To Assess the Prevalence of Dental Anxiety among Patients Visiting a Department Of Conservative Dentistry in Chhatrapati Sambhajinagar, Maharashtra

[1]Dr. Sadashiv daokar *(Professor & HOD , Department of Conservative Dentistry & Endodontics)*
[2]Dr. Apurva Mali *(Postgraduate student, Department of Conservative Dentistry & Endodontics)*
[3]Dr .Kalpana Pawar *(Professor Department of Conservative Dentistry & Endodontics)*
[4]Dr. Dhanshri Padwal *((Postgraduate student , Department of Conservative Dentistry & Endodontics)*
[5]Dr. Shubhankar Nandkhedkar *(Postgraduate student , Department of Conservative Dentistry & Endodontics*
[6]Dr.Nikita Sarate *(Postgraduate student , Department of Conservative Dentistry & Endodontics)*

Abstract –
Background -
Anxiety before dental treatment is well recognized problem in the population avoiding dental care. Tense and anxious patients disrupt scheduling, make treatment difficult and arouse uncomfortable feelings in the dentist. The extent of needle phobia and its effect on the patients in the community is the topic which still remains largely unexplored. Thus ,the present study was planned to check the nature of the anxiety among dental college patients by using Modified Dental Anxiety Scale (MDAS). The Modified Dental Anxiety Scale (MDAS) is a brief, self-complete questionnaire consisting of five questions and summed together to produce a total score ranging from 5 to 25. It has reasonable psychometric properties, low instrumental effects and can be integrated into everyday dental practice as a clinical aid and screen for dental anxiety.
 Materials and methods – The study was carried with the help of questionnaires specially formulated for the study. The study included 200 patients came to the outpatient department of the dental college. Most of the male and female participants had experience of Dental phobia due to experience shared by parents or relatives.
The purpose of this study is to determine the assessment of changing levels of Dental anxiety with the help of (MDAS)i.e. modified dental anxiety scale.
KEYWORD - prevalence, anxiety scales (MDAS), dental phobia

I.   INTRODUCTION

Dentophobia is manifested by very intense anxiety, accompanied by strong symptoms from the autonomic nervous system. The consequence of increased anxiety is a worsening of oral hygiene, because a patient who is "obsessively" afraid of dental treatment tends to avoid appointments, and if the patient decides to be treated, it is a very traumatic experience for the him or her, and this adversely affects and aggravates their general well-being and quality of life.The poor physical health faced by people with mental illness has been the subject of growing attention, but there has been less focus on the issue of oral health even though it is an important part of physical health. This article discusses the two-way association between oral and mental health. In one direction, the prospect of dental treatment can lead to anxiety and phobia. In the other, many psychiatric disorders, such as severe mental illness, affective disorders, and eating disorders, are associated with dental disease: These include erosion, caries, and periodontitis. Left untreated, dental diseases can lead to teeth loss such that people with severe mental illness have 2.7 times the likelihood of losing all their teeth, compared with the general population. Possible interventions include oral health assessments using standard checklists that can be completed by nondental personnel, help with oral hygiene, management of iatrogenic dry mouth, and early dental referral.[1] Irregular visits or discontinuations undermine the effectiveness of therapy and rehabilitation and can delay recovery.[2]

Given the above, an assessment of dental anxiety level provides very valuable information for the dentist, because it can affect the entire process of treatment and patient care, including the appointment schedule, an adaptation visit, plan of and proposed treatments, anesthesia techniques or the necessity of pharmacological premedication. Among the many methods most commonly used are psychometric scales, which are standard

---

patient-completed questionnaires. The Modified Dental Anxiety Scale is a brief, 5 item questionnaire with a consistent answering scheme for each item ranging from 'not anxious' to 'extremely anxious' . It is summed together to construct a Likert scale with a minimum score of 5 and a maximum of 25. [3-6]

It has good psychometric properties, is relatively quick to complete and scoring is easy . [7,8]

A cut-off value of 19 and above has been determined empirically to indicate high dental anxiety that may require special attention by dental personnel. The measure has been used in research studies and helped to contribute to our knowledge of this important dental related psychological construct. It is one of a number of instruments that have been designed to help study the properties of this unpleasant feeling.[9]

Numerous studies indicate that the primary source of dental anxiety is fear of pain during extraction, anesthesia or drilling.[10]

