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Committed to Dental Excellence

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Reply

Index


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UTTAR PRADESH

Message from the President, IDA, Head Office

Dr. Subhra Nandy

It gives me immense pleasure that Uttar Pradesh State Branch of Indian Dental Association is publishing a journal.

I congratulate the entire UP State branch, particularly the editor and all those who have contributed with their articles. I believe that this journal is the reflection of the sincerity and effort of all the members, whose main goal is to propagate and educate the dental community so that they can take decisions which shapes a better future.

Today, as The President of Indian Dental Association I can tell you with pride and optimism, that right now infront of our eyes we are witnessing a new era defined by technology, precision, and personalized care.

From being a largely manual profession rooted in tradition, dentistry is now evolving into a high-tech discipline.

This fusion of biology with technology is not only improving outcomes but also redefining the patient experience making dental care faster, more comfortable, and truly patient-centric.

As dental professionals, we must not just adapt to these changes we must lead them. It is our responsibility to ensure that these innovations are integrated ethically, inclusively, and with a deep commitment to clinical excellence.

At the Indian Dental Association, we are committed to empowering our fraternity through continuous education, skill development, and collaborative platforms that bring together researchers, clinicians, and technologists.

Let us welcome this new era with curiosity, courage, and compassion.

Long live Indian Dental Association

Dr. Subhra Nandy
President, IDA (HO)

Message from the Hon. Secretary, IDA, Head Office

Dr. Ashok Dhoble

It brings us great joy to know that IDA U.P. State Branch will be releasing a journal. I believe a lot of effort has gone into collating all the news etc covering the various programmes, Oral Health activities, Scientific articles, Interviews, Awards and celebrations etc. This requires dedicated team effort and I am sure the journal will appeal and benefit the members.

I am sure IDA U.P. State branch will maintain high standards of quality and IDA Members, members from the scientific community and the dental trade industry should be encouraged to contribute content matter to ensure continued success of the journal. I wish the collective contribution of all of them will take your journal on a long journey to success and greater heights.

Wishing you all the success in your endeavours.

Best wishes,

Dr Ashok Dhoble
Hon. Secretary General
IDA, HO

Message from the President Elect, IDA, Head Office

Dr. Manoj Srivastava

I am happy to know that IDA. UP state Branch is Publishing a Journal on the event of 47th U.P. State Dental conference held in Varanası. Hoping the souvenir will contain latest clinical cases, information of latest material and equipment and advancement of Digital Dentistry.

I wish you all the best for journal with best wishes

Dr Manoj Srivastava
President Elect IDA, HO

Message from the Vice President, IDA, Head Office

Dr. Murari Prasad Sharma

It gives me immense pleasure to witness the release of the latest edition of the Uttar Pradesh State Dental Journal. This journal continues to stand as a testament to the dedication, academic rigor, and collaborative spirit of the dental community in our state.

In an era where dentistry is evolving rapidly, platforms like this journal play a vital role in knowledge dissemination and skill enhancement. From groundbreaking research to practical clinical insights, the content curated here serves as a valuable resource for students, practitioners, and academicians a like.

I extend my heartfelt congratulations to the editorial team and all contributors for their efforts in up holding high academic standards. I am confident this journal will continue to inspire excellence, encourage innovation, and strengthen the bonds within our dental fraternity.

With best wishes for continued success and growth,

Dr Murari Prasad Sharma
Vice President, IDA, HO

Message from the President, IDA UP State

Prof T P Chaturvedi

I would like to congratulate the Editor U.P. State Dental Journal. It gives me immense pleasure and is a matter of great pride about publication of IInd issue of volume 5 of U.P. State Dental Journal Hopefully scientific articles published in the journal will be helpful for academicians, dental practitioners, and dental students. I congratulate you and the entire editorial team members for it and wish for the success of the journal.

Thanking You.

Prof T P Chaturvedi
President, IDA UP State

Message from the Hon. Secretary, IDA UP State

Dr. Sachin Prakash

I extend my heartfelt congratulations to the Editor and his dedicated team for their commendable effort in compiling this edition of the journal. The comprehensive documentation of events from 2024–25, along with well-curated articles, reflects a strong commitment to academic excellence and professional growth.

The clinical content and case-based discussions presented will undoubtedly serve as a valuable reference for practitioners in managing complex cases.

I hope such initiatives continue in the future, further strengthening the knowledge base and unity of our dental community.

With best wishes.

Dr. Sachin Prakash
Hon. State Secretary
IDA – Uttar Pradesh

Message from the President elect, IDA UP State

Dr Sudhakar Singh

It is a pleasure to congratulate the Editorial Board on the successful release of the IInd issue of Volume 5 of U.P. State Dental Journal. Your commitment to curating and documenting high-quality articles reflects a strong dedication to academic excellence and the growth of our dental community.

