



Attitude of intern trainees versus final year undergraduates towards complications of exodontia and its management

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¹B.Sridhar Reddy, ²Visalakshi.D, ³Sakshi Das, ⁴Mahith Vangala, ⁵Akshay Dande, ⁶Abhirup Chatterjee

¹MDS Professor and Head, ²MDS Assistant Professor, ^{4,5}Intern Trainee, Department of Oral and Maxillofacial Surgery, Government Dental College & Hospital, Hyderabad, Telangana, India;

³MDS, Private Dental Practitioner, Hyderabad, Telangana, India;

⁶MDS Senior Resident, Dr. S. N. Medical College and Hospital, Jodhpur, Rajasthan, India

Corresponding author: Dr.Sakshi Das, MDS, Private Dental Practitioner, Hyderabad, India

ABSTRACT:

Background: Exodontia is established as a basic clinical skill for dental graduates. Knowledge about the procedures as well as the associated complications and their management can prevent the occurrence of any untoward events. **AIM:** The current study was conducted to assess final year undergraduate students and trainees about their knowledge about exodontia related complications and their approach to handle the same. This cross-sectional study was conducted between December 2017 to December 2018 at Government Dental College & Hospital, Hyderabad, KNRUHS. **MATERIALS & METHODS:** This cross-sectional study was conducted between December 2017 to December 2018 at Government Dental College & Hospital, Hyderabad. The interns and final year dental students were assessed for their knowledge and attitudes regarding the most common complications of exodontia and its management. In the present study interns come under group A and final year students come under group B. **RESULTS:** The most common complication following local anesthesia was syncope in about 43.4% (127) participants, which included, 42.6% (78) of group A and 51.3% (56) of group B. Adequate flap reflection was found to be the most crucial step by about 41.4% (121) participants, which included 47.4% of the total group B population and the results were statistically significant. (0.02) Whereas, when questioned about the difficult tooth to extract, Endodontically treated tooth was opted by majority of population 48.2% (141) which included both groups A & B. **CONCLUSION:** While in clinics, the decision to take up a case and manage seems a wise decision but when things go out of hand reporting it to someone more experienced could be significant even for minor procedures, even better would be to anticipate them beforehand and take adequate measures.

Keywords: Awareness, Dental Students, Exodontia, Questionnaire Study

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Introduction:

Dentistry is an extensive program that requires lots of efforts, encouragement, and clinical exposure.¹ Tooth extractions are often performed in the general dental practice and forceps exodontia is established as a basic clinical skill for dental graduates.² Knowledge about the procedures as well as intra and post extraction complications and their management can prevent the occurrence of

any untoward event.³ Extraction of teeth is one of the most feared procedures amongst dental students. Being their first contact with surgery, from administering anesthesia to minor complications of the procedure involving crown fracture, root fracture, soft tissue tear during the procedure to major complications like bleeding, allergic reactions, vasovagal shock or worse complications like cardiac compromise is new and challenging



for them. "Preventing a complication from occurring is better than managing one" is a saying which remains time tested. Thus, it becomes important to understand the psychology of the students and guide them accordingly, to prepare them for a step further. To begin with, proper knowledge of the anatomy of the teeth and jaws, mechanics of exodontia, principles of local anaesthesia administration and medication prescription must be highlighted throughout the curriculum. This may prove crucial for a student to judge, select cases and plan their techniques accordingly. Local anaesthesia administration which is one of the basic drugs used in clinical practice, inhibits nerve conduction during dental procedures. In addition to the local anaesthetic agent, the other constituents within the vial, such as vasoconstrictor, preservative etc, play a significant role in achieving anaesthesia. Maximum-dose of local anaesthetics which can be administered, should be known to the operator. Knowledge about local anaesthesia drugs must be well instilled in the budding minds of the interneers and final years. After uneventful completion of the procedure and in some cases prior to commencement of procedure, prescription of medication is crucial. Attitude towards prescribing medications and experience with specific antibiotics develop during these early training years. Thus, it is of fundamental importance that concepts of antibiotic resistance and the indications of prescribing them be instilled early on. ⁴As per literature, complications ranging from fracture of tooth structure or bleeding etc., to severe complications like cardiac emergencies have been reported due to incomplete recording of medical history, improper procedure or lack of follow up. Certain cases may also progress to immediate post-operative death. Such mishaps are being reported quite frequently today, owing to the heightened sensitivity of mass media. It also creates a fear towards the entire science of exodontia.[6] The current study involves