Simplified scales are used to assess the severity of pain in many medical fields, but primarily in oncology, palliative medicine and anesthesiology. These allow the patient to quickly and reliably record the intensity of the pain. These scales include the Visual Analog Scale (VAS). The VAS is a segment of 10 cm: from 0 (no pain) to 10 (unbearable pain). The patient's task is to mark with a vertical line the point on the scale corresponding to the current intensity of pain. Similar to the subjective feeling of pain is the feeling of fear. Unfortunately, only individual reports can be found in the available literature in which the VAS (taken from the pain assessment methodology) has been used to assess anxiety in hospitalized patients awaiting surgery.[11]

Anxiety and fear are subjective experiences that vary in terms of intensity, severity, and the way they are expressed by individuals. Therefore, objective quantification of these experiences is not an easy task. Furthermore, anxiety itself has various characteristics, making it challenging to fully understand and comprehend. Dental anxiety is a common concern in dental practice.

Available assessment tools for measuring anxiety include the Corah Dental Anxiety Scale, Modified Dental Anxiety Scale (MDAS), Dental Concerns Assessment, Dental Anxiety Inventory, Dental Fear Survey, State-Trait Anxiety Inventory (STAI), General Geer Fear Scale, and Getz Dental Belief Survey.

Most anxiety evaluation tools have multiple questions with Likert-scale scoring. Administration of multi-item questionnaires has several disadvantages: busy clinical practices have time constraints; responses on a self administered multi-item questionnaire might depend on individual interpretation and perception; less educated or uneducated people might not be able to read or comprehend the questions and may thus require trained interviewers; some patients might regard a long questionnaire as irrelevant or unnecessary, particularly when they are suffering from severe pain; too few or too many responses might confuse a respondent; some complex continuous subjective behaviors cannot be explained in categorical terms; and information on scale items might be lost when scores are summed, which can lead to incorrect conclusions (1-3). The single-item visual analog scale (VAS) is simple and widely used in psychosocial measurement to assess subjective phenomena. It is easier to administer, faster, and less burdensome for patients and results in high response rates.

It was described and used by Aitken in 1969, popularized for measurement of pain by Huskisson (4), and shown to be reliable, valid, and highly responsive. Epidemiological and clinical studies extensively utilize the VAS to measure subjective experiences like pain, panic, depression, health states, tension headache, fatigue, anxiety, psychological distress, quality of life, and worry. It takes less than 1 min to complete (5). The VAS is usually presented as a 10-cm horizontal line, with each end-point clearly marked. Subjects are asked to mark the point on the line that represents how they feel about the phenomenon at that time. The distance from one end of the line to the participant's mark is measured and provides a quantitative variable that can be used in statistical analysis.[12]

Dental anxiety and fear (DAF) can significantly lower a patient's quality of life in a number of ways. Nevertheless, the influence of this issue is often underestimated. When was DAF first recognized? The fact that nitrous oxide, known as laughing gas, was first discovered as an anesthetic by the dentist Horace Wells suggests that the history of DAF is also longstanding.[13]

DAF is a global issue that affects people worldwide. While there may be variations in the prevalence of DAF among different races, countries, and cultures, research papers on the same topic have been published worldwide.[14]

Moreover, there are over dozens of DAF scales that have been developed to date, and they exist in various countries around the world. This signifies that a significant number of individuals are suffering from DAF, and many dentists in each country are also concerned about addressing this issue. The degree held by dentists is referred to as Doctor of Dental Surgery (DDS). As dental treatments primarily involve surgical interventions, they can potentially trigger "needle phobia" and "blood phobia." In addition, there is a term called "dental phobia" that specifically addresses the fear of dentistry. This term emphasizes that dental anxiety is a distinct issue that dentists

should never overlook or underestimate. Anxiety is a subjective experience that is difficult to quantify. However, there are three methods through which anxiety can be measured: self-report (e.g., questionnaire), physiological measures (e.g., heart rate, amount of saliva, sweat on palms), and overt behavior measures (e.g., avoiding eye contact, fidgeting).[15]

Among these methods, using a questionnaire for self-reporting anxiety measurement is strongly associated with assessing subjective experiences of anxiety and pain in patients.[16]

As a result, numerous dental anxiety scales have been developed over time, and the process of developing such scales is still ongoing. As a dentist, understanding dental anxiety scales can be helpful in comprehending and managing patient anxiety and fear. Therefore, the goal of this review is to analyze and contrast the numerous dental anxiety scales that have been produced thus far in order to determine their strengths and weaknesses.[17]

The Modified Dental Anxiety Scale is a brief, 5 item questionnaire with a consistent answering scheme for each item ranging from 'not anxious' to 'extremely anxious'

Here, the aim of the study is to determine the dental anxiety in patients attending the Department of Conservative dentistry and endodontics in CSMSS dental college, Chh.Sambhajinagar.