This journal stands as a valuable contribution to knowledge-sharing and professional development. I truly appreciate the efforts of everyone involved in making this publication a success.

Wishing the Editorial Board continued progress and success in all future endeavors.

Warm regards.

Dr Sudhakar Singh
President-Elect IDA UP State

Message from the Hon. Editor, IDA UP State

Dr Vivek Shah

Dear Readers,

It is with great pride that I present this edition of the Uttar Pradesh Dental Journal, capturing the dynamic developments in dentistry across the state this year.

A key milestone was the successful Annual State Dental Conference held in Noida, which served as a hub of knowledge exchange, innovation, and professional networking. Additionally, State CDE programs in Deoria and Lucknow enriched clinical insight and encouraged academic collaboration across specialties.

Our presence at the month-long Dental Awareness Camp during the Mahakumbh Mela in Prayagraj was a defining moment—bringing preventive oral healthcare to thousands and reinforcing our commitment to community service.

Equally inspiring was the UP State Dental Sports Conclave held in Meerut, which brought together professionals and students in the true spirit of sportsmanship and unity.

This issue features a wide spectrum of scholarly articles—from original research to rare clinical case studies—reflecting the rich diversity of our profession. I extend sincere thanks to all authors, reviewers, and the editorial team for their unwavering dedication.

May this journal continue to serve as a platform for academic excellence and collaborative growth.

Warm regards.

Dr Vivek Shah
Hon. Editor-in-Chief
Uttar Pradesh Dental Journal
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e-mail: shikha_1974@yahoo.co.in

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TAD-Supported Class I Crowding Correction: A Case Report Optimizing Orthodontics with Minimal Compliance

Dr. T. P. Chaturvedi, Dr. Riddhi Mishra

Abstract:

This case report describes the orthodontic management of a 22-year-old female with Class I malocclusion, moderate anterior crowding, and proclined incisors. Cephalometric evaluation revealed a skeletal Class I base with a horizontal growth pattern. The treatment plan included the extraction of all first premolars and canine retraction using TADs placed between the second premolars and first molars. Retraction mechanics were initiated using sliding techniques with TAD-supported anchorage to prevent posterior movement. The treatment resulted in successful alignment of arches, normalization of incisor inclination, improved nasolabial angle, and enhanced smile esthetics, demonstrating the efficacy of TADs in maximum anchorage cases.

Keywords:

Class I malocclusion, crowding, TADs, canine retraction, orthodontic extraction, anchorage control

Introduction:

Malocclusion is a common dental anomaly, often characterized by the misalignment of teeth, crowding, spacing, or skeletal disharmony. Among these, Class I malocclusion with crowding is frequently encountered in clinical orthodontic practice1. Patients typically present with well-aligned molar relationships but suffer from inadequate space for proper alignment of anterior teeth, leading to aesthetic and functional concerns. This can adversely impact oral hygiene, phonetics, mastication, and psychosocial well-being. The management of crowding in a Class I occlusal relationship often necessitates the extraction of premolars to create space for alignment and retraction of anterior teeth2. A key challenge in such cases is ensuring sufficient anchorage control during space closure to prevent undesirable mesial movement of posterior teeth. Temporary anchorage devices (TADs), also known as mini-implants, have revolutionized anchorage mechanics by providing a stationary intraoral source of skeletal anchorage3. These devices enable precise control of tooth movement, eliminate the need for patient compliance, and are minimally invasive. This case report illustrates the successful treatment of a Class I crowded malocclusion in a young adult female patient using premolar extractions and TAD-assisted canine retraction.

Case Presentation:

A 22-year-old female patient presented with the chief complaint of forwardly placed teeth.

Clinical examination: -

Extraoral Features:

The patient exhibited a mesoprosopic facial form, characterized by symmetrical facial features and balanced proportions. Lips were competent at rest. The profile was straight to mildly convex with an acute nasolabial angle. Smile was consonant with adequate incisor display and average buccal corridors.

Intraoral Features:

The patient exhibited a bilateral Class I molar relationship. Overjet was within normal limits, and overbite was reduced. There was marked proclination of maxillary anterior teeth and moderate proclination of mandibular anterior teeth, along with moderate crowding in both arches. The dental midlines were coincident with the facial midline. The maxillary arch form was ovoid, and the mandibular arch showed mild anterior irregularity. Gingival tissues appeared healthy with no signs of inflammation or periodontal concerns.

Radiographic Analysis:

The orthopantomogram revealed a complete set of permanent dentition, including developing third molars in all quadrants. No signs of dental anomalies, pathologies, or bone loss were observed. The condylar heads appeared symmetrical and well-defined, with no evidence of joint abnormalities.

