

Original Research

Knowledge on use of General Anesthesia to facilitate Dental treatment in house surgeons in Dental colleges: A cross sectional study

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ABSTRACT:

Aim: The study aims to identify current knowledge sedation practice and/ or general anaesthesia among dental surgeons in various dental colleges. **Materials and methods:** Questionnaires were sent by email to 30 house surgeons who were employed in various dental colleges at the time of the study. Particulars on personal status, use of, and training in, conscious sedation techniques and/or use general anaesthesia in grave situations, were sought by the questionnaires. Data were analysed using SPSS 17.0. **Results:** In total 91.5% house surgeons, did not perform any form of treatment under sedation. 90.4% practitioners who treated patients under sedation in their practices attained their sedation training as part of their postgraduate study, with only 30.2% having gained some form of undergraduate training in this field. **Conclusion:** Our results show that oral and maxillofacial surgeons deliver the majority of sedation services in the dental setting as compared to other general or other speciality surgeons.

Key words: general anesthesia, anti-anxiety, safety, experience.

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INTRODUCTION

The American Society of Anaesthesiologists (ASA) outlines general anaesthesia (GA) as “a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulus.” The capability to independently continue ventilatory function is frequently impaired. Patients often require support in maintaining a patent airway, and positive pressure ventilation may be required because of depressed natural ventilation or drug-induced depression of neuromuscular function.¹ Malamed makes the point that, in recent years, enhancements in anti-anxiety medications and conscious sedative techniques have

reduced the need for GA. Malamed provides a list of what he reflects appropriate indications for use of GA, with extreme anxiety and fear, young age, traumatic procedures, mental disability, physical incapacity, senility, and disorientation.² Pohl et al. describes that, in addition to a patient’s incapability to cooperate for routine dental treatment, treatment of injuries, and/or widespread odontogenic infections may require use of GA.³ Intellectual weakening and autism were the most frequently quoted rationale, at 30.2%. Various other handicapping conditions was second, with 24.0%. Dental fear accounted for 21.4%. The remaining 24.4% was divided amongst youth/volume of work,

and non-cooperation/volume of work.⁴ Therapeutic restraint, either physical or mechanical is often effective in enabling dental treatment for behaviourally resilient children. Its boundaries become obvious once individuals grow larger and sturdier. For patients who show more resistance, restraint may not be sufficient for adequate treatment to be completed. In other cases, confrontational patients may actually pose a hazard not only to themselves, but also to the treating dental staff. In these cases, GA can be a suitable option.⁵ In many circumstances, this may require pharmacological sedation, extending from minimal sedation achieved through oral, transmucosal, or inhalation anxiolysis—to deeper forms of sedation and general anesthesia.⁶ The usage of general anaesthesia is considered comparatively safe, and it has been broadly described as a beneficial modality for the treatment of patients

with special requirements. Still, it does carry the risk of substantial morbidity and infrequently mortality.⁷ The surgeon is anticipated to make a diagnosis, have the surgical skills and practice to treat the problem, and the medical knowledge to determine if patients are fit to endure surgery. Lastly, the surgeon and patients must decide on the best anaesthesia modality.⁸ Traditionally, oral surgeons have limited anaesthesia delivery to patients who are classified as an ASA 1 or 2. With changes in reimbursement and a population that is older, frequently obese, and surviving with multiple comorbidities, the surgeon is now challenged to treat patients who are classified as an ASA 3 and even 4 at times. The decision to treat then becomes more complicated. Every surgeon must understand their limits based on training, experience, confidence, and ability.⁸ (Table 1)

ASA PHYSICAL STATUS CLASSIFICATION SYSTEM	
1.	A normal healthy patient
2.	A patient with mild systemic disease
3.	A patient with severe systemic disease
4.	A patient with severe systemic disease that is a constant threat to life
5.	A moribund patient who is not expected to survive without the operation
6.	A declared brain-dead patient whose organs are being removed for donor purposes

Table 1- American Society of Anaesthesiologists (ASA) classification and decide on an appropriate anaesthesia modality.

AIM

The study aims to identify current knowledge sedation practice and/ or general anaesthesia among dental surgeons in various dental colleges.

MATERIALS AND METHODS

Questionnaires were sent by email to house surgeons who were employed in various dental colleges at the time of the study. The questions were open ended and were in English language. The email survey, which consisted of a covering letter explaining the aim of the study and the questionnaire as an add-on. Particulars on personal status, use of, and training in, conscious sedation techniques and/or use general anaesthesia in grave situations, were sought by the questionnaires. Moreover, none of the questions demanded any patient identity or confidential patient information. The data was entered in excel sheet and was verified before proceeding with statistical analysis. The questionnaire consisted of questions regarding 6 basic categories. (Table 2) The questionnaire identified practitioner details and, if house surgeons indicated they did not use patient sedation, produced their reasons for the same. Those who indicated they did perform sedation in their practices were asked about the age of patients treated (adults/children); the type of sedation technique used, training received for sedation and matters concerning standards of care, the use of sedation services in dentistry, and the need for a plan to promote sedation practices

Statistical Analysis

Data were analysed using SPSS 17.0. Independent samples t-tests were performed using Statistics Calculator (Stat Pac) to assess statistical differences between frequencies. Statistical significance was set at a P value of 0.05.

Questionnaire categories	
1	General experience in dentistry
2	Training in the field of sedation
3	Preferred type of sedation (IVS, HIS, Oral sedation)
4	Standards of care (patient consent, pre-operative and post-operative instructions, presence of assistant and/or staff nurse to handle patients)
5	Issues regarding plans to promote sedation practice (guidelines, promotion of education about anaesthesia)
6	Reasons for not practicing (if not practicing any sort of sedation)

Table 2- Categories of the questionnaire- based survey exploring the knowledge as well as experience of the house surgeons to handle cases of general anesthesia as well as other modes of sedation.

RESULTS

In this questionnaire- based survey, had in total 30 dental house surgeons in which 20 house surgeons were male, 10 were female. In total 91.5% house surgeons, did not perform any form of treatment under sedation. Practitioners who specified that they do not perform treatment under sedation were requested to report the key reason for not using sedation. The most common and significant reason reported for not executing sedation was absence of training in the field, whereas the lack of sedative facilities came second. In case of child patients, IHS (Inhalational sedation) was performed majorly followed by oral sedation. IVS (Intravenous sedation) was the least used sedation form with children. For adults, IVS was preferred, while oral sedation and IHS came second, respectively. In terms of training, 90.4% practitioners who treated patients under sedation in their practices attained their sedation training as part of their postgraduate study, with only 30.2% having gained some form of undergraduate training in this field. The majority of practitioners carrying out sedation reported seeking patient consent beforehand IVS 65.8% in their practices, which was obtained by the specialist anaesthetist or his/her assistant.

DISCUSSION

All three techniques (IVS, IHS and Oral sedation) were extensively used by Specialised dental surgeons as compared to general house surgeons. This would indicate that Specialized surgeons/ Oral surgeons, are more conscious of the fact that one technique cannot serve the requirements of all patients as well as that access to many techniques which will decrease the probability of failures. However, merging sedation techniques may increase the probability of adverse effects, such as respiratory depression and nausea, which also appears to indicate that oral surgeons are more prepared to deal with these adverse effects than any other house surgeons.⁹ As a minimum, 7% of practitioners in our survey had received no postgraduate training at all. Further, those who had undergone some kind of postgraduate training declared postgraduate training that did not result in a qualification that would allow them to complete sedation by themselves, without the need for the supervision of a specialist anaesthetist/assistant.¹⁰ Subsequently, nearly all the practitioners carrying out sedation indicated that they understood the advantages of preparing clear guidelines, which was anticipated to overcome the drawbacks of practicing sedation. Such rules can be generated by defining standard requirements regarding sedation types; patient types; patient assessment; preoperative preparation; practitioner training; the skills, drugs, and equipment required, recovery, discharge, emergency supervision, monitoring and documentation.¹⁰ Additional, pre-procedural information and counselling improves patient satisfaction, decreases risks, and may be important in procurement of informed consent.¹¹

CONCLUSION

Finally, our results show that oral and maxillofacial surgeons deliver the majority of sedation services in the dental setting as compared to other general or other speciality surgeons. More knowledge as well as undergraduate training is required to overcome these kinds of situations later in their practice. Patient consent is also equally important so that they understand the risks, if any associated with treatment under general anaesthesia.

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