second premolars were more common among the patients of 34 years of age and prevalent among the females. The study also showed that males of 41 years of age and females of 34 years of age were commonly found to have class 1 amalgam restoration in maxillary second premolars.

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AUTHOR CONTRIBUTION

Author 1 (Shamaa anjum.A) carried out the retrospective study by collecting data and drafted the manuscript after performing the necessary statistical analysis. Author 2 (Dr. Delphine Priscilla Antony. S) aided her conception of the topic, participated in the study design, statistical analysis and supervised in preparation of manuscript. All authors have equally contributed in developing the manuscript.

CONFLICT OF INTEREST

Nil

REFERENCES

1. Ahmad, I. (2008) Protocols for Predictable Aesthetic Dental Restorations. John Wiley & Sons.
2. Anusavice, K. J. (1988) 'Conference Report: Criteria for Placement and Replacement of Dental Restorations', Journal of Dental Research, pp. 795–796. doi: 10.1177/00220345880670041401.
3. Ben-Amar, A., Cardash, H. S. and Judes, H. (1995) 'The sealing of the tooth/amalgam interface by corrosion products', Journal of oral rehabilitation, 22(2), pp. 101–104.
4. Bernardo, M. et al. (2007) 'Survival and reasons for failure of amalgam versus composite posterior restorations placed in a randomized clinical trial', The Journal of the American Dental Association, pp. 775–783. doi: 10.14219/jada.archive.2007.0265.
5. Brigato, R. de C. V. et al. (2009) 'Mercury, copper, and zinc concentrations in extracted human teeth', Archives of environmental & occupational health, 64(4), pp. 266–269.
6. Deogade, S., Gupta, P. and Ariga, P. (2018) 'Effect of monopoly-coating agent on the surface roughness of a tissue conditioner subjected to cleansing and disinfection: A Contact Profilometric In vitro study', Contemporary Clinical Dentistry, p. 122. doi: 10.4103/ccd.ccd_112_18.
7. Dua, K. et al. (2019) 'The potential of siRNA based drug delivery in respiratory disorders: Recent advances and progress', Drug development research, 80(6), pp. 714–730.
8. Duraisamy, R. et al. (2019) 'Compatibility of Nonoriginal Abutments With Implants: Evaluation of Microgap at the Implant-Abutment Interface, With Original and Nonoriginal Abutments', Implant dentistry, 28(3), pp. 289–295.
9. Eley, B. M. (1997) 'The future of dental amalgam: a review of the literature. Part 6: Possible harmful effects of mercury from dental amalgam', British dental journal, 182(12), pp. 455–459.
10. Ezhilarasan, D. (2018) 'Oxidative stress is bane in chronic liver diseases: Clinical and experimental perspective', Arab journal of gastroenterology: the official publication of the Pan-Arab Association of Gastroenterology, 19(2), pp. 56–64.
11. Ezhilarasan, D., Apoorva, V. S. and Ashok Vardhan, N. (2019) 'Syzygium cumini extract induced reactive oxygen species-mediated apoptosis in human oral squamous carcinoma cells', Journal of oral pathology & medicine: official publication of the International Association of Oral Pathologists and the American Academy of Oral Pathology, 48(2), pp. 115–121.
12. Ezhilarasan, D., Sokal, E. and Najimi, M. (2018) 'Hepatic fibrosis: It is time to go with hepatic stellate cell-

specific therapeutic targets', Hepatobiliary & pancreatic diseases international: HBPD INT, 17(3), pp. 192–197.

13. Fernández, E. et al. (2015) 'Can repair increase the longevity of composite resins? Results of a 10-year clinical trial', Journal of dentistry, 43(2), pp. 279–286.

14. Gheena, S. and Ezhilarasan, D. (2019) 'Syringic acid triggers reactive oxygen species-mediated cytotoxicity in HepG2 cells', Human & experimental toxicology, 38(6), pp. 694–702.

15. Gomathi, A. C. et al. (2020) 'Anticancer activity of silver nanoparticles synthesized using aqueous fruit shell extract of Tamarindus indica on MCF-7 human breast cancer cell line', Journal of Drug Delivery Science and Technology, p. 101376. doi: 10.1016/j.jddst.2019.101376.