II.   MATERIALS AND METHODS

The study was carried out in the Department of Conservative Dentistry and Endodontics between December – February (2023-2024).

Patients of age group 18 and above were included in the study.

The sample size of total 200 patients were selected.

While sitting in the dental chair awaiting dental treatment, each patient was asked to fill out questionnaire. I had explained them about aims and purpose of survey. None of the patients were taking any sedative, hypnotic or anti-psychotic drugs.

The questionnaire format was in two languages i.e. Maharashtrian's local language (Marathi)and in English.

Inclusion Criteria -
   - Scale for adult
   - Only for dental use

Exclusion Criteria -
- Scale for adolescent/child
 - Not for dental use

Patients awaiting a dentists appointment were asked to complete a survey containing
1.Informed consent
2.Demographics
3.questions related to source of most unpleasant experiences during treatment.
4.a Modified scale of anxiety assessment which consist of 5 questions and its responses were recorded from not anxious to extremely anxious.
The questionnaire format was designed as follows –

DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

Patients details –
NAME –
AGE –
SEX-
OCCUPATION –
OPD NO. –
ADDRESS –

25

1. If you went to your Dentist for TREATMENT TOMORROW, how would you feel?

| Not Anxious ☐ | Slightly Anxious ☐ | Fairly Anxious ☐ | Very Anxious ☐ | Extremely Anxious ☐ |

1. If you were sitting in the WAITING ROOM (waiting for treatment), how would you feel?

| Not Anxious ☐ | Slightly Anxious ☐ | Fairly Anxious ☐ | Very Anxious ☐ | Extremely Anxious ☐ |

1. If you were about to have a TOOTH DRILLED, how would you feel?

| Not Anxious ☐ | Slightly Anxious ☐ | Fairly Anxious ☐ | Very Anxious ☐ | Extremely Anxious ☐ |

1. If you were about to have your TEETH SCALED AND POLISHED, how would you feel?

| Not Anxious ☐ | Slightly Anxious ☐ | Fairly Anxious ☐ | Very Anxious ☐ | Extremely Anxious ☐ |

1. If you were about to have a LOCAL ANAESTHETIC INJECTION in your gum, above an upper back tooth, how would you feel?

| Not Anxious ☐ | Slightly Anxious ☐ | Fairly Anxious ☐ | Very Anxious ☐ | Extremely Anxious ☐ |

Instructions for scoring (remove this section below before copying for use with patients)

The Modified Dental Anxiety Scale. Each item scored as follows:

Not anxious = 1
Slightly anxious = 2
Fairly anxious = 3
Very anxious = 4
Extremely anxious = 5

Total score is a sum of all five items, range 5 to 25: Cut off is 19 or above which indicates a highly dentally anxious patient, possibly dentally phobic

III. Results

TABLE NO - 1

MDAS Score	Frequency	Percent
Not Anxious	27	13.50%
Slightly Anxious	36	18.00%
Fairly Anxious	41	20.50%
Very Anxious	52	26.00%
Extremely Anxious	44	22.00%
Total	200	100.00%
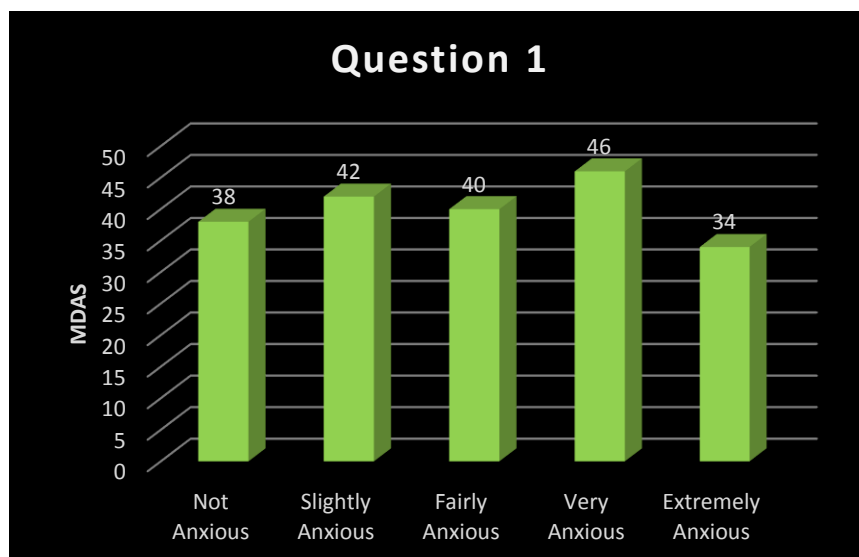
TABLE NO- 2