Cephalometric analysis revealed a skeletal Class I base with a horizontal growth pattern. Both maxillary and mandibular incisors were significantly proclined, as indicated by reduced interincisal angle and increased linear/angular measurements to NA/NB. Vertical dimensions were within average limits, supporting a horizontal growth direction. Soft tissue assessment showed an acute nasolabial angle and lip protrusion relative to the E-line, contributing to a convex soft tissue profile. (Table1)

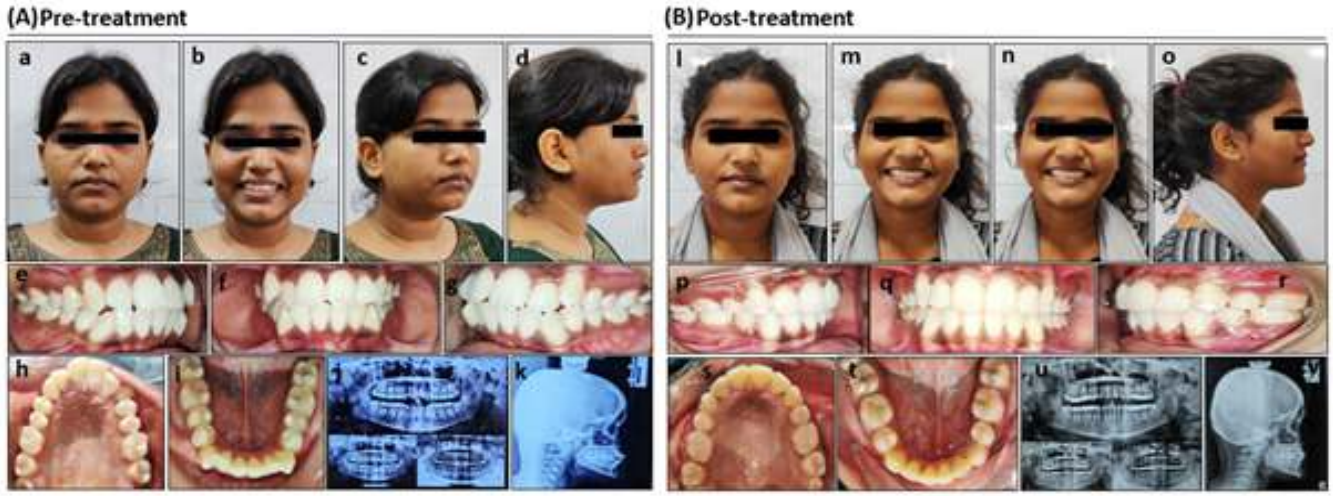
Section	Parameter	Patient Value	Normal Value	Inference
Skeletal Sagittal	SNA (°)	82°	82°	Normal maxillary position
	SNB (°)	80°	80°	Normal mandibular position
	ANB (°)	2°	2°	Skeletal Class I
Skeletal Vertical	FMA (°)	20°	25°	Horizontal growth pattern
	GoGn–SN (°)	27°	~32°	Horizontal growth pattern
	Y-axis (°)	59°	59–66°	Average vertical growth
Dental	U1 to NA (°)	34°	22°	Marked maxillary incisor proclination
	U1 to NA (mm)	10 mm	4 mm	Marked proclination
	L1 to NB (°)	36°	25°	Proclined lower incisors
	L1 to NB (mm)	8 mm	4 mm	Proclined lower incisors
	Interincisal angle (°)	110°	130°	Decreased, indicating incisor flaring
Soft Tissue	Nasolabial angle (°)	85°	90–110°	Acute upper lip protrusion
	E-line to upper lip	+3 mm	-4 to -2 mm	Upper lip protrusive
	E-line to lower lip	+4 mm	-2 to -0 mm	Lower lip protrusive

Table1. Cephalometric summary of the patient showing comparison with standard values. Skeletal measurements indicate a balanced Class I jaw relationship with a horizontal growth pattern. Dental findings show that both upper and lower incisors are proclined with reduced interincisal angle. Soft tissue measurements reveal that the lips are positioned more forward than average, suggesting upper and lower lip protrusion relative to the E-line.

Overall diagnosis:

The patient presented with a straight to mildly convex profile and protrusive upper and lower lips. Cephalometric analysis revealed a skeletal Class I jaw relationship with a horizontal growth pattern and significant upper and lower dentoalveolar protrusion, evidenced by proclined incisors and a reduced interincisal angle. Intraoral examination showed a Class I molar and canine relationship bilaterally, reduced overbite with normal overjet, and moderate crowding in both arches. The discrepancy between the skeletal harmony and dental protrusion contributed to the complexity of anchorage management and overall treatment planning.