16. Hollenback, G. M. (1970) 'A consideration of amalgam. The renaissance in dental amalgam. 3', Journal - California Dental Association, 46(1), p. 9.

17. Janani, K., Palanivelu, A. and Sandhya, R. (2020) 'Diagnostic accuracy of dental pulse oximeter with customized sensor holder, thermal test and electric pulp test for the evaluation of pulp vitality - An in vivo study', Brazilian Dental Science. doi: 10.14295/bds.2020.v23i1.1805.

18. Jeevanandan, G. and Govindaraju, L. (2018) 'Clinical comparison of Kedo-S paediatric rotary files vs manual instrumentation for root canal preparation in primary molars: a double blinded randomised clinical trial', European Archives of Paediatric Dentistry, pp. 273–278. doi: 10.1007/s40368-018-0356-6.

19. Jolly, M. et al. (1986) 'Amalgam-related chronic ulceration of oral mucosa', British Dental Journal, pp. 434–437. doi: 10.1038/sj.bdj.4805877.

20. Jose, J., P., A. and Subbaiyan, H. (2020) 'Different Treatment Modalities followed by Dental Practitioners for Ellis Class 2 Fracture – A Questionnaire-based Survey', The Open Dentistry Journal, pp. 59–65. doi: 10.2174/1874210602014010059.

21. J, P. C. et al. (2018) 'Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study', Clinical implant dentistry and related research, 20(4), pp. 531–534.

22. Kidd, E. A. M. (1976) 'Microleakage : a review', Journal of Dentistry, pp. 199–206. doi: 10.1016/0300-5712(76)90048-8.

23. Kumar, D. and Delphine Priscilla Antony, S. (2018) 'Calcified Canal and Negotiation-A Review', Research Journal of Pharmacy and Technology, p. 3727. doi: 10.5958/0974-360x.2018.00683.2.

24. Letzel, H. et al. (1997) 'The influence of the amalgam alloy on the survival of amalgam restorations: a secondary analysis of multiple controlled clinical trials', Journal of dental research, 76(11), pp. 1787–1798.

25. Levey, E., Carson, S. and Innes, N. (2015) 'Patients give meaning to changes in health complaints before, during and after the replacement of amalgam restorations', Evidence-Based Dentistry, pp. 100–101. doi: 10.1038/sj.ebd.6401127.

26. Lubisich, E. B. et al. (2011) 'Association between caries location and restorative material treatment provided', Journal of dentistry, 39(4), pp. 302–308.

27. Malli Sureshbabu, N. et al. (2019) 'Concentrated Growth Factors as an Ingenious Biomaterial in Regeneration of Bony Defects after Periapical Surgery: A Report of Two Cases', Case reports in dentistry, 2019, p. 7046203.

28. Manhart, J. et al. (2004) 'Buonocore Memorial Lecture. Review of the clinical survival of direct and indirect restorations in posterior teeth of the permanent dentition', Operative dentistry, 29(5), pp. 481–508.

29. Manhart, J. and Hickel, R. (1999) 'Esthetic Compomer Restorations in Posterior Teeth Using a New All-in-One Adhesive: Case Presentation', Journal of Esthetic and Restorative Dentistry, pp. 250–258. doi: 10.1111/j.1708-8240.1999.tb00406.x.

30. Manohar, M. and Sharma, S. (2018) 'A survey of the knowledge, attitude, and awareness about the principal choice of intracanal medicaments among the general dental practitioners and nonendodontic specialists', Indian Journal of Dental Research, p. 716. doi: 10.4103/ijdr.ijdr_716_16.

31. Mathew, M. G. et al. (2020) 'Evaluation of adhesion of Streptococcus mutans, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary …', Clinical oral investigations. Available at: https://link.springer.com/article/10.1007/s00784-020-03204-9.

32. Mehta, M. et al. (2019) 'Oligonucleotide therapy: An emerging focus area for drug delivery in chronic inflammatory respiratory diseases', Chemico-biological interactions, 308, pp. 206–215.