MDAS Score	Frequency	Percent
Not Anxious	27	13.50%
Slightly Anxious	36	18.00%
Fairly Anxious	41	20.50%
Very Anxious	52	26.00%
Extremely Anxious	44	22.00%
Total	200	100.00%
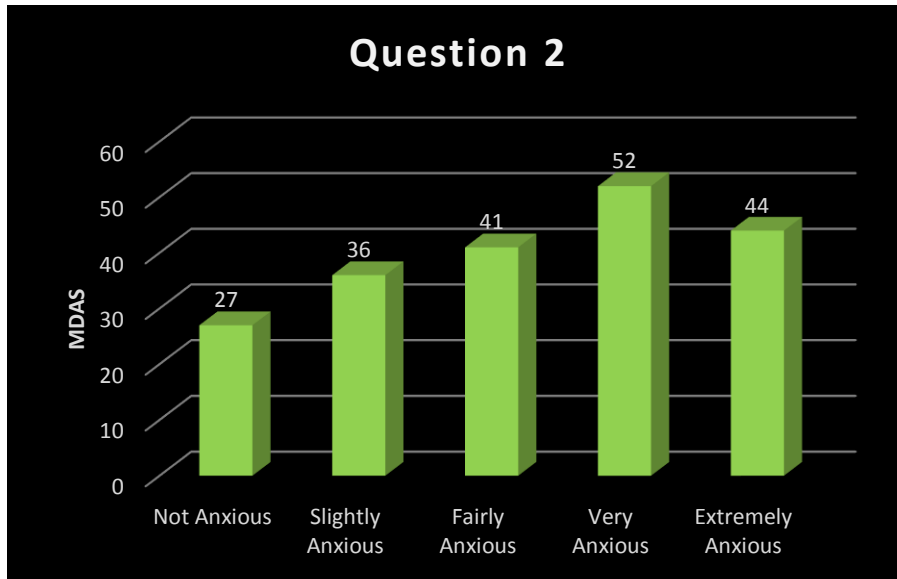
TABLE NO – 3

MDAS Score	Frequency	Percent
Not Anxious	35	17.50%
Slightly Anxious	48	24.00%
Fairly Anxious	64	32.00%
Very Anxious	25	12.50%
Extremely Anxious	28	14.00%
Total	200	100.00%

TABLE NO-4

MDAS Score	Frequency	Percent
Not Anxious	40	20.00%
Slightly Anxious	71	35.50%
Fairly Anxious	22	11.00%
Very Anxious	36	18.00%
Extremely Anxious	31	15.50%
Total	200	100.00%
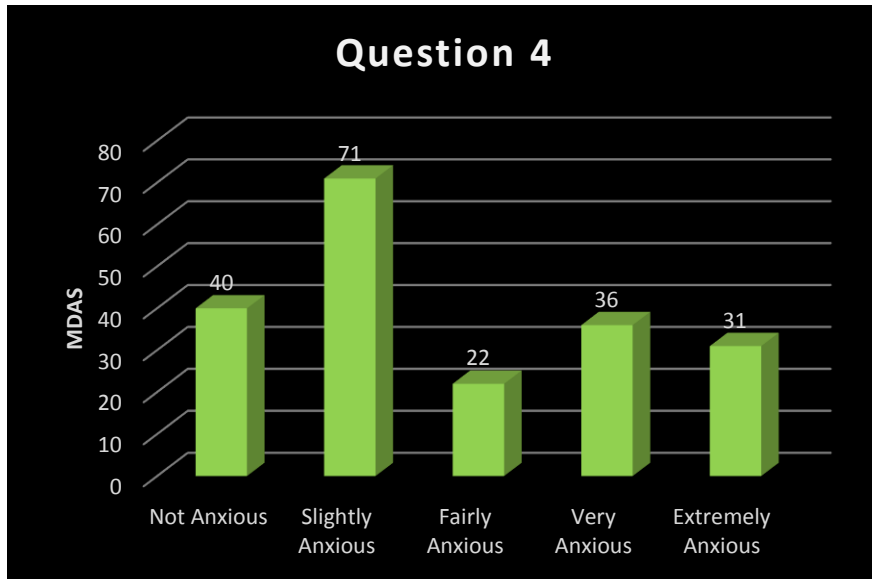
TABLE NO -5

MDAS Score	Frequency	Percent
Not Anxious	64	32.00%
Slightly Anxious	15	7.50%
Fairly Anxious	39	19.50%
Very Anxious	27	13.50%
Extremely Anxious	55	27.50%
Total	200	100.00%
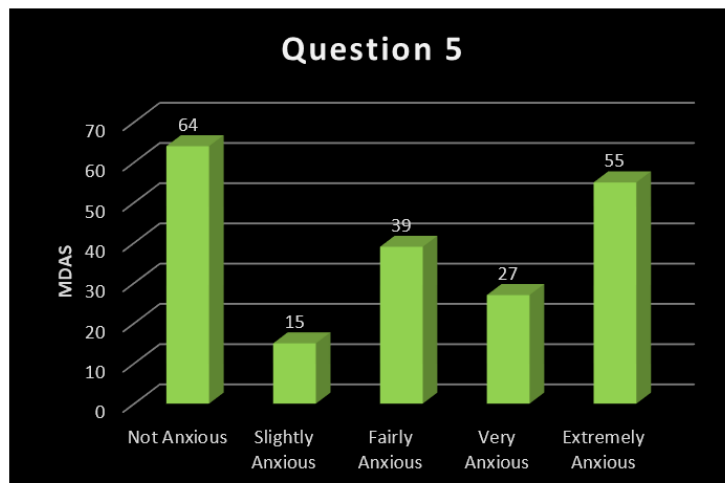
OVERALL SCORE –

MDAS Score	Overall Score
Not Anxious	204
Slightly Anxious	212
Fairly Anxious	206
Very Anxious	186
Extremely Anxious	192
Total	1000
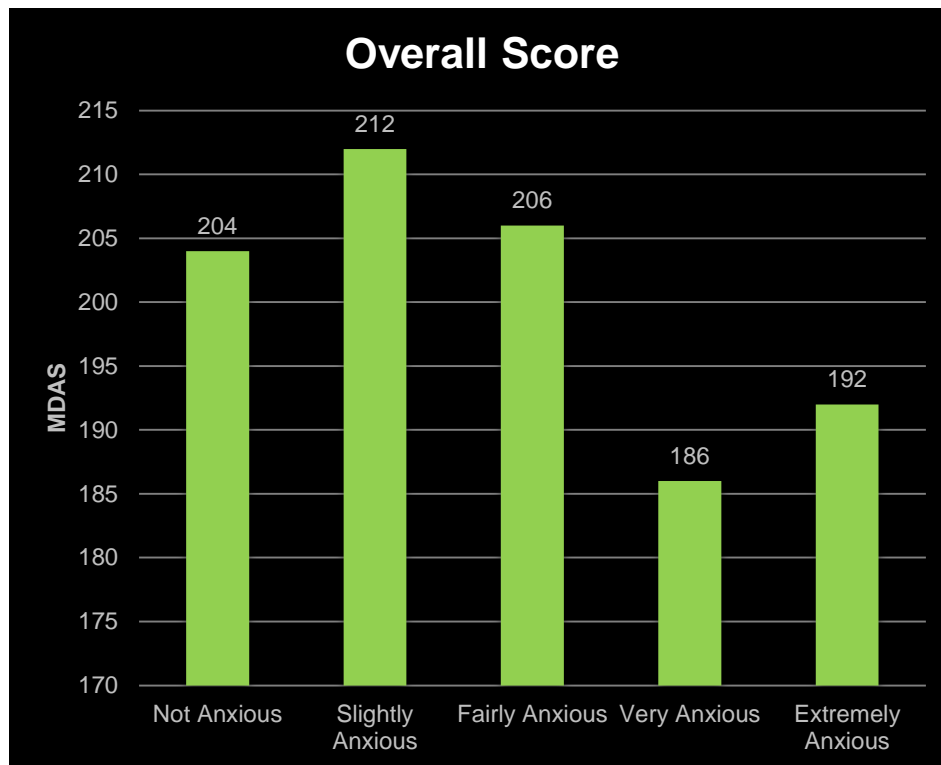
IV. DISCUSSION

Dental anxiety is an excessive and unreasonable negative emotional state experienced by patients and results from premonition that something undesirable is about to happen.

➤ This anxiety can, to a large extent, be modeled by environmental factors and prior experience.
➤ Significant factors are early and negative medical experiences, family impact, age and cause of the first visit to dentist.
➤ Several studies shows that fear of dental treatment in adults can be aquired and learned in childhood.
➤ Considering the question of anxiety ,we should consider the patients trust in the doctor .Results confirmed that the most important positive quality of a physician for patients are competence and avoidance of pain.
➤ Dental anxiety is an excessive and unreasonable negative emotional state experienced by patients and results from premonition that something undesirable is about to happen.
➤ This anxiety can, to a large extent, be modeled by environmental factors and prior experience.
➤ Significant factors are early and negative medical experiences, family impact, age and cause of the first visit to dentist.
➤ Several studies shows that fear of dental treatment in adults can be aquired and learned in childhood.
➤ Considering the question of anxiety ,we should consider the patients trust in the doctor .Results confirmed that the most important positive quality of a physician for patients are competence and avoidance of pain.

V.   CONCLUSION

➢   As the source of the most unpleasant experiences during the appointment, maximum respondents describe pain during the procedure.

➢   90% of the patients were scored to be anxious about the procedure and 10% patients shows anxiety during waiting for the treatment.

➢   The greatest anxiety was aroused in patients by procedures like grinding teeth, during root canal treatment and during local anaesthesia.

REFERENCES

[1].   Kisely S. No mental health without oral health. Can J Psych. 2016; 61:277–82 .
[2].   Boman UW, Wennström A, Stenman U, Hakeberg M. Oral healthrelated quality of life, sense of coherence and dental anxiety: An epidemiological cross-sectional study of middle-aged women. BMC Oral Health. 2012; 12:14
[3].   Corah N.L. Development of a dental anxiety scale. J Dent Res. 1969;48:596.
[4].   Kleinknecht RA, Klepac RK, Alexander LD. Origins and characteristics of fear of dentistry. J Am Dent Assoc. 1973;86:842–848.
[5].   Kleinknecht RA, Thorndike RM, McGlynn FD, Harkavy J. Factor analysis of the dental fear survey with cross-validation. J Am Dent Assoc. 1984;108:59–61.
[6].   Humphris GM, Morrison T, Lindsay SJ. The modified dental anxiety scale: Validation and United Kingdom norms. Commun Dent Health. 1995;12:143–150.
[7].   Newton J, Edwards J. Psychometric properties of the modified dental anxiety scale: an independent replication. Community Dental Health. 2005;22:40–42.
[8].   Humphris G, Freeman R, Campbell J, Tuutti H, D'Souza V. Further evidence for the reliability and validity of the Modified Dental Anxiety Scale. International Dental Journal. 2000;50:376–370. doi: 10.1111/j.1875-595x.2000.tb00570.x
[9].   Newton J, Buck D. Anxiety and pain measures in dentistry: a guide to their quality and application. Journal of the American Dental Association. 2000;131:1449–1457. doi: 10.14219/jada.archive.2000.0056
[10].   Walawender I, Roczniak W, Nowak D, et al. Applicability of the numeric scale for anxiety evaluation in patients undergoing dental treatment. Dent Med Prob. 2015;52:205–214.
[11].   Hjermstad MJ, Fayers PM, Haugen DF, et al. Studies comparing Numerical Rating Scales, Verbal Rating Scales, and Visual Analogue Scales for assessment of pain intensity in adults: A systematic literature review. J Pain Symptom Manage. 2011;41:1073–1093
[12].   McCormack HM, Horne DJ, Sheather S (1988) Clinical applications of visual analogue scales: a critical review. Psychol Med 18, 1007-1019
[13].   Malamed SF. Sedation-e-book: A guide to patient management. Elsevier Health Sciences; 2017.
[14].   Silveira ER, Cademartori MG, Schuch HS, Armfield JA, Demarco FF. Estimated prevalence of dental fear in adults: a systematic review and meta-analysis.   J Dent. 2021;108:103632
[15].   McGrath PA. Measurement issues in research on dental fears and anxiety. Anesth Prog. 1986;33:43–46.
[16].   Kleinknecht RA, Bernstein DA. The assessment of dental fear. Behavior Therapy. 1978;9:626–634.
[17].   J Dent Anesth Pain Med. 2023 Aug; 23(4): 193–212