psychological assessment of final year undergraduate students and trainees using a questionnaire study about their outlook and approach to handle pre-operative, intra-operative and postoperative complications.

Methodology

This cross-sectional study was conducted at Government Dental College & Hospital, Hyderabad, KNRUHS, between December 2017 and December 2018 during the academic year. A total of 292 students were selected and divided into two groups, Group A and Group B, based on their academic year. Group A included interns (183) and group B included final year undergraduate students (109). A questionnaire was designed, validated, and distributed to a sample of dental students in order to assess their knowledge and attitudes. Included were data regarding gender and current year of study, as well as multiple-choice questions regarding the most common intra and post-operative complications, and how they approached to prevent them. The data were gathered and analysed using version 25 of SPSS. For data analysis, descriptive statistics and chi-square tests were utilised. A p value less than or equal to 0.05 was considered statistically significant.

Results:

Preoperative, intraoperative, and postoperative problems were separated into groups according to their management strategies in the results. In this study, interns (183) were compared to undergraduate students in their final years (109). There were 292 participants in total. About 26% (76) of these were men, and 74% (216) were women. Interns fall under group A in the current study, while students in their final year fall under group B. Regardless of the case situation, about 79% (232) of participants supported prescribing the antibiotics prophylactically. About 43.49% (127) participants chose syncope as their most common consequence after local anaesthetic,



including 42.6% (78) from group A and 51.3% (56) from group B. The most frequent intraoperative complication was crown fracture, as reported by approximately 36.9% (109) of participants, or 36.6% (67) group A and 37.2% (41) group B. Root fracture came next, followed by roughly 30.8% (90), 30.6% (56) group A, and 31.1% (34) group B. Pain was indicated as being more frequent than other problems by about 19.1% (56) of the individuals. It was statistically significant that these outcomes (.000) About 48.2% (142) of the participants thought that administering anaesthetic again would help to reduce the pain. A statistically significant 41.4% (121) of individuals, including 47.4% of the entire group B population, believed that adequate flap reflection was the most important phase. (p <0.05) The majority of 48.2% (141) of the population, which included members of both groups A and B, chose an endodontically treated tooth as the tooth that was the most challenging to extract. The findings have a statistical significance level of 0.05. A little over 55.1% (161) of the participants thought applying pressure and suturing to stop the bleeding would shorten the procedure. This included 56.8% (104) in group A and 52.2% (57) in group B. Intra-operative bleeding is also known to prolong and complicate the management of the procedure. The most frequent postoperative complication chosen by both groups was dry socket, which was selected by 54.1% (158) of the participants, including 44.8% (82) of group A and 69.7% (76) of group B. A total of 44.6% (130) of the population felt secure enough to handle issues on their own, compared to 29.1% (85) who were at ease reporting them to oral surgery postgraduates and helping them, and 25.6% (75) who were more at ease reporting to the staff.

Discussion:

Internship marks the end of a major phase in a Dental Surgeons life. After which, very few take up speciality in oral surgery and get a better understanding of the complications

and management of exodontia. Majority, either take up other specialities or pursue clinical practice. losing touch with the basics of exodontia, making the basics taught in dental school important. Rationale of the current study is that we come across various reports of the medical negligence following exodontia, making it the need of the hour to understand how our potential clinicians' approach clinical cases, to make their training competent. In this study comparing final years and trainees about the most crucial step in exodontia, it was found that Intern Trainees (Group A) considered a Proper anaesthesia whereas Final year students (group B) found reflection of flap more crucial for a smooth & successful exodontia. Both these responses make knowledge of the Head and Neck Anatomy significant in accordance with a study by HS Brand ², which stated that a national survey in UK reported as much as 22% of final year students in Europe agreed having insufficient understanding of anatomy impacting the success of exodontia procedure. Exodontia is a surgical as well as medical procedure involving antibiotics with analgesics pre or postoperatively and local anaesthesia forms an integral part in a dentist's career, not just in exodontia but beyond. Ranging from the techniques to the composition and the response to each administration, positive or negative, a dental surgeon needs to be aware of it. According to Daniel A Haas ⁷ 60% of the emergencies following LA administration were found to be syncope, followed by hyperventilation (7%). Therefore, the management should focus on increasing oxygenated blood delivery to critical organs. This is consistent with basic cardiopulmonary resuscitation, with which the trainees must be made competent with. This provides the skills to assess, manage most medical emergencies, and the treatment of airway, breathing and circulation (the ABCs of CPR). According to another study by Laxman et al ⁵, 31% of dentists encountered complications during, or after, the



administration of local aesthetics and complications encountered by dentists in their clinics were mainly syncope (43%) followed by the failure of anaesthesia to work (24%). The thought of emergency drugs should come only after the basic steps. Present study has shown syncope and hematoma as the most common complications following local anaesthetic administration. Group A chose syncope whereas group B chose hematoma as the most common complication following LA administration. Management of syncope is something which needs to be addressed as an emergency and every dentist should excel in managing it. Of exodontia involving adequate assessment, administration of antibiotics comes second to anaesthesia, especially given the growth in antibiotic resistance. In a study by abu al samh et al. 4 on surgical tooth extraction, it was found that students and interns mostly (61.2%) prescribed antibiotics. Pericoronitis was also thought to be a sign that antibiotic therapy was necessary by participants (49.5%). Although there wasn't much of a difference between groups A and B because both groups agreed that 79.4% of the participants should be advised to take antibiotics as a preventative measure, this result needs more research to support it and training should place a stronger emphasis on the principles of antibiotic administration. Conversing about the complications faced during the procedure, Venkateshwar et al ⁸ in his study found fracture of tooth as the most common complication, followed by trismus, fracture of cortical plates and dry-socket. The results in comparison to the present study were almost the same, more specifically crown fracture, but group A found pain to be more common intra-operatively compared to group B, which found displacement of teeth into the sinus more common, this answer could have been chosen by group B as it's a worse complication than the others and management of which is just theoretically well known to the student, therefore we can imply that, group B seemed to have a biased

decision due to difference of exposure. According to Santhosh et al ³, dental students found prolonged bleeding to be the most common post extraction complication. In the present study, both the groups found dry socket as the most common complication, which could be because of the patients not following proper post extraction instructions and improper primary alveoloplasty. Haemostasis, can be managed by inspecting the socket to locate for blood vessel tear and adequate pressure over the extraction socket can assist in achieving haemostasis. In case of failure, higher alternatives such as haemostyptics and physical barriers such a bone wax or Abgel (use generic name) can be used. While in clinics, the decision to take up a case and manage seems a wise decision but when things seem to go out of hand, reporting it to someone more experienced should be preferred. Most students in this study preferred to report to the postgraduates for help whereas interneers preferred to report it to the senior staff first. In the present study, results state that most participants of both the groups felt confident enough to manage the complications by themselves. The study concluded that the Over-enthusiastic attempts must be well differentiated from a confident approach. Introduction of newer and advanced teaching aids like extraction techniques on mannequins by incorporating pre-clinicals in oral surgery at undergraduate level, followed by regularly updating the knowledge of procedures, drugs, and anatomy, by regularly attending seminars and workshops to explore and manage complications on medical, surgical and anaesthesia applications should be promoted and conducted by Local Bodies and when in doubt, as the principle goes do no harm and consult for opinion.



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1. Dr.B.Sridhar Reddy, Professor And Head, Department Of Oral And Maxillofacial Surgery, Government Dental College & Hospital, Hyderabad , India
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