33. Menon, S. et al. (2018) 'Selenium nanoparticles: A potent chemotherapeutic agent and an elucidation of its mechanism', Colloids and Surfaces B: Biointerfaces, pp. 280–292. doi: 10.1016/j.colsurfb.2018.06.006.

34. Mjör, I. A., Dahl, J. E. and Moorhead, J. E. (2000) 'Age of restorations at replacement in permanent teeth in general dental practice', Acta odontologica Scandinavica, 58(3), pp. 97–101.

35. Moncada, G. et al. (2015) 'Longitudinal Results of a 10-year Clinical Trial of Repair of Amalgam Restorations', Operative Dentistry, pp. 34–43. doi: 10.2341/14-045-c.

36. Nasim, I. et al. (2018) 'Clinical performance of resin-modified glass ionomer cement, flowable composite, and polyacid-modified resin composite in noncarious cervical lesions: One-year follow-up', Journal of Conservative Dentistry, p. 510. doi: 10.4103/jcd.jcd_51_18.

37. Nasim, I. and Nandakumar, M. (2018) 'Comparative evaluation of grape seed and cranberry extracts in preventing enamel erosion: An optical emission spectrometric analysis', Journal of Conservative Dentistry, p. 516. doi: 10.4103/jcd.jcd_110_18.

38. Noor, S. and Others (2016) 'Chlorhexidine: Its properties and effects', Research Journal of Pharmacy and Technology, 9(10), pp. 1755–1760.

39. O'Brien, W. J. (1997) Dental Materials and Their Selection. Quintessence Publishing Company.

40. Opdam, N. J. M. et al. (2007) 'A retrospective clinical study on longevity of posterior composite and amalgam restorations', Dental materials: official publication of the Academy of Dental Materials, 23(1), pp. 2–8.

41. Pallesen, U. and Qvist, V. (2003) 'Composite resin fillings and inlays. An 11-year evaluation', Clinical Oral Investigations, pp. 71–79. doi: 10.1007/s00784-003-0201-z.

42. Panchal, V., Jeevanandan, G. and Subramanian, E. M. G. (2019) 'Comparison of post-operative pain after root canal instrumentation with hand K-files, H-files and rotary Kedo-S files in primary teeth: a randomised clinical trial', European archives of paediatric dentistry: official journal of the European Academy of Paediatric Dentistry, 20(5), pp. 467–472.

43. Pc, J., Marimuthu, T. and Devadoss, P. (2018) 'Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study', Clinical implant dentistry and related research. Available at: https://europepmc.org/article/med/29624863.

44. Prabakar, J. et al. (2018) 'Comparative Evaluation of Retention, Cariostatic Effect and Discoloration of Conventional and Hydrophilic Sealants - A Single Blinded Randomized Split Mouth Clinical Trial', Contemporary clinical dentistry, 9(Suppl 2), pp. S233–S239.

45. Rajendran, R. et al. (2019) 'Comparative Evaluation of Remineralizing Potential of a Paste Containing Bioactive Glass and a Topical Cream Containing Casein Phosphopeptide-Amorphous Calcium Phosphate: An in Vitro Study', Pesquisa Brasileira em Odontopediatria e Clínica Integrada, pp. 1–10. doi: 10.4034/pboci.2019.191.61.

46. Rajeshkumar, S. et al. (2018) 'Biosynthesis of zinc oxide nanoparticles usingMangifera indica leaves and evaluation of their antioxidant and cytotoxic properties in lung cancer (A549) cells', Enzyme and microbial technology, 117, pp. 91–95.

47. Rajeshkumar, S. et al. (2019) 'Antibacterial and antioxidant potential of biosynthesized copper nanoparticles mediated through Cissus arnotiana plant extract', Journal of photochemistry and photobiology. B, Biology, 197, p. 111531.

48. Ramadurai, N. et al. (2019) 'Effectiveness of 2% Articaine as an anesthetic agent in children: randomized controlled trial', Clinical oral investigations, 23(9), pp. 3543–3550.

49. Ramakrishnan, M., Dhanalakshmi, R. and Subramanian, E. M. G. (2019) 'Survival rate of different fixed posterior space maintainers used in Paediatric Dentistry - A systematic review', The Saudi dental journal, 31(2), pp. 165–172.

