



## Prevalence of Post-Operative Pain After Extraction- A Survey

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### ABSTRACT

Dental extraction is a very common procedure practiced in dentistry, it is defined as atraumatic removal of teeth from the socket of the alveolar bone with minimum, or no pain for the patient. Pain after extraction is a very common phenomenon. This survey is focused on understanding the knowledge about pain experienced by the patients after extractions. A survey questionnaire of 15 questions was prepared on an online survey platform and distributed among 120 patients who had undergone extractions, to analyse prevalence of pain after extractions. IBM SPSS version 26 software was used to evaluate the results and data collection. Statistical analysis was done by chi square test. From the survey conducted we can conclude that there is a significant association found between age, medication, systemic illness, habits are the factors that influence pain after extraction. However 33% of the patients did not report back to the clinic for review. The survey helps us to understand that pain after extraction is very common in the age group 55 years and is mostly seen in females.

### ARTICLE HISTORY

Received October 11, 2020  
Accepted November 05, 2020  
Published December 09, 2020

### KEYWORDS

extraction, medication,  
pain, systemic illness,  
analgesics

### INTRODUCTION

Most common procedure in a surgery clinic is dental extraction[1]. Tooth loss is the most common final consequence of poor periodontium[2,3]. Reason for extraction could be caries, trauma or poor periodontal health. Immediately after extraction post operative pain, swelling reported, sometimes with more complications such as dry socket[4][2,3,5].

Tooth loss has a lot of consequences in socioeconomic, quality of general health[6,7]. Extraction is done in by a series of steps that is certain protocol must be followed while performing the procedure, these are assessment and specific

investigation, obtaining consent from the patient, Administration of LA, proper flap elevation so that it is easy for the dentist to engage the forceps, luxation, traction, removal of teeth, control of bleeding, post extraction instructions[8]

Reasons for dental extractions are- Grossly decayed tooth, Poor periodontal health, Removal of impacted 3rd molar, Supernumerary tooth, Malformed tooth, Fractured tooth, Failed implant, Orthodontic - therapeutic extractions[8,9]. There are 2 types of extractions surgical and simple [10] Simple extractions are done when the tooth is visible in the oral cavity. It is very easy to extract the teeth without any complication[11]. Usually this is done under

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administration of L.A, usually requiring elevator and forceps. In surgical extraction is done on the tooth that is indicated for extraction that cannot be done with simple extractions, few such examples are root stumps, root fracture, not fully erupted tooth, impacted 3rd molar, broken crown etc[12].Therefore this procedure will anyway require incision and the dentist might remove or lift the underlying soft tissue or sometimes even bone . Some of the common complication after extraction are infections, prolonged bleeding, swelling, bruising, sinus, exposure, nerve injury[13], displacement of tooth into the sinus, dry socket is the most common complication after extraction, trismus, luxation of adjacent teeth, osteos necrosis etc[14].

After dental extraction it is very normal to feel pain since extraction is an invasive procedure as it involves removal of tooth from the bone and cause injury to the periodontium This pain may last for a few days in order to manage the pain. It is recommended to consume analgesics and antibiotics to prevent further complications[1,15]. Dry socket or localized osteitis is the most common cause of post-extraction pain. An extraction socket with an exposed bone, either whole or in part, is diagnosed as a dry socket, and stimulation of this extraction socket creates sharp and persistent pain and odor. Another cause of post-extraction pain is hypersensitivity of the adjacent tooth. Pain in the adjacent tooth could be caused by injuries from the forces exerted during extraction, dislocation of large restorations, subluxations, and crown fractures. There have been a few studies on the clinical features and prognosis of pain associated with injuries of the adjacent tooth. [16–31] This survey is focused on understanding the knowledge about pain experienced by the patients after extractions

## MATERIALS AND METHODS

The study is an online survey among the population with a sample size of 120 participants. An institutional committee approval was obtained. Sampling method was random sampling regarding patients who had undergone single or multiple extractions regarding the age group of above 10 years. A well structured questionnaire was prepared and circulated through an online Google forms link. The survey was conducted for a duration of 2 months. The purpose of the study was explained to the participants who took the survey, analysis was done using SPSS version 23.0 and to check the association Chi square analysis was done.

## RESULTS AND DISCUSSION

Prevalence of pain followed by extraction is a very common phenomena, however proper medication and following post extraction instruction has high

influence in pain management. The most commonly affected age group is 10-25 years, mostly females have undergone more extractions than males, 77% of the patients have got relief after extraction due to proper medication. The survey was conducted among 120 patients who have undergone extractions in saveetha dental college.

From figure 1 that says tht age group that have undergone most number of extractions, according to this study we can observe that most of the patients are in between the age group 10-25 years however this statement is not supported by other findings[32], as other studies suggest that chances of extraction are more in elderly. The variation in results could be due to the small sample size of the current study.

From figure 2 we can understand that the maximum number of reporting back with pain where females 78% and followed by males - 26%. This finding is supported by the article [33]study which suggests that females have predominance in prevalence of pain after extraction ,in which they have mentioned the reason for this could be the fact that females have less tolerance towards pain compared to males.

