

Knowledge And Awareness Regarding Dental Treatment Under Conscious Sedation Among General Dental Practitioners In Ahmedabad City.

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Abstract:

Background: Behaviour management is an integral part of Pediatric Dentistry. Fearful patients can prove to be a hassle to treat. Conscious Sedation (CS) is an emerging tool that makes it easy to treat such patients. Nitrous oxide sedation is pivotal in reducing stress and anxiety in children and thus promises better clinical outcomes.

Materials and Methods: A close-ended questionnaire was designed to assess knowledge and awareness of Conscious Sedation among general dental practitioners of Ahmedabad city. Questionnaires were provided to the participants via e-mail and physical printed versions to those participants who resided in the city.

Results: The age range of participants was between 21 to 39 years. Out of which 58% were male and 42% were female. 97% of participants were aware of the term Conscious Sedation. They were also aware of N₂O being used in the CS unit. However, there was no significant association between the knowledge related to Conscious Sedation and years of dental experience. Only 30% of participants attended a clinical workshop on Conscious Sedation. 97% of participants were willing to learn about it in the future.

Conclusion: The majority of the general dental practitioners were aware of the term CS, but not about its working mechanism. However, they felt that the CS unit would give anxiety-free treatment.

Key Word: Conscious Sedation, Anxiety, Dental Treatment, Ahmedabad, Gandhinagar

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I. Introduction

Since dental treatment is perceived as a painful experience, anxiety, fear, and pain remain significant barriers to care for many dental patients^{1,2}. Conscious Sedation is practiced to alleviate anxiety in dental patients (both children and adults), so they can receive dental treatment.^{2,3,4}

Conscious Sedation is a state of relaxation or minimally depressed level of consciousness induced by pharmacological agents, whereby a patient retains the ability to maintain a patent airway independently and respond appropriately to physical stimulation and verbal commands^{5,6}. Nitrous oxide/oxygen inhalational sedation and intravenous sedation with midazolam are the most widely used sedative agents in dental practice⁶. Conscious Sedation is becoming a useful addition and popular practice in the treatment of dental patients due to advances in anesthesia safety, changes in patient attitudes, and increasing treatment needs.³

However, dentists' lack of knowledge about sedation appears to be a factor affecting the practice of dental sedation.⁶ In the UK, approximately 27% of dentists were reported to have administered sedatives to their patients.⁷, whereas a study of 50 dentists in Northern Ireland found that less than a quarter of them administered sedatives.⁸ Monisha et al.⁹ advocated that as few as 10% of dentists in Chennai, India provided sedation. The low level of use of sedation in dentistry has been largely attributed to a lack of proper training, proper sedation facilities and the additional cost of purchasing equipment.^{8,10,11} Even though Conscious Sedation has become a standard part of dental practice worldwide, it is rarely used during dental procedures.

A paucity of information regarding the level of knowledge and practice of Conscious Sedation among dental professionals renders it difficult to ascertain the exact reasons for its limited use in Ahmedabad. Therefore, this study was conducted to assess the knowledge and practice of Conscious Sedation in dentistry among dental practitioners in Ahmedabad city.

II. Material And Methods

A cross-sectional survey was conducted, among general dental practitioners of Ahmedabad City, Gujarat. All general dental practitioners were included in the survey. The dentists who were not practicing dentistry and dentists with exclusive practice (Pediatric dentist, Orthodontist, Prosthodontist, Periodontist, Endodontist and Oral surgeon) were excluded from the survey. A close-ended questionnaire was prepared. The questionnaire consisted of 14 questions to assess the knowledge and awareness about Conscious Sedation. The first part of the questionnaire contained general information regarding name, age, sex and years of experience. The second part consisted of questions regarding, CS unit like which gas was used in CS unit, could CS decrease anxiety, its working mechanism, any risks involved and whether it could replace GA. Questionnaires were sent to all general dental practitioners via e-mail and physical printed versions were provided to those who resided in Ahmedabad city. The questionnaire was validated and an information sheet was attached to it.¹² The data collected from these participants was coded and entered into a computer system using IBM SPSS software version 20.

III. Result

An overall response of 106 general dental practitioners was obtained. Out of which 42% were male and 58% were females.

Age (years)	Gender		Total (%)
	Male (%)	Female (%)	
20-25	37%	63%	100%
26-30	44%	56%	100%
31-35	50%	50%	100%
36-40	67%	33%	100%
Total	42%	58%	100%

Table 1: Age & Gender wise distribution of participants

An overall response of 106 general dental practitioners was obtained. Out of which 42% were male and 58% were females.

Sr No	Variables	Response	Percent (%)
1	Are you aware of the term Conscious Sedation?	No	1
		Yes	99
2	Do you think it requires training to operate the CS unit?	No	4
		Yes	96
3	Are you aware of the working mechanism of CS unit?	No	30
		Yes	70
4	Have you ever assisted with any CS procedure?	No	46
		Yes	54
5	Do you think a lot of risk are associated with operating CS unit?	No	48
		Yes	52
6	Do you think CS is an effective tool in reducing patient anxiety?	No	1
		Yes	99
7	Do you think CS is an effective tool in managing mentally disabled child?	No	18
		Yes	82

Table 2: Response of participants related to awareness of CS

Table 2 depicts that 99% of participants were aware of the term Conscious Sedation. 96% of participants thought that it requires training to operate a CS unit. 70% of participants were aware of the working mechanism of Conscious Sedation unit. Whereas, only 54% of practitioners have assisted any CS procedure in their lifetime. 52% of participants felt that there were a lot of risk associated with operating Conscious Sedation unit. Almost all the practitioners said that the CS was an effective tool in reducing patient anxiety. While 82% of participants thought that CS was an effective tool in managing mentally disabled child.

Years of experience	Gas used		Total (%)
	N2O (%)	O2 (%)	
<3 years	97%	3%	100%
3-5 years	97%	3%	100%
>5 years	100%	0%	100%
Total	97%	3%	100%
Chi square value=0.663, p = 0.718 (non-significant)			

Table 3: Relationship between years of experience and awareness about gas used in Conscious Sedation

Table 3 depicts that, all the practitioners above 5 years of experience were aware that N2O gas was used in Conscious Sedation. 97% of practitioners with 3-5 years of experience and also less than 3 years of experience were aware of that gas. However, the difference was statically non-significant.

Years of experience	Response		Total (%)
	No (%)	Yes (%)	
<3 years	51%	48%	100%
3-5 years	74%	25%	100%
>5 years	40%	60%	100%
Total	55%	44%	100%
Chi square value =0.663, p = 0.718 (non-significant)			

Table 4: Relationship between years of experience and the notion of requiring a huge capital investment for in-house CS unit

Table 4 depicts that 60% of participants who had more than 5 years of experience believed that it required a huge capital investment to have in house Conscious Sedation unit, while it was 25% for 3-5 years of experience and 48% for less than 3 years of experience. However, the difference was statically non-significant.

Years of experience	Response		Total (%)
	No (%)	Yes (%)	
<3 years	64%	36%	100%
3-5 years	59%	41%	100%
>5 years	46%	54%	100%
Total	60%	40%	100%
Chi square value =0.663, p = 0.718 (non-significant)			

Table 5: Relationship between years of experience and the notion that conscious sedation can replace GA

Table 5 depicts that 54% of practitioners who had more than 5 years of experience thought that Conscious Sedation could replace GA, while 59% of practitioners with 3-5 years of experience and 64% of practitioners with less than 3 years of experience felt that Conscious Sedation could replace GA. However, the difference was statically non-significant.

Years of experience	Response		Total (%)
	No (%)	Yes (%)	
<3 years	3%	97%	100%
3-5 years	0%	100%	100%
>5 years	46%	54%	100%
Total	8%	92%	100%
Chi square value =0.663, p = 0.718 (non-significant)			

Table 6: Relationship between years of experience and willingness to learn about conscious sedation in the future

Table 6 shows the relation between years of experience and whether the practitioners were willing to learn about CS in the future. Almost all the Practitioners (97%) with less than 5 years of experience said that they want to learn about Conscious Sedation in the future. Only 54% of participants who had more than 5 years of experience showed interest in learning Conscious Sedation in the future. All the participants (100%) who had 3-5 years of working experience wanted to learn about CS in the future. However, the difference was statically non-significant.

IV. Discussion

Conscious Sedation is a technique that is meant for dealing with patients with dental phobia and anxiety, it should not be considered an alternative to effective local anesthesia but can be used as an adjunct in behavioral management.

Based on this survey study, 99% of practitioners were aware of the term Conscious Sedation unit. In a study conducted by Sales N et al in Tanzania (2021), more than half (59.9%) of participants had satisfactory knowledge regarding sedation in dentistry.¹³ In a study carried out by Seshadri VR et al in Chennai (2022), the percentage of participants that were aware of the Conscious Sedation was only 37%.¹² The main reason behind this could be a lack of knowledge of CS and also the cost. The data in our past study revealed the changing trends and increase in awareness about Conscious Sedation. In Ahmedabad city, it seems evident that general dental practitioners were keeping pace with the current trends in dentistry.

52% of participants felt that there was risk associated with operating Conscious Sedation unit. While 82% of participants thought that CS was an effective tool in reducing patient anxiety. A similar study done by Hamzah S et al in Malaysia (2023), reported that the majority of their participants agreed that Conscious Sedation was beneficial in allaying dental anxiety.¹⁴

Only 30% of general dental practitioners attended clinical workshops on Conscious Sedation. The reason behind this could be attributed to the fact that clinical workshops and hands-on were promoted among specialty branches and General dental practitioners seemed to be aware of it. A similar study conducted was by Naseem S et al in Hyderabad (2023), where 92% of dentists did not attend any type of demonstration on Conscious Sedation. 62.8% agreed that they had knowledge of sedation but clinical skills were insufficient to work on patients. About 92.4% of dental practitioners were willing to take training for Conscious Sedation.¹⁵ The reason could be attributed to the fact that CS would increase their patient flow by providing anxiety-free dental treatment.

Based on this survey study only 42% of participants felt that Conscious Sedation could replace General anaesthesia. In a study conducted by Chawla K et al in Vadodara (2021), 78.5% were in favor of using Conscious Sedation as a behavior management technique in pediatric dental practice, irrespective of their qualification or years of experience.¹⁶

The current study was limited to only Ahmedabad city in Gujarat. A nationwide survey with a larger sample should be undertaken to determine the thoughts and perceptions of practitioners regarding the use of Conscious Sedation for children as well as adults.

V. Conclusion

The present survey was conducted to establish baseline data regarding the perceptions of general dentists about Conscious Sedation. It could be concluded that the majority of general dental practitioners were aware of the term CS unit and nitrous oxide (N₂O) being used. They felt that the CS unit would give anxiety-free treatment.

Many were not aware of the working mechanism of the CS unit. However, they intended to learn about it in the future. However, attention needs to be given to the subject with more hands-on experience under supervised well-trained professionals along with the implementation of short certified courses as a part of continuing dental education. This will enable the dentists to acquire, learn and practice the techniques with confidence.

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