50. Ramamoorthi, S., Nivedhitha, M. S. and Divyanand, M. J. (2015) 'Comparative evaluation of postoperative pain after using endodontic needle and EndoActivator during root canal irrigation: A randomised controlled trial', Australian Endodontic Journal, pp. 78–87. doi: 10.1111/aej.12076.

51. Ramanathan, S. and Solete, P. (2015) 'Cone-beam Computed Tomography Evaluation of Root Canal Preparation using Various Rotary Instruments: An in vitro Study', The Journal of Contemporary Dental Practice, pp. 869–872. doi: 10.5005/jp-journals-10024-1773.

52. Ramesh, A. et al. (2018) 'Comparative estimation of sulfiredoxin levels between chronic periodontitis and healthy patients - A case-control study', Journal of periodontology, 89(10), pp. 1241–1248.

53. Ravinthar, K. and Jayalakshmi (2018) 'Recent Advancements in Laminates and Veneers in Dentistry', Research Journal of Pharmacy and Technology, p. 785. doi: 10.5958/0974-360x.2018.00148.8.

54. R, R., Rajakeerthi, R. and Ms, N. (2019) 'Natural Product as the Storage medium for an avulsed tooth – A Systematic Review', Cumhuriyet Dental Journal, pp. 249–256. doi: 10.7126/cumudj.525182.

55. Samuel, S. R., Acharya, S. and Rao, J. C. (2020) 'School Interventions-based Prevention of Early-Childhood Caries among 3-5-year-old children from very low socioeconomic status: Two-year randomized trial', Journal of public health dentistry, 80(1), pp. 51–60.

56. van de Sande, F. H. (2016) '[A PhD completed 5. Restoration survival in the composite resin age]', Nederlands tijdschrift voor tandheelkunde, 123(9), pp. 429–431.

57. Sharma, P. et al. (2019) 'Emerging trends in the novel drug delivery approaches for the treatment of lung cancer', Chemico-biological interactions, 309, p. 108720.

58. Siddique, R. et al. (2019) 'Qualitative and quantitative analysis of precipitate formation following interaction of chlorhexidine with sodium hypochlorite, neem, and tulsi', Journal of conservative dentistry: JCD, 22(1), pp. 40–47.

59. Sridharan, G. et al. (2019) 'Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma', Journal of oral pathology & medicine: official publication of the International Association of

Oral Pathologists and the American Academy of Oral Pathology, 48(4), pp. 299–306.

60. Teja, K. V. and Ramesh, S. (2019) 'Shape optimal and clean more', Saudi Endodontic Journal. Available at: http://www.saudiendodj.com/article.asp?issn=1658-5984;year=2019;volume=9;issue=3;spage=235;epage=236;aulast=Teja.

61. Teja, K. V., Ramesh, S. and Priya, V. (2018) 'Regulation of matrix metalloproteinase-3 gene expression in inflammation: A molecular study', Journal of conservative dentistry: JCD, 21(6), pp. 592–596.

62. Varghese, S. S., Ramesh, A. and Veeraiyan, D. N. (2019) 'Blended Module-Based Teaching in Biostatistics and Research Methodology: A Retrospective Study with Postgraduate Dental Students', Journal of dental education, 83(4), pp. 445–450.

63. Vijayashree Priyadharsini, J. (2019) 'In silico validation of the non-antibiotic drugs acetaminophen and ibuprofen as antibacterial agents against red complex pathogens', Journal of periodontology, 90(12), pp. 1441–1448.

64. Vishnu Prasad, S. et al. (2018) 'Report on oral health status and treatment needs of 5-15 years old children with sensory deficits in Chennai, India', Special care in dentistry: official publication of the American Association of Hospital Dentists, the Academy of Dentistry for the Handicapped, and the American Society for Geriatric Dentistry, 38(1), pp. 58–59.

65. Wahab, P. U. A. et al. (2018) 'Scalpel Versus Diathermy in Wound Healing After Mucosal Incisions: A Split-Mouth Study', Journal of oral and maxillofacial surgery: official journal of the American Association of Oral and Maxillofacial Surgeons, 76(6), pp. 1160–1164.

LIST OF TABLES AND GRAPHS:

Table 1: Descriptive analysis of the age and gender of the patient and tooth number.

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	25	22	60	33.88	8.482
GENDER	25	0	1	.64	.490
TOOTH NUMBER	25	25	25	25.00	.000
Valid N (listwise)	25				

Table 1: shows the descriptive analysis of age of the patient, gender of the patient and tooth number in which the class 1 amalgam restoration is done. From the table it is evident that mean age was found to be 33.88 ± 8.482 and mean gender was found to be 0.64 ± 0.49.
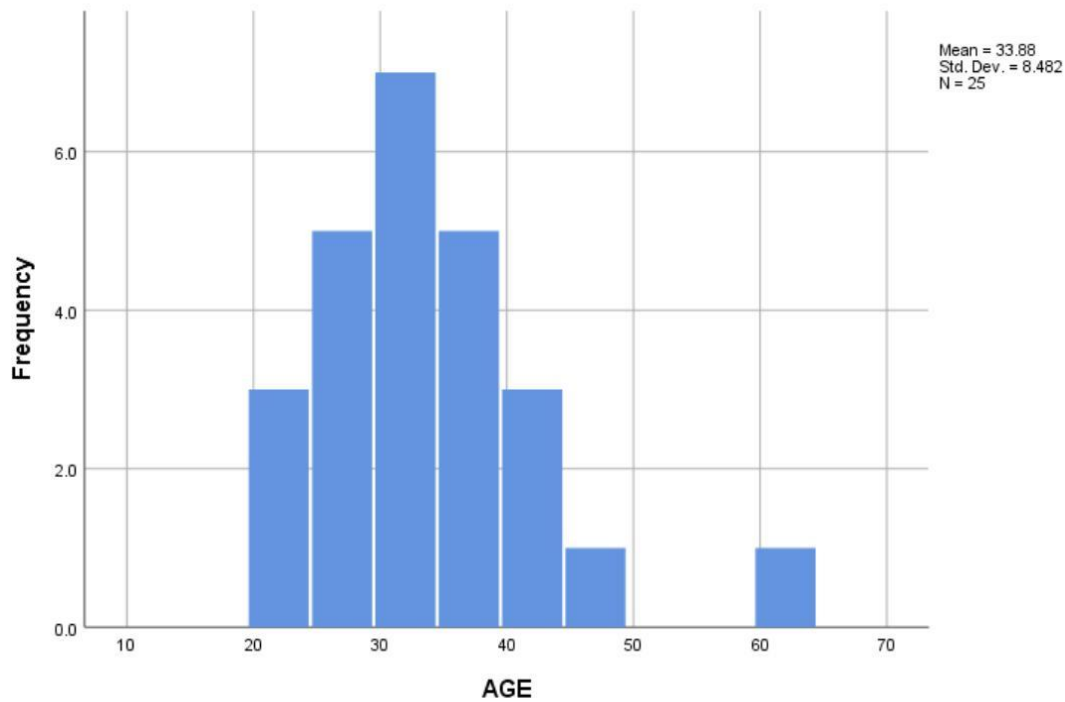
Fig.1: The bar graph depicts the prevalence of class 1 amalgam restorations in the second maxillary premolar among different age groups where, the frequency of patients with class 1 amalgam restoration in maxillary second premolar is plotted on scale of 0 to 6 along the Y axis. The age of patients who underwent class 1 amalgam restoration in the maxillary second premolar is plotted on a scale of 10 to 70 along the X axis. It is evident that class 1 amalgam restoration in maxillary first premolar were more commonly found in people of 34 years of age. Chi square test; p=0.100; statistically not significant (p>0.05).
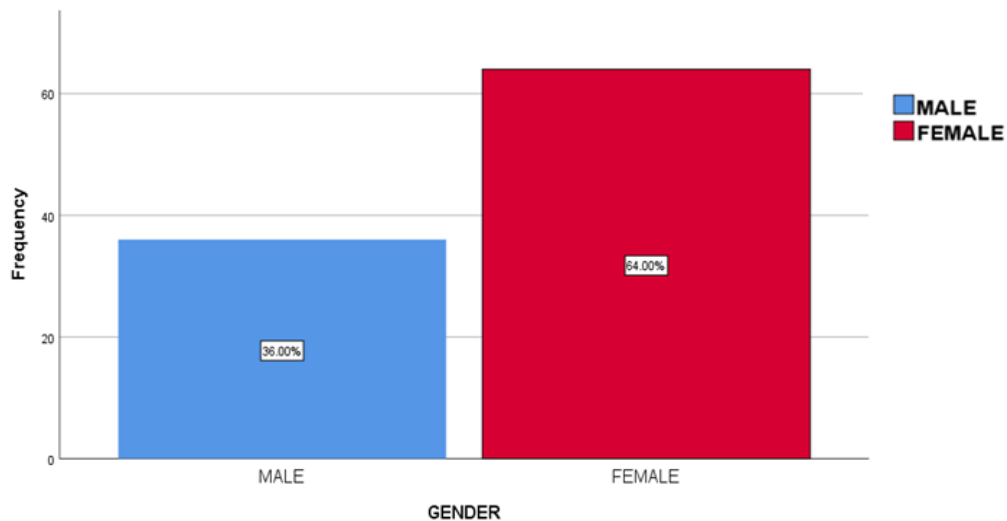

Fig.2: The bar graph depicts the prevalence of class 1 amalgam restoration between different genders . Blue represents males and red represents females. It is evident that class 1 amalgam restoration in maxillary first premolar were more common among females. Chi square test; p=0.162; statistically not significant (p>0.05).
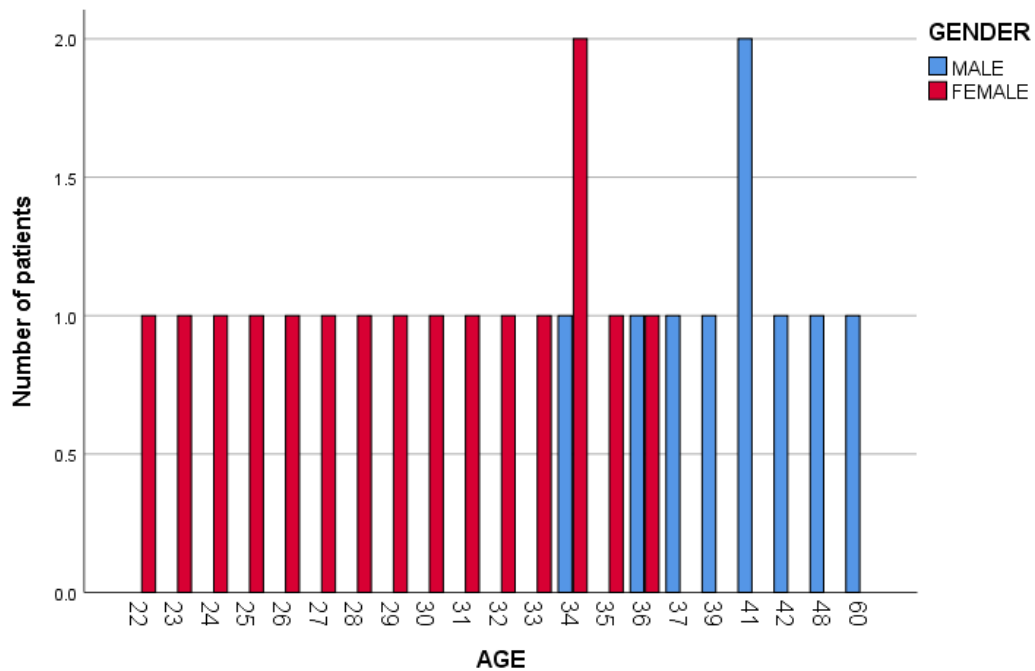
Fig.3: The bar graph depicts the association of age and gender of patients who underwent class 1 amalgam restorations in maxillary second premolar . Blue represents males and red represents females. The age of the patient is plotted along the X axis. The number of patients is plotted along the Y axis. It is evident that males of 41 years of age and females of 34 years of age were commonly found to have class 1 amalgam restoration in maxillary second premolars. Chi square test; Pearson chi square value p=0.462; statistically not significant (p>0.05).