Fig. 1 Representative images showing comparativepre-treatment and post-treatmentrecords.(A) Pre-treatment records: (a-d) extraoral photographs (frontal at rest, frontal smiling, oblique, profile view), (e-g) intraoral photographs (right buccal, frontal, left buccal), (h-i) occlusal views of maxillary and mandibular arches, (j) panoramic radiograph, and (k) lateral cephalogram. (B) Post-treatment records: (l-o) extraoral photographs (frontal at rest, frontal smiling, oblique, profile view), (p-r) intraoral photographs (right buccal, frontal, left buccal), (s-t) occlusal views of maxillary and mandibular arches, (u) panoramic radiograph, and (v) lateral cephalogram.



TREATMENT:

Treatment objectives:

The objectives were to relieve anterior crowding, correct the proclination of upper and lower incisors, and establish ideal overjet and overbite. The treatment aimed to achieve bilateral Class I molar and canine relationships, improve the soft tissue profile by retracting anterior teeth, and align the dental midlines and enhance overall smile esthetics and facial harmony.

Treatment Plan:

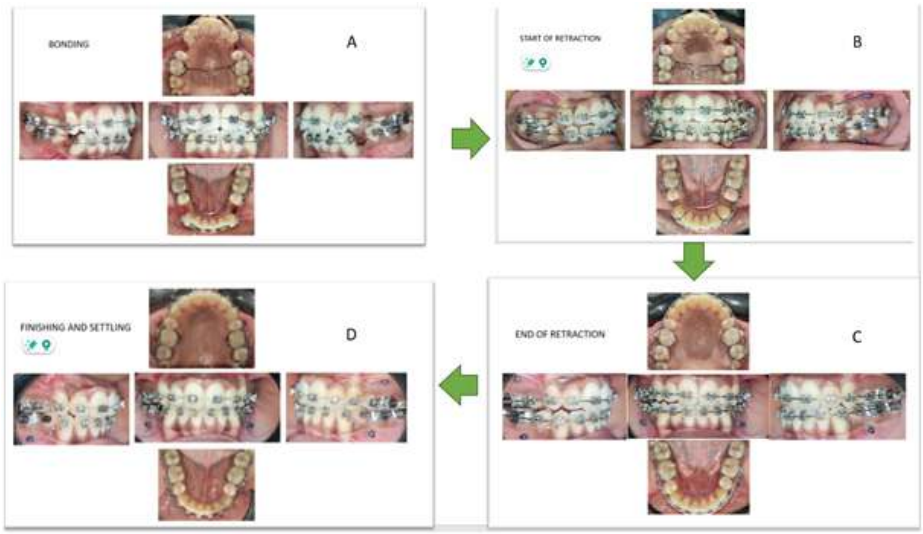
The treatment involved the extraction of all four first premolars to relieve crowding and reduce anterior protrusion. Fixed appliance therapy was carried out using a 0.022" MBT prescription. All first molars were banded for appliance stability, and anchorage was reinforced with a transpalatal arch in the maxilla and a lingual arch in the mandible. Levelling and alignment were achieved with NiTiarchwires. TADs were placed bilaterally in the posterior region to provide absolute anchorage. Canines were retracted using NiTi coil springs, followed by en masse retraction of anterior teeth. Finishing and detailing were completed with stainless steel archwires. Retention was achieved using thermoformed Essix retainers in the upper and lower arches.

Treatment Progress:

Following bonding with 0.022"MBT prescription brackets, the initial phase of leveling and alignment was initiated using round NiTiarchwires in progressive sequence. Light continuous forces were used to align both arches and resolve crowding. Following this, bilateral TADs were placed in the upper and lower arches for direct anchorage during the retraction stage. Retraction was commenced using NiTi coil springs, resulting in retraction of the anterior segment using sliding mechanics in both arches.

Following the completion of anterior retraction, the case was transitioned into the finishing phase. Final arch coordination was achieved using 0.019" × 0.025" stainless steel archwires. Intraoral elastics were employed selectively to refine occlusal contacts and achieve optimal intercuspation. Settling of the occlusion was allowed prior to debonding to ensure stable and functional final contacts.

Fig. 2 Progress photographs showing stages of treatment. (A) Initial bonding phase showing pre-retraction alignment. (B) Start of retraction phase with placement of TADs and NiTi coil springs for space closure. (C) End of retraction phase demonstrating space closure and incisor retraction. (D) Finishing and settling phase illustrating final detailing and arch coordination before



Treatment Results:

The patient was debonded and debanded after 22 months of active orthodontic treatment. Upper and lower thermoformed Essix retainers were delivered for retention. The initial treatment objectives were successfully achieved. Upper and lower crowding were resolved, and dentoalveolar protrusion was reduced without compromising arch form or causing gingival recession. A bilateral Class I molar and canine relationship was maintained, with ideal overjet, overbite, and midline alignment. Facial esthetics improved, with reduced lip protrusion and better incisor display at rest and on smiling.

Discussion:

This case presented a Class I skeletal relationship with a horizontal growth pattern, moderate anterior crowding, and significant proclination of upper and lower incisors. Despite the absence of a skeletal discrepancy, the dentoalveolar protrusion, reduced overbite, and lip incompetence made extraction-based treatment the most appropriate choice. Extraction of all four first premolars provided the required space for anterior retraction and alignment, helping improve both occlusion and facial esthetics4,5.

Since maximum anchorage was required to control posterior movement during anterior retraction, anchorage reinforcement was achieved using bilateral TADs placed in the posterior regions. TADs have proven to be highly effective in providing absolute anchorage and minimizing undesired tooth movement, especially in extraction cases where space closure needs precise control3. In addition, a transpalatal arch in the upper arch and a lingual arch in the lower arch were used to preserve transverse dimensions and support anchorage during the initial phases.

The overall appliance therapy followed the MBT 0.022" prescription. After initial leveling and alignment using round NiTi wires, canine retraction was carried out using NiTi coil springs, followed by en masse anterior retraction. This sequence allowed the bodily movement of anterior teeth with effective torque control, improving incisor inclination and lip posture4.Post-treatment records confirmed achievement of all treatment objectives6. There was a noticeable improvement in the soft tissue profile, reduction in lip protrusion, and resolution of anterior crowding. Bilateral Class I molar and canine relationships were established and maintained, with coincident midlines and normalized overjet and overbite. This case demonstrates that in borderline Class I cases with dentoalveolar protrusion, extraction-based treatment supported by skeletal anchorage can produce excellent esthetic and functional outcomes.

Section	Parameter	Initial Value	Final Value	Normal Value	Inference
Skeletal Sagittal	SNA (°)	82°	82°	82°	No change; normal maxillary position
	SNB (°)	80°	80°	80°	No change; normal mandibular position
	ANB (°)	2°	2°	2°	Skeletal Class I maintained
Skeletal Vertical	FMA (°)	20°	21°	25°	Slight increase; horizontal pattern maintained
	GoGn–SN (°)	27°	28°	~32°	Stable, horizontal to average growth trend
	Y-axis (°)	59°	60°	59–66°	Minor increase; within normal range
Dental	U1 to NA (°)	34°	24°	22°	Improved; maxillary incisor proclination reduced
	U1 to NA (mm)	10 mm	5 mm	4 mm	Improved to near normal range
	L1 to NB (°)	36°	28°	25°	Improved; lower incisor proclination reduced
	L1 to NB (mm)	8 mm	4 mm	4 mm	Normalized
	Interincisal angle (°)	110°	125°	130°	Improved incisor angulation
Soft Tissue	Nasolabial angle (°)	85°	92°	90–110°	Improved, esthetically favourable
	E-line to upper lip	+3 mm	0 mm	-4 to -2 mm	Reduced lip protrusion
	E-line to lower lip	+4 mm	1 mm	-2 to -0 mm	Improved, closer to an ideal profile

Table 2. Initial and final cephalometric measurements with comparison to normative values. The table details skeletal, dental, and soft tissue parameter changes observed from pre-treatment to post-treatment, highlighting improvements in incisor inclination, interincisal angle, and lip position that contributed to enhanced facial esthetics and functional occlusion.

Conclusion:

Treatment of this Class I malocclusion with moderate anterior crowding and significant incisor proclination was effectively managed through premolar extractions and TAD-supported space closure. The approach allowed for proper alignment, improvement in overbite and incisor angulation, and enhancement of the patient's soft tissue profile. All functional and esthetic treatment objectives were achieved within a reasonable time frame. This case highlights the importance of customized biomechanics and anchorage planning in achieving predictable outcomes in borderline cases.

Conflict of Interest:None declared.

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UP STATE
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Rights and Duties of A Dental Surgeon.

DR. DEVENDRA GUPTA
MS. (GEN. SURGERY) Ph.D (LAO)

DR SHIKHA SHAH
BDS, MIDA

Abstract

In this present era of scientific development and increasing awareness and duties of individuals, throughout world, debates are organized regarding rights concerning human with special reference to rights of women, rights of children, rights of victim, rights of surgeons accused and so on. Dentists who perform their duties with devotion and sincerity, also have professional rights. Some of the rights are enumerated below:-

Selection of Patient:-

Generally speaking, there is no legal obligation on a dental surgeon to accept any and every patient that come to him. As no patient can be compelled to be treated by a particular surgeon, no Surgeon can likewise be coerced into entering into a contract with any patient.

However ethics enjoin an ethical duty, not to turn away a patient arbitrarily or capriciously.

In some cases, he can decline,

Examples:-

a) He can refuse to treat a patient if he himself is not well or free.
b) He can refuse to give fresh treatment to a patient with whom he had a bad experience in the past.
c) In odd hours, that is hours other than those earmarked by him for his profession, he cannot be compelled, to treat.
d) If a patient does not agree with the method of treatment or fee asked, he may refuse to treat a patient.
e) In his honest opinion if a doctor feels that he is not in a position to treat a patient because of non- availability of certain instruments etc., he may refer him to another place.

Thus a dental surgeon is free to choose whom he will serve, but he should however respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service.

Selection of Investigations:-

It is not always possible to make confirmatory diagnosis only from clinical examination. Additional investigations such as X-ray, C-T scanning, blood tests etc may be required.

Though dental surgeon is the best judge to decide about the number and type of investigations to be carried out.

Selection of Method: -

In medical science more than one line of treatment is approved and available for an ailment. A dental surgeon may adopt any one of them which he thinks best for the patient in his honest opinion. More over in operative cases right from anaesthesia to stitch thread, Every thing is to be decided by the surgeon only.

thing is to be decided by the surgeon only.

Delegation of Power:-

A patient may be of a dental surgeon, but whole treatment and care is not a one man show. It may need help of others so the chief dentist has to delegate some work to other qualified dentists this is not illegal

Fees!-

A dental surgeon has a right to recover his fees from the patient, whom he has given treatment. If the fees are not fixed in the beginning and unless he has intended to give free service, patient has to pay reasonable fee. Surgeon should explain to the patient about approximate expenses of the treatment and may take part of it in advance and remaining in installments.

Note:- If the dentists treating a patient on complimentary basis, due to one or other humanitarian grounds, it is advisable to write it down on the prescription paper.

Medical Record!-

As patient's record is prepared by the dental surgeon on his on stationary, it becomes his property. But, if the patient demands for his record, so that he is able to discuss it with another dentist in need then the dental surgeon has to supply a photocopy of the said record as part of patient's right.

Medicolegal Case!-

A dental surgeon has a right to treat ailment of a patient which includes medicolegal cases also. Thus a dentist can take any medico legal case without hesitation at the same time, as a duty bound citizen, he is supposed to to inform the police about that case, as early as possi possible.

Duties of a Dental Surgeon:-

Medical profession is based on patient's trust and faith in his doctor. He enjoys a special status in the society and he is directly related to all classes of people. So the medical professional is not only bounded with laws and ethics, but also bounded by social customs and humanitarian principles, duties in general are as follows!-

To maintain Sympathetic Behaviour: -

Dentist's demeanour towards his patients should be courteous, sympathetic, friendly and helpful behaviour towards his patients and public shall be polite and dignified. Treat the welfare of the patients as paramount to all other considerations and shall conserve it to the utmost of his ability.

Guard the Patient's Confidence:-

dental surgeons should merit the confidence of patient entrusted to their care, rendering to each a full measure of service and devotion. The dentist | dental surgeon should practice method of healing founded on scientific basis and should not associate professionally with anyone who violates this principle.

Maintenance of Dental Records:-

every dental surgeon shall maintain relevant records pertaining to his out-patients and in patients, and preserve them for a minimum period of 3 years. If any request is made for such records by the patient / authorized attendant same may be issued within 72 hours. Efforts

should be made to digitalize such records for quick retrieval. Dental surgeon shall maintain a register of medical certificates, giving full details of certificate issued. when issuing a certificate dental surgeon shall always enter the identification mark signature or thumb mark and address on the certificate or report.

Display of registration number and degrees :-

Every dental surgeon shall display the registration number accorded to him by the State Dental Council in his clinic and in all his prescriptions, certificates and money receipts given to his patients. Dental surgeons shall display as suffix to their names only recognized dental degrees, which are recognized by the council or other qualifications, such as memberships / honours / fellowships which are conferred by recognized universities / or bodies, approved by the council. Abbreviations of memberships, should not be used.

Duty to Explain:-

Before starting the treatment, the dental surgeon must explain about the nature of illness and its probable course in simple and non-technical language (If possible in patient's mother tongue) so that the patient and his attendants could understand the seriousness of the disease, various available treatments, their temporary or permanent side effects, other risks involved etc, must be explained, so that patient can independently choose the treatment, according to his capacity and other circumstances.

Duty to Refer:-

It is the basic duty of the dental surgeon, to handle only those cases, which are within the limit of his skill knowledge and expertise. More over he must also take into consideration the availability of equipments, staff etc, if dental surgeon finds on preliminary examination, that the case is beyond his capacity, it is better to refer it to another consultant / clinic.

Duty to Expose Unethical Conduct:-

A dental surgeon should expose, without fear or favour incompetent or corrupt, dishonest or unethical conduct on the part of members of the profession. It is the responsibility of the dental surgeon to report to competent authorities' instances of quackery and any kind of abuse including doctor- patient sexual misconduct, child abuse and other social evils, thet may come to their attention.

Duty to Observe and Abide Statutes:-

The dental surgeon shall observe the laws of the country in regulating the practice of his profession including the dentists' act 1948 and its amendments, and shall not assist others to evade such laws, he should observe the provisions of the state acts like!-

a) Drugs and Cosmetic Act 1940;
b) Pharmacy Act 1948,
c) Narcotic Drugs and Psychotropic Substances Act 1985;
d) Environmental Protection Act 1986;
e) Drugs and Magic Remedies (Objectionable Advertisement) Act 1954;
f) Bio-medical Waste (management And Handling) Rules 1998;

Dental surgeons, especially those engaged in public health dentistry, should enlighten the public concerning oral health and prevention of oral diseases such as dental caries Periodontal health, precancerous lesions and oral cancers.

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MASSETER HYPER TROPHY: A CASE REPORT

Dr Vaibhav Shah, Dr Krishna Shama Rao,
Dr Ganapathy K.P, Dr Murali Mohan, Dr Harish Kumar,Dr Pavan,

Abstract :

- Benign masseteric hypertrophy is a relatively uncommon condition that can occur unilaterally or bilaterally.
- Affects both males and females after puberty
- Pain may be a symptom,
- Most frequently the clinician is consulted for cosmetic reasons.
- In some cases prominent exostoses at the angle of the mandible are noted.
- it is tempting to point to malocclusion, bruxism, clenching, or temporomandibular joint disorders.
- Limitations on mouth opening and also tension in the region of the hypertrophied muscle are symptoms mostly present.
- Etiology in the majority of cases is unclear.
- Diagnosis is based on awareness of the condition, clinical and radiographic findings, and exclusion of more serious pathology such as benign and malignant parotid disease, rhabdomyoma, and lymphangioma.
- Treatment usually involves resection of portion of masseter muscle with or without underlying bone..

Introduction

- Hypertrophy of the masseters was first described by Legg in 1880.
- In 1880, a case of bilateral hypertrophy of themasseter muscles and the temporalis muscle was described as in a 10 year-old-girl.
- The goal for correction is achieving aesthetic objectives without significant functional changes.
- The article reports a case of Masseter hypertrophy

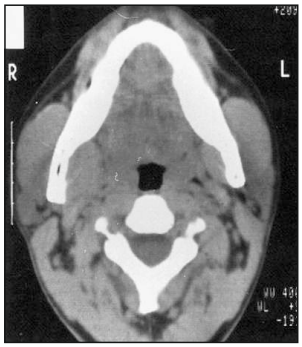
CASE HISTORY:

A 22 year old patient reported withcomplaint of pain in the lower left cheek region since 3 months. On examination she had soft unilateral tissue mass over the left body, near the angle of the mandible, which became more prominent when the patient clenched the jaws. The opening and closing of the jaws were normal. There was no history of facial trauma, dental abnormalities or temporomandibular joint clicking and family history of masseter hypertrophy.The patient had no history of systemic diseases.

INVESTIGATIONS COMPUTED TOMOGRAPHY

Computed tomography (CT) was done using aTomoscan 350 whole body scanner (Phillips) and each section covered a slice of tissue 6 mm thick. The scanning factors for these examinations were 400 mA and 120 kV with a scan speed of 1.2 s.scans were made with the head in a symmetrical position an enlargement of the right masseter (Fig. 1) can clearly be seen.

PROCEDURE SURGICAL



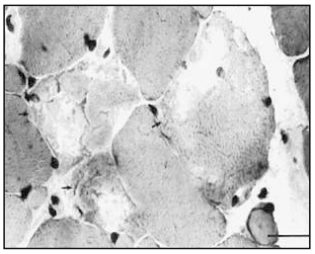
Procedures involve correction of the masseter hypertrophy and scar revision through one Incisional approach by correction of the mandibular angle reduction and shaving of masseter muscle. Surgery was done under general anaesthesia with Nasotracheal intubation. Xylocaine 2% with adrenaline was injected in the angle of the mandible. an elliptical incision was placed in the mandible under the hypertrophic muscle and muscle debunking was done. Marginal mandibular nerve was identified and protected.

Muscle was incised approx 5mm above the mandibular basal. The entire ascending portion of the masseter was detached/resected; the remaining external third was sutured to its site of origin on to the muscle stump in the mandibular basilar. The bony deformity was trimmed and removed in the angle of the mandible with the surgical blade. Sharp bundles of bones were trimmed with a bone file. The shaved masseter muscle and the resected excess resected masseter angle send for oral pathology was sent for pathology in 10% formalin. Primary closure was done with 5-0 prolene suture. After 1 week the proline suture were cut and removed and the wound healed eventfully.

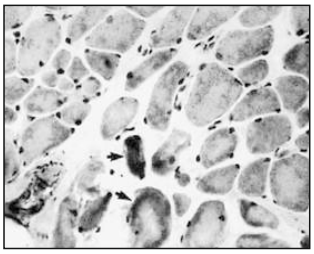
HISTOLOGICAL ANALYSIS

Small blocks of muscle were send f or the type and size of fibres were evaluated on the sections stained to demonstrate ATPase activity using a computer-based image analysis system the structure of Muscle fibres was examined in sections stained with haematoxylin and eosin. Abnormal fibres werecounted and classified according to their histologicalappearance and the number of abnormal fibres wasexpressed as a percentage of the total fibres in the biopsy. In the biopsy specimen the fibres were distributed normally according to size,for the enlarged (right side) muscle showed a pronounced shift to the left when compared with the histogram for the left side. The smallest fibres tended to be rounded (very few small fibres showed angularity) and there was no evidence of clumping or type-specificity.

Examples of the types of abnormal fibres seen in the enlarged muscle. (A) Transverse section stained haematoxylinand eosin showing motheaten fibres; (B) Transverse sectionStained with haematoxylin and eosin illustrating ringbinden fibresand central nuclei.



A

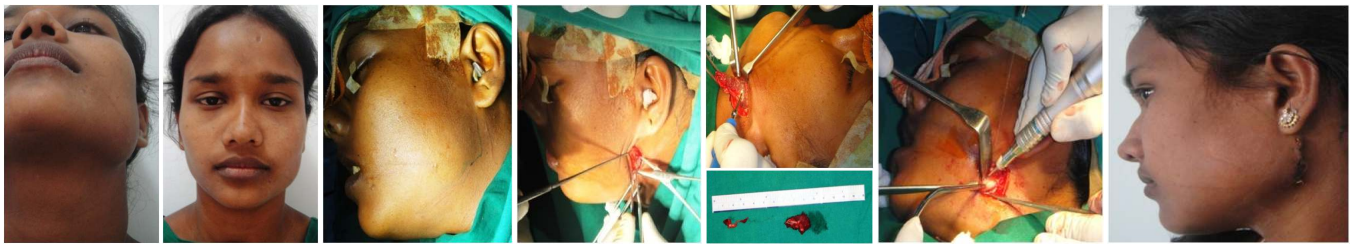


B

DISCUSSION

There are no obvious predisposing factors in cases of benign masseteric enlargement although bruxism,Dysfunction of the temporomandibular joint and malocclusion have all been implicated.4 The condition can be either unilateral or bilateral and is most likely to present at about of 30 years of age.2 Enlargement of the posterior and inferior borders of the mandible on the affected side(s) has also been recorded.1 The pathophysiological origin of small fibres is not certain but they may have arisen from one of at least five sources; from longitudinal splitting, from lateral budding by post-mitotic satellite cells becoming activated, from a prolonged myogenic proliferative phase in utero, or from myogenic or Neurogenic disorders. Longitudinal splitting was not seen in the biopsy from the enlarged

side, and the small fibres had a random distribution with little evidence of angularity, clumping or type-specificity typical of neurogenic disorders, thus indicating a myopathic or prenatal origin. The myopathic aetiology is further supported by the changes in the architecture of individual fibres (usually the larger ones). These changes included motheatenand ringbinden fibres, mitochondrial clumpingand internal nuclei and are consistent with a myopathic condition. It was not clear, however, whether these changes had any bearing on the aetiology of the small fibres nor was it clear whether the number of small fibres was likely to remain constant or to change. In summary, in addition to myopathic changes in the fibres of normal size in the enlarged masseter, the results also suggest that the enlargement of the muscle was caused by an increase in the number of fibres. thus playing an important role in the masseter ramus and thus plays an important role in facial aesthetics. Diagnosis of masseter hypertrophy can be achieved from the clinical examination, history, panoramic x ray, and muscle palpation. The best diagnostic test is to palpate the masseter muscle with fingers, while the patient clenches his/her teeth so the muscