

Knowledge and Awareness of Undergraduate Dental Students About Conscious Sedation in Dental Practice: A Cross Sectional Survey Study

Naseemoun Shaik¹, Sriharsha Pudi²

¹Department of Pedodontics and Preventive Dentistry, ²Department of Prosthodontics and Crown & Bridge, MNR Dental College and Hospital, Sangareddy, Hyderabad, India

Corresponding Author: Naseemoun Shaik

DOI: <https://doi.org/10.52403/ijrr.20230469>

ABSTRACT

Aim: Dentists identify treating nervous patients as a major source of stress. Most dentists are keen to deal with this problem. The use of drugs to help patients deal with their fears has been extensively researched and a number of techniques have become established in dental practice throughout the world. The aim of the present study is to evaluate the knowledge and attitude of the dental practitioners towards the conscious sedation and its implementations.

Methodology: The present cross-sectional study was carried out among 300 dental practitioners in Telangana state. The questionnaire comprised ten questions regarding the knowledge attitude of the dental practitioner about Conscious sedation and its implementations.

Results: The obtained results were analyzed and interpreted in percentages. About 92.4% Dental Practitioners stated that they are willing To Take Training for conscious sedation for better patient management.

Conclusion: When practicing sedation in a dental setting, awareness of limitations is necessary.

Keywords: Conscious sedation, dental practitioners, sedative.

INTRODUCTION

Dental offices are places of great anxiety, and the treatment is often marked by high levels of stress, which can be challenging for both the child and the professional. Fear or anxiety was the reason why 5-24% had

ever missed, cancelled, or avoided a dental appointment. [1-3] Pain and suffering due to untreated diseases can lead to problems in eating and speaking and attending to learning. Control of child behavior can be achieved through basic and advanced techniques.[4]behavioral techniques could be useful in reducing anxiety, there is a part of the pediatric patients that are not able to tolerate dental procedures and may require alternative approaches, such as conscious sedation with nitrous oxide and oxygen or general anesthesia. Conscious sedation is a combination of medicines to help as relax (a sedative) and to block pain (an anesthetic) during a dental procedure. Conscious inhalation sedation with nitrous oxide and oxygen is the gold standard in outpatient dentistry practice, for the rapid establishment and the equally rapid exhaustion of the sedative effect. [5]

Despite advances in dental techniques and technologies conscious sedation is still not well established and used only in special cases. The aim of the present study is to evaluate the knowledge and attitude of the dental practitioners towards the conscious sedation and its implementations.

Methodology:

The present study was a questionnaire based cross-sectional study carried out among 300 dental practitioners in Telangana state. The study plan was approved by the institutional ethical committee. The sample size was

estimated using the convenience sampling technique. With the help of existing literature, a self-designed, structured questionnaire form was developed. A pilot study was done on 30 subjects to check the validity and comprehension of each questionnaire of the study. The mode of data collection was an online questionnaire using Google forms. An online questionnaire was distributed using a combination of convenience and snowball sampling. The questionnaire comprised ten questions regarding the knowledge attitude of the dental practitioner about Conscious sedation and its implementations. The questionnaire consists of two sections comprising demographic details, ten questions regarding knowledge and awareness about Conscious sedation. Questionnaires with Incomplete data were excluded from the study. The collected data were tabulated and statistically analyzed.

RESULTS

The obtained results were analyzed and interpreted in percentages. A 300 dental practitioners participated in the study among them 206 were females, 94 were males. 74% of dentist in Hyderabad stated that local anesthesia is the most commonly used Anesthesia techniques in the dental office for patient care. 90 percent of the dentist prefers working under local anesthesia then General Anesthesia for minor procedure. 53.5% dentist reported that they didn't attend any type of demos on conscious sedation and recommended Training with licensure. 62.8% agreed that they have knowledge on sedation but clinical skills are insufficient to work on patients. About 92.4% Dental Practitioners Willing To Take Training for conscious sedation. 74.7% Stated Inhalational nitrous oxide Sedation Over Others route of sedation, with the minimal post sedation effects.

DISCUSSION

Prevalence of dental anxiety in children and adolescents ranges from about 5% to about 24% all over the world.[6-8] Several factors consistently emerge as contributing factors

to high dental anxiety. Gender plays an important role, as women typically report higher overall levels of dental fear and more fear of specific dental procedures than men, even though studies suggest that women seek more regular dental care than men. Individuals high in dental anxiety not only avoid regular dental care, but may also avoid care in the case of a dental emergency, such as a toothache. Due to avoidance of dental care, it is not surprising that those with high dental anxiety often experience significant oral health problems. General anesthesia is the most common modality for managing uncooperative children. [9] However, the morbidity and mortality risks associated with general anesthesia are considerably higher compared with conscious sedation. Conscious sedation is defined as, "A medically controlled state of depressed consciousness that allows the protective reflexes to be maintained; retains the patient's ability to maintain a patent airway independently and continuously; and permits an appropriate response by the patient to physical stimulation or verbal command." Sedation drugs can be administered through various routes such as oral, nasal, intramuscular, intravenous (IV), subcutaneous, and inhalational routes. Nitrous oxide is a gas and used as the inhalational anesthetic agent. It has anxiolytic and sedative properties with varying degree of analgesia and muscle relaxation. Nitrous oxide has low tissue solubility and high minimal alveolar concentration which enables rapid onset of action coupled with a rapid recovery; thus ensuring a controlled sedation and quick return to normal activities. It has a long history of safe use providing moderate sedation for minimally moderately painful procedures.