Pain is prevalent in 78.5% of the patients whereas it has subsided in 23.3% ( figure 3). This must be due to proper medication or following of post operative instructions, similar studies[34] suggest that analgesic and antibiotics along with mouthwash will help getting relief from pain after extraction, careful selection of analgesics along with proper antibiotics will help the patient to get relief from pain, the NSAIDs inhibits the production of COX-1 and COX-2 enzymes and hence reducing inflammation. Patients who have undergone 1-5 extractions are very common followers by 6-10-14%, 11-15,4.1% and 21-25 - 1.7%(figure 4).

Smoking has very high significance in recurrence of pain after extraction (figure-5) . We can observe that 20% of the patients are smokers. In a study conducted by[35]about smokers and dry sockets it was found that dry socket is more prevalent in smokers rather than in non smokers, and hence as a result smoking is not advisable for a few days after extraction.

Presence or absence of systemic illness has direct influences over complication after extraction patients with systemic illness should take proper medication before extraction, for example patient with diabetes should have his/her glucose level in control before undergoing extraction. From figure 6 it is clear that 21.5% of the patients have suffered from some kind of systemic illness.studies such as [36] support the statement, as it is always safe to control the sugar level before dental extractions.

Figure 7 shows that the frequency of pain experienced by most of the patients is mild (42.2%) followed by moderate type of pain (38.8%) and

very least number of them had severe pain (19%) this could be due to protocol proper medication and minimal invasive procedure practiced in the college. A similar study by [37] [14,38] share the same results as most of the extractions are traumatic procedures, proper medication will help the patient to get relief soon [6]. Duration of the pain is shown in figure 8 most of the patients have pain for just 1-3 days 51.2% followed by pain for just one day (38.8%), followed by more than 3 days of pain.

Figure 9 shows the patients with swelling after extraction. From the diagram we can observe that 50.4% of the patients have associated swelling, similar article support the study suggests that swelling after extraction [2] is a common phenomena caused due to injury to the periodontium while removing the flap, it causes inflammatory responses which induces swelling [39]. The same can be used as an explanation for figure 10 . patients (31.4%) have reported back with fever as a side effect caused due to extraction, [40] this can be explained as pyrexia is a classical sign of inflammation [41].

In figure-11 it shows the number of patients who followed proper medication. 90% of them have undergone medication with proper dosage for 3 continuous days and the rest didn't- this could be because they didn't have pain after a few days. However, it is inappropriate to - not to complete the recommended dosage prescribed by the doctor, a study [42] suggest that proper antibiotic dosage should be taken in order to prevent the evolution of drug resistance in bacteria [42].

## CONCLUSION

The present survey shows that the prevalence of pain after extraction is very common and it is mostly seen in elderly and more frequently in females. Patients in the age group between 10-25 reported to have more pain than any other age group. Majority of the patients do not have any kind of systemic illness. Due to proper protocol and post extraction instructions followed in the hospitals maximum number of patients underwent proper medication. Therefore it is normal to have pain after extraction for 3-5 days after extraction after the effect of anesthesia wears off.

## CONFLICT OF INTEREST

The study has no conflict of interest.

## ACKNOWLEDGEMENT

The author would like to thank the IT department of Saveetha dental college.

## AUTHOR CONTRIBUTION

Kiran K contributed to the survey formulation, data

collection, data analysis and interpretation. Kiran K and Dr Dhanraj Ganapathy contributed to manuscript preparation. Dr Vivek Narayan reviewed the manuscript.

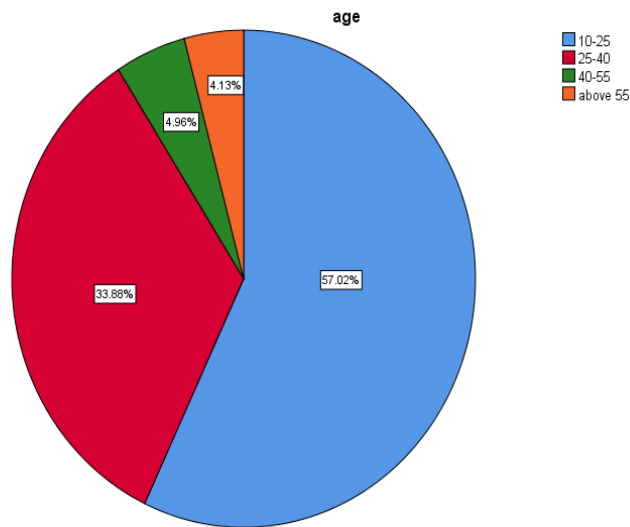
## REFERENCES

1. Patturaja K, Pradeep D. Awareness of Basic Dental Procedure among General Population [Internet]. Vol. 9, Research Journal of Pharmacy and Technology. 2016. p. 1349. Available from: <http://dx.doi.org/10.5958/0974-360x.2016.00258.4>
2. Sortino F, Cicciù M. Strategies used to inhibit postoperative swelling following removal of impacted lower third molar. Dent Res J [Internet]. 2011 Oct;8(4):162-71. Available from: <http://dx.doi.org/10.4103/1735-3327.86031>
3. Jesudasan JS, Abdul Wahab PU, Muthu Sekhar MR. Effectiveness of 0.2% chlorhexidine gel and a eugenol-based paste on postoperative alveolar osteitis in patients having third molars extracted: a randomised controlled clinical trial [Internet]. Vol. 53, British Journal of Oral and Maxillofacial Surgery. 2015. p. 826-30. Available from: <http://dx.doi.org/10.1016/j.bjoms.2015.06.022>
4. Pedlar J. Oral and Maxillofacial Surgery: An Objective-based Textbook [Internet]. Churchill Livingstone; 2007. 285 p. Available from: [https://books.google.com/books/about/Oral\\_and\\_Maxillofacial\\_Surgery.html?hl=&id=IhAYQQAACAAJ](https://books.google.com/books/about/Oral_and_Maxillofacial_Surgery.html?hl=&id=IhAYQQAACAAJ)
5. Kumar S, Rahman R. KNOWLEDGE, AWARENESS, AND PRACTICES REGARDING BIOMEDICAL WASTE MANAGEMENT AMONG UNDERGRADUATE DENTAL STUDENTS [Internet]. Vol. 10, Asian Journal of Pharmaceutical and Clinical Research. 2017. p. 341. Available from: <http://dx.doi.org/10.22159/ajpcr.2017.v10i8.19101>
6. Rao TD, Santhosh Kumar MP. Analgesic Efficacy of Paracetamol Vs Ketorolac after Dental Extractions [Internet]. Vol. 11, Research Journal of Pharmacy and Technology. 2018. p. 3375. Available from: <http://dx.doi.org/10.5958/0974-360x.2018.00621.2>
7. Abhinav RP, Selvarasu K, Maheswari GU, Taltia AA. The Patterns and Etiology of Maxillofacial Trauma in South India. Ann Maxillofac Surg [Internet]. 2019 Jan;9(1):114-7. Available from: [http://dx.doi.org/10.4103/ams.ams\\_233\\_18](http://dx.doi.org/10.4103/ams.ams_233_18)
8. Karagianis A. Head and Neck Imaging Variants

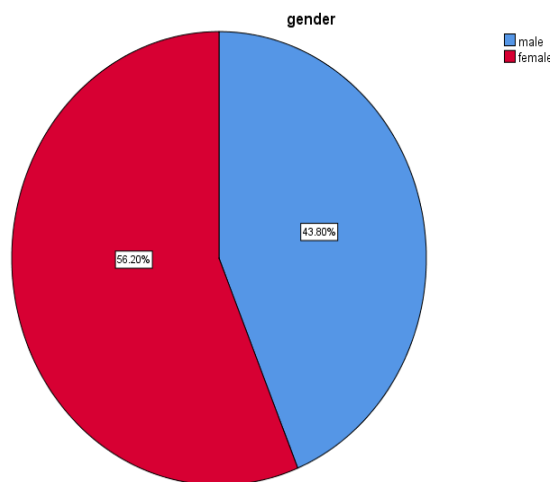
- [Internet]. McGraw Hill Professional; 2016. 1456 p. Available from: <https://play.google.com/store/books/details?id=TdeiCwAAQBAJ>
9. Hupp JR, Tucker MR, Ellis E. Contemporary Oral and Maxillofacial Surgery E-Book [Internet]. Elsevier Health Sciences; 2018. 721 p. Available from: <https://play.google.com/store/books/details?id=3NpwDwAAQBAJ>
  10. Patil SB, Durairaj D, Suresh Kumar G, Karthikeyan D, Pradeep D. Comparison of Extended Nasolabial Flap Versus Buccal Fat Pad Graft in the Surgical Management of Oral Submucous Fibrosis: A Prospective Pilot Study. *J Maxillofac Oral Surg* [Internet]. 2017 Sep;16(3):312-21. Available from: <http://dx.doi.org/10.1007/s12663-016-0975-6>
  11. Christabel A, Anantanarayanan P, Subash P, Soh CL, Ramanathan M, Muthusekhar MR, et al. Comparison of pterygomaxillary dysjunction with tuberosity separation in isolated Le Fort I osteotomies: a prospective, multi-centre, triple-blind, randomized controlled trial [Internet]. Vol. 45, *International Journal of Oral and Maxillofacial Surgery*. 2016. p. 180-5. Available from: <http://dx.doi.org/10.1016/j.ijom.2015.07.021>
  12. Marimuthu M, Andiappan M, Wahab A, Muthusekhar MR, Balakrishnan A, Shanmugam S. Canonical Wnt pathway gene expression and their clinical correlation in oral squamous cell carcinoma. *Indian J Dent Res* [Internet]. 2018 May;29(3):291-7. Available from: [http://dx.doi.org/10.4103/ijdr.IJDR\\_375\\_17](http://dx.doi.org/10.4103/ijdr.IJDR_375_17)
  13. Malden NJ, Maidment YG. Lingual nerve injury subsequent to wisdom teeth removal--a 5-year retrospective audit from a high street dental practice. *Br Dent J* [Internet]. 2002 Aug 24;193(4):203-5. Available from: <http://dx.doi.org/10.1038/sj.bdj.4801523>
  14. Packiri S, Gurunathan D, Selvarasu K. Management of Paediatric Oral Ranula: A Systematic Review. *J Clin Diagn Res* [Internet]. 2017 Sep;11(9):ZE06-9. Available from: <http://dx.doi.org/10.7860/JCDR/2017/28498.10622>
  15. Vijayakumar Jain S, Muthusekhar MR, Baig MF, Senthilnathan P, Loganathan S, Abdul Wahab PU, et al. Evaluation of Three-Dimensional Changes in Pharyngeal Airway Following Isolated Lefort One Osteotomy for the Correction of Vertical Maxillary Excess: A Prospective Study. *J Maxillofac Oral Surg* [Internet]. 2019 Mar;18(1):139-46. Available from: <http://dx.doi.org/10.1007/s12663-018-1113-4>
  16. Robert R, Justin Raj C, Krishnan S, Jerome Das S. Growth, theoretical and optical studies on potassium dihydrogen phosphate (KDP) single crystals by modified Sankaranarayanan-Ramasamy (mSR) method [Internet]. Vol. 405, *Physica B: Condensed Matter*. 2010. p. 20-4. Available from: <http://dx.doi.org/10.1016/j.physb.2009.08.015>
  17. Sahu D, Kannan GM, Vijayaraghavan R. Size-dependent effect of zinc oxide on toxicity and inflammatory potential of human monocytes. *J Toxicol Environ Health A* [Internet]. 2014;77(4):177-91. Available from: <http://dx.doi.org/10.1080/15287394.2013.853224>
  18. Suresh P, Marimuthu K, Ranganathan S, Rajmohan T. Optimization of machining parameters in turning of Al-SiC-Gr hybrid metal matrix composites using grey-fuzzy algorithm [Internet]. Vol. 24, *Transactions of Nonferrous Metals Society of China*. 2014. p. 2805-14. Available from: [http://dx.doi.org/10.1016/s1003-6326\(14\)63412-9](http://dx.doi.org/10.1016/s1003-6326(14)63412-9)
  19. DeSouza SI, Rashmi MR, Vasanthi AP, Joseph SM, Rodrigues R. Mobile phones: the next step towards healthcare delivery in rural India? *PLoS One* [Internet]. 2014 Aug 18;9(8):e104895. Available from: <http://dx.doi.org/10.1371/journal.pone.0104895>
  20. Sekhar CH, Narayanan V, Baig MF. Role of antimicrobials in third molar surgery: prospective, double blind, randomized, placebo-controlled clinical study. *Br J Oral Maxillofac Surg* [Internet]. 2001 Apr;39(2):134-7. Available from: <http://dx.doi.org/10.1054/bjom.2000.0557>
  21. Chellaswamy C, Ramesh R. Parameter extraction of solar cell models based on adaptive differential evolution algorithm [Internet]. Vol. 97, *Renewable Energy*. 2016. p. 823-37. Available from: <http://dx.doi.org/10.1016/j.renene.2016.06.024>
  22. Danda AK, Muthusekhar MR, Narayanan V, Baig MF, Siddareddi A. Open versus closed treatment of unilateral subcondylar and condylar neck fractures: a prospective, randomized clinical study. *J Oral Maxillofac Surg* [Internet]. 2010 Jun;68(6):1238-41. Available from: <http://dx.doi.org/10.1016/j.joms.2009.09.042>
  23. Samuel MS, Bhattacharya J, Raj S, Santhanam N, Singh H, Pradeep Singh ND. Efficient

- removal of Chromium(VI) from aqueous solution using chitosan grafted graphene oxide (CS-GO) nanocomposite. *Int J Biol Macromol* [Internet]. 2019 Jan;121:285–92. Available from: <http://dx.doi.org/10.1016/j.ijbiomac.2018.09.170>
24. Lakshmanan A, Bhaskar RS, Thomas PC, Satheesh Kumar R, Siva Kumar V, Jose MT. A red phosphor for nUV LED based on (Y,Gd)BO<sub>3</sub>:Eu<sup>3+</sup> [Internet]. Vol. 64, *Materials Letters*. 2010. p. 1809–12. Available from: <http://dx.doi.org/10.1016/j.matlet.2010.05.034>
  25. Venu H, Subramani L, Dhana Raju V. Emission reduction in a DI diesel engine using exhaust gas recirculation (EGR) of palm biodiesel blended with TiO<sub>2</sub> nano additives [Internet]. Vol. 140, *Renewable Energy*. 2019. p. 245–63. Available from: <http://dx.doi.org/10.1016/j.renene.2019.03.078>
  26. Manimaran G, Pradeep kumar M, Venkatasamy R. Influence of cryogenic cooling on surface grinding of stainless steel 316 [Internet]. Vol. 59, *Cryogenics*. 2014. p. 76–83. Available from: <http://dx.doi.org/10.1016/j.cryogenics.2013.11.005>
  27. Neelakantan P, Varughese AA, Sharma S, Subbarao CV, Zehnder M, De-Deus G. Continuous chelation irrigation improves the adhesion of epoxy resin-based root canal sealer to root dentine. *Int Endod J* [Internet]. 2012 Dec;45(12):1097–102. Available from: <http://dx.doi.org/10.1111/j.1365-2591.2012.02073.x>
  28. Babu MN, Naresh Babu M, Muthukrishnan N. Investigation on Surface Roughness in Abrasive Water-Jet Machining by the Response Surface Method [Internet]. Vol. 29, *Materials and Manufacturing Processes*. 2014. p. 1422–8. Available from: <http://dx.doi.org/10.1080/10426914.2014.952020>
  29. Panda S, Doraiswamy J, Malaiappan S, Varghese SS, Del Fabbro M. Additive effect of autologous platelet concentrates in treatment of intrabony defects: a systematic review and meta-analysis. *J Invest Clin Dent* [Internet]. 2016 Feb;7(1):13–26. Available from: <http://dx.doi.org/10.1111/jicd.12117>
  30. Adalarasan R, Santhanakumar M, Rajmohan M. Optimization of laser cutting parameters for Al<sub>6061</sub>/SiCp/Al<sub>2O3</sub> composite using grey based response surface methodology (GRSM) [Internet]. Vol. 73, *Measurement*. 2015. p. 596–606. Available from: <http://dx.doi.org/10.1016/j.measurement.2015.06.003>
  31. Rajeshkumar S, Kumar SV, Ramaiah A, Agarwal H, Lakshmi T, Roopan SM. Biosynthesis of zinc oxide nanoparticles using *Mangifera indica* leaves and evaluation of their antioxidant and cytotoxic properties in lung cancer (A549) cells. *Enzyme Microb Technol* [Internet]. 2018 Oct;117:91–5. Available from: <http://dx.doi.org/10.1016/j.enzmictec.2018.06.009>
  32. Lu P, Gong Y, Chen Y, Cai W, Sheng J. Safety analysis of tooth extraction in elderly patients with cardiovascular diseases. *Med Sci Monit* [Internet]. 2014 May 13;20:782–8. Available from: <http://dx.doi.org/10.12659/MSM.890131>
  33. Storesund A, Krukhaug Y, Olsen MV, Rygh LJ, Nilsen RM, Norekvål TM. Females report higher postoperative pain scores than males after ankle surgery. *Scand J Pain* [Internet]. 2016 Jul;12:85–93. Available from: <http://dx.doi.org/10.1016/j.sjpain.2016.05.011>
  34. Becker DE, Phero JC. Drug therapy in dental practice: nonopioid and opioid analgesics. *Anesth Prog* [Internet]. 2005 Winter;52(4):140–9. Available from: [http://dx.doi.org/10.2344/0003-3006\(2005\)52\[140:DTD\]2.0.CO;2](http://dx.doi.org/10.2344/0003-3006(2005)52[140:DTD]2.0.CO;2)
  35. Meechan JG, Macgregor IDM, Rogers SN, Hobson RS, Bate JPC, Dennison M. The effect of smoking on immediate post-extraction socket filling with blood and on the incidence of painful socket. *Br J Oral Maxillofac Surg* [Internet]. 1988 Oct;26(5):402–9. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S0266435688900939>
  36. Gazal G. Management of an emergency tooth extraction in diabetic patients on the dental chair. *Saudi Dent J* [Internet]. 2020 Jan;32(1):1–6. Available from: <http://dx.doi.org/10.1016/j.sdentj.2019.07.004>
  37. Al-Khateeb TH, Alnahr A. Pain experience after simple tooth extraction. *J Oral Maxillofac Surg* [Internet]. 2008 May;66(5):911–7. Available from: <http://dx.doi.org/10.1016/j.joms.2007.12.008>
  38. Kumar S. RELATIONSHIP BETWEEN DENTAL ANXIETY AND PAIN EXPERIENCE DURING DENTAL EXTRACTIONS [Internet]. Vol. 10, *Asian Journal of Pharmaceutical and Clinical Research*. 2017. p. 458. Available from: <http://dx.doi.org/10.22159/ajpcr.2017.v10i3.16518>
  39. Kumar V, Patil K, Munoli K. Knowledge and

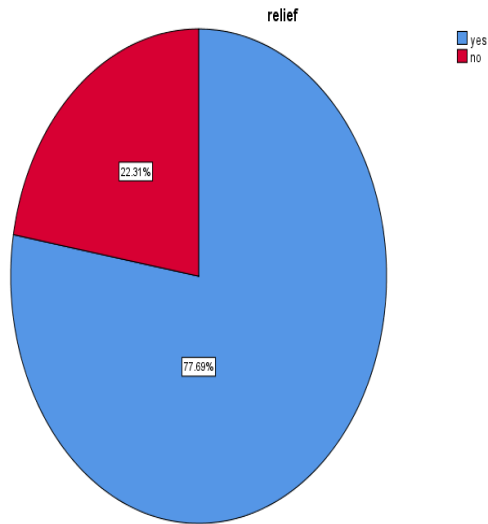
- attitude toward human immunodeficiency virus/acquired immuno deficiency syndrome among dental and medical undergraduate students [Internet]. Vol. 7, Journal of Pharmacy and Bioallied Sciences. 2015. p. 666. Available from: <http://dx.doi.org/10.4103/0975-7406.163598>
40. Christabel A, Sharma R, Manikandhan R, Anantanarayanan P, Elavazhagan N, Subash P. Fever after maxillofacial surgery: a critical review. J Maxillofac Oral Surg [Internet]. 2015 Jun;14(2):154–61. Available from: <http://dx.doi.org/10.1007/s12663-013-0611-7>
41. Kumar S. THE EMERGING ROLE OF BOTULINUM TOXIN IN THE TREATMENT OF OROFACIAL DISORDERS: LITERATURE UPDATE [Internet]. Vol. 10, Asian Journal of Pharmaceutical and Clinical Research. 2017. p. 21. Available from: <http://dx.doi.org/10.22159/ajpcr.2017.v10i9.16914>
42. Kumar S, Sneha S. KNOWLEDGE AND AWARENESS REGARDING ANTIBIOTIC PROPHYLAXIS FOR INFECTIVE ENDOCARDITIS AMONG UNDERGRADUATE DENTAL STUDENTS [Internet]. Asian Journal of Pharmaceutical and Clinical Research. 2016. p. 154. Available from: <http://dx.doi.org/10.22159/ajpcr.2016.v9s2.13405>



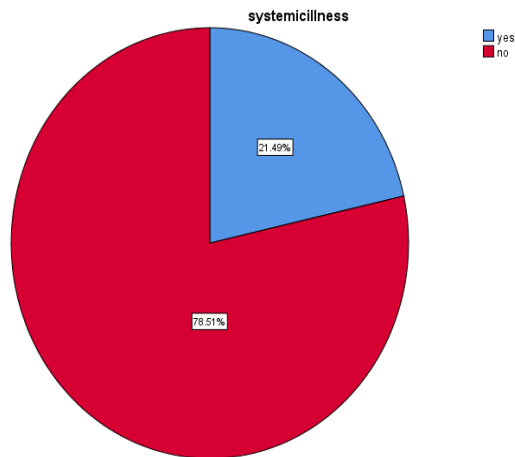
**Figure 1: Pie chart representing the age among patients who have undergone extraction. Blue denotes 10-25years, red denotes 25-40, green denotes 40-55 years, orange denotes age above 55. Highest frequency of pain was seen in 10-25 years old and lowest was seen in above 55 years**



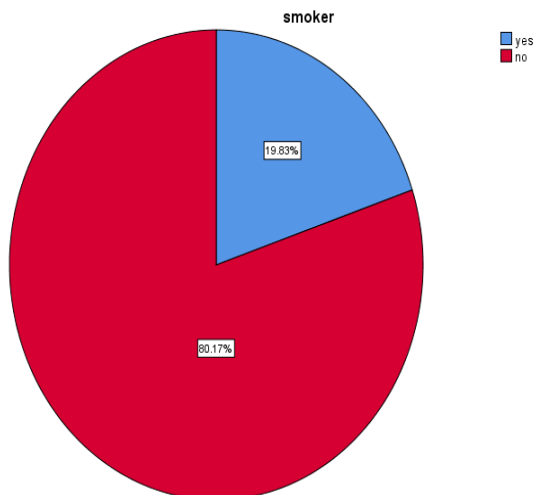
**Figure 2: pie chart representing the gender of the patient who has undergone extraction. Blue denotes males, red denotes females. Highest frequency of pain is seen in females 68% lowest is seen in males 53 %.**



**Figure 3: pie chart representing patients who got relief after medication; Blue denotes yes, red denotes no, 77% of the patients got relief after medication and 22% of them didn't get relief from pain after medication.**



**Figure 4: pie chart representing the number of patients suffering from any kind of systemic illness. Blue denotes yes, red denotes no. Most of the patients (78.5% ) do not have any kind of systemic illness while 22.5% of them have systemic illness.**



**Figure 5: pie chart representing the smoking habits of the patients. Blue denotes patients as a smoker ; red denotes non smoker. 80.17% of the patients were non smokers and remaining 19.83% of them had a history of smoking.**

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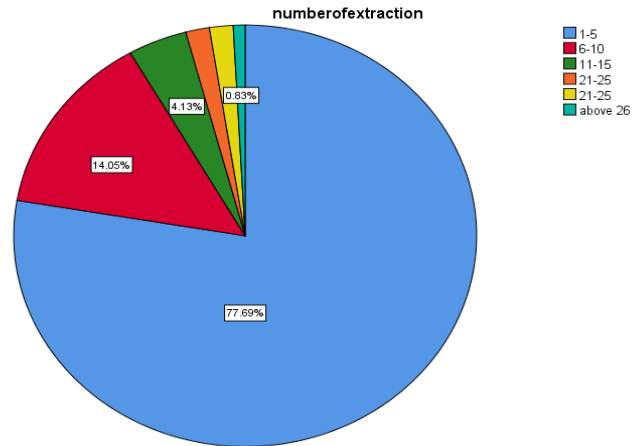


Figure 6: pie chart representing the number of extraction a person has undergone in life time. Blue denotes 1-5, red denoted 6-10, green denotes 11-15, orange denotes 21-25 yellow denotes 21-25.

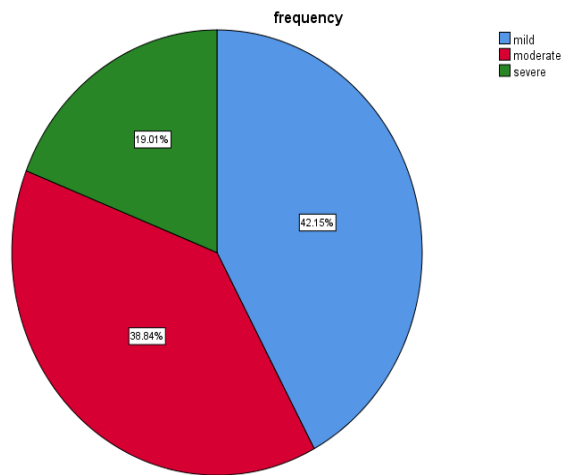


Figure 7: pie chart representing the severity of the pain experienced by the patient after surgical extraction. Blue denotes mild pain, red denoted moderate pain, green denotes severe pain. Patients experienced mild pain more commonly 42.15% followed by moderate pain 38.84%, severe pain is least common 19.01%.

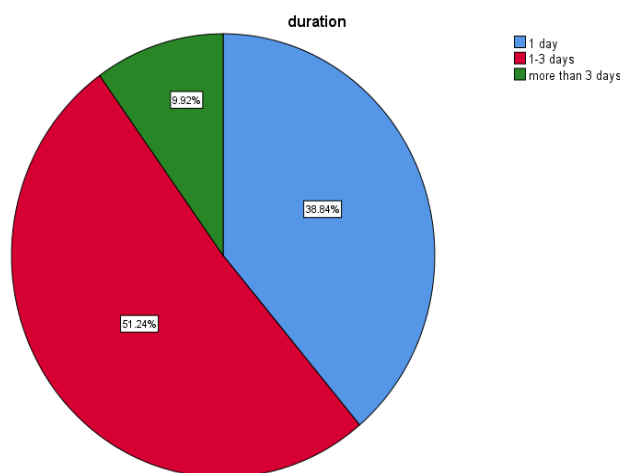


Figure 8: pie chart representing the duration of the pain experienced by the patient after surgical extraction. Blue denotes 1 day, red denotes 1-3 days, green denotes more than 3 days. Most of the patients (52.24%) had pain for 1-3 days followed by pain for 1 day 38.84%, very less number of patients had pain lasting more than 3 days (9.92%)



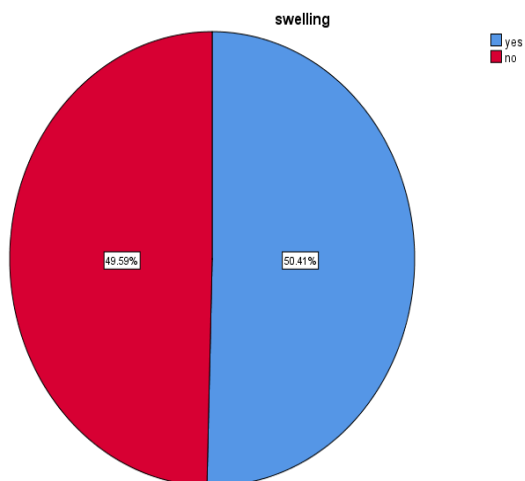


Figure 9: pie chart representing presence or absence of swelling after extraction. Blue denotes presence of swelling, red denotes absence of swelling. 50.41% of the patients had swelling at the site of extraction, 49.59% of the patients did not have swelling.

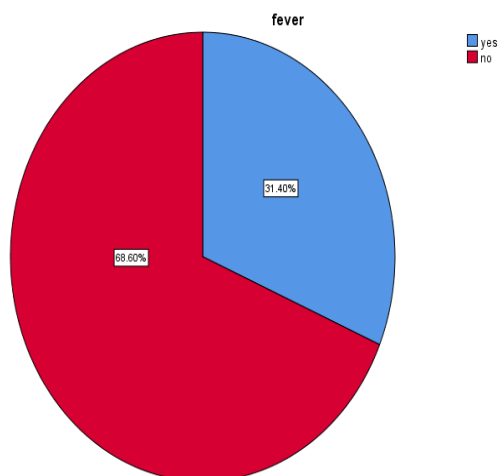


Figure 10: pie chart representing presence or absence of fever after surgical extraction. Blue denotes yes, red denotes no. 31.40% of the patients had fever after extraction whereas, 68.60% of them didn't.

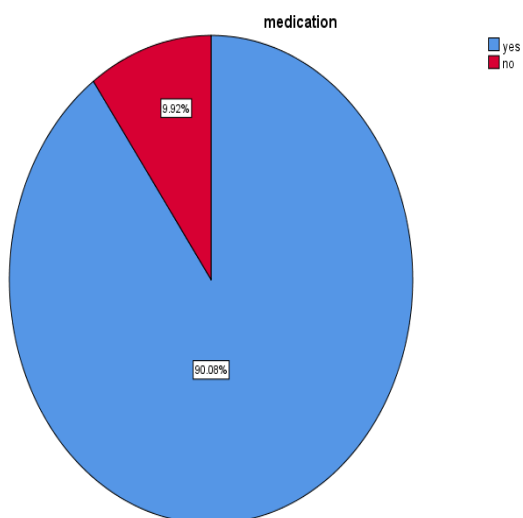


Figure 11: pie chart representing patients undergoing proper medication after surgical extraction. Blue denotes yes, red denotes no. 90.08% of the patients were under proper medication whereas 9.92% of them were not.

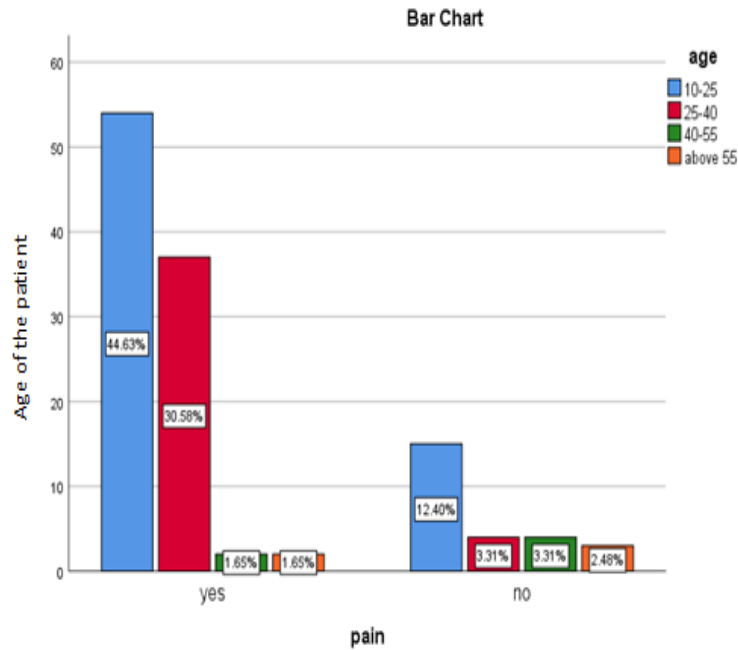


Figure 12: Bar chart representing association between age of the patient and pain experienced after extraction. X axis represents the patient's response, Y axis represents the age of the patients. Blue denotes 10-25, red denotes 25-40, green denotes 40-55, orange denotes age above 55. Majority of the 10 -25 aged study population experienced more pain than the others. The statistical analysis also agreed the same with Chi square test showing p value= 0.002(p< 0.05 indicating statistically significant)

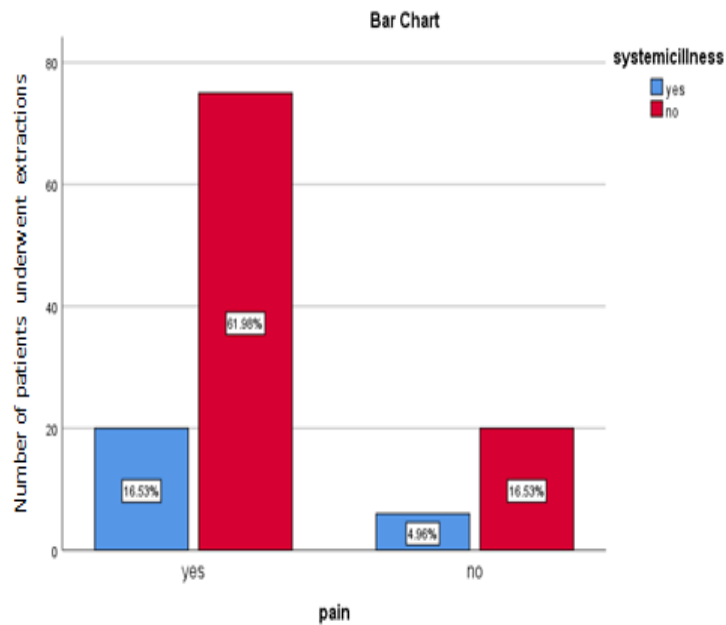
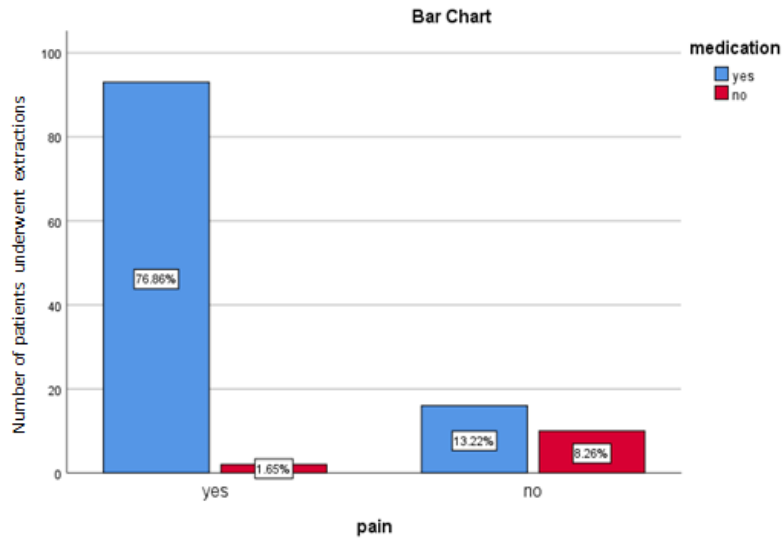


Figure 13: Bar chart representing association between pain experienced after extraction and systemic illness. X axis represents the presence or absence of pain along with systemic illness, Y axis represents the number of patients. Blue denotes presence of systemic illness; red denotes absence of systemic illness. Majority of the patients did not have any kind of systemic illness. Statistical analysis also agrees with the same, Chi square test showing P value= 0.015(p<0.05 statistically significant)



**Figure 14: Bar chart representing association between pain after surgical extraction and post extraction medication. X axis represents presence or absence of pain along with medication, Y axis represents the number of patients. Blue denotes patients undergoing proper medication and red denotes patients who did not take proper medication. Majority of the patients were undergoing proper medication, statistical analysis also agrees with the same, Chi square test p value =0.00 (p value<0.05 statically significant)**