In India, conscious sedation is not effectively and efficiently practiced as in other countries, this is due to less importance is given due to lack of training. A study by S Walley et al in 2015 [10] stated there is a need to increase the

provision of inhalational sedation training within an UG curriculum which is in accordance with our study.

Assessment of a dental student's clinical knowledge via multiple-choice items, short answer questions is essential in providing feedback and motivation for continued learning, as well as ensuring patient safety. Conscious sedation is a technique meant for dealing with dental phobia and should not be considered an alternative to effective local anesthesia or good behavioral management. Route of administration and the drug should be selected on an individual patient basis. Dental treatment performed under sedation has allowed increasing numbers of anxious

individuals to receive necessary dental care and improve their immediate oral health. Importance of adequately trained staff in an area adequately equipped with monitoring tools along with importance of detailed pre sedation assessment cannot be overemphasized.

CONCLUSION

Pain and suffering due to untreated diseases can lead to problems in eating and speaking and attending to learning. Then effective pain control and satisfactory treatment completion can be difficult for the dental practitioner and patient. When practicing sedation in a dental setting, awareness of limitations is necessary. Conscious sedation should be considered as a part of curriculum in dentistry and Hands-on demonstrations should be increased. Many discussions and debates should happen in such stages so that legal implications should occur for conscious sedation practice by a dentist.

Declaration by Authors

Ethical Approval: Approved

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. S. Alaki, A. Alotaibi, E. Almadadi, and E. Alanquri, "Dental anxiety in middle school children and their caregivers: prevalence and

- severity," *Journal of Dentistry and Oral Hygiene*, vol. 4, pp. 6–11, 2012.
2. G. Klingberg, U. Berggren, and J. G. Nor'en, "Dental fear in an urban Swedish child population: prevalence and concomitant factors," *Community Dental Health*, vol. 11, no. 4, pp. 208–214, 1994.
3. Popescu, Sanda Mihaela et al. "Dental Anxiety and its Association with Behavioral Factors in Children." *Current Health Sciences Journal* 40 (2014): 261 - 264.
4. Carbone M, Manno E. Conscious sedation with nitrous oxide-oxygen in Italian dentistry oral surgery 2012;11(5)(S1):S4-S13.
5. Zaffina et al. Nitrous oxide occupational exposure in conscious sedation procedures in dental ambulatories: a pilot retrospective observational study in an Italian pediatric hospital. *BMC Anesthesiology* (2019) 19:42. <https://doi.org/10.1186/s12871-019-0714-x>.
6. S. Alaki, A. Alotaibi, E. Almadadi, and E. Alanquri, "Dental anxiety in middle school children and their caregivers: prevalence and severity," *Journal of Dentistry and Oral Hygiene*, vol. 4, pp. 6–11, 2012.
7. G. Klingberg, U. Berggren, and J. G. Nor'en, "Dental fear in an urban Swedish child population: prevalence and concomitant factors," *Community Dental Health*, vol. 11, no. 4, pp. 208–214, 1994.
8. S. M. Popescu, I. T. Dascalu, M. Scriciu, V. Mercut, I. Moraru, and M. J. Tuculina, "Dental anxiety and its association with behavioral factors in children," *Current Health Sciences Journal*, vol. 40, no. 4, pp. 261–264, 2014.
9. Peter Milgrom, J. T. Newton, Carole Boyle., et.al. The Effects Of Dental Anxiety And Irregular Attendance On Referral For Dental Treatment Under Sedation Within The National Health Service In London. *Community Dent Oral Epidemiol.* 2010 October ; 38(5): 453–459. doi:10.1111/j. 1600-0528.2010.00552.x.
10. Walley S, Albadri S. Undergraduates' perceptions of the value of practical inhalation sedation experience in a UK dental school. *Eur Arch Paediatr Dent* 2015;16(5):371-376.

How to cite this article: Naseemoun Shaik, Sriharsha Pudi. Knowledge and awareness of undergraduate dental students about conscious sedation in dental practice: a cross sectional survey study. *International Journal of Research and Review*. 2023; 10(4): 554-556. DOI: <https://doi.org/10.52403/ijrr.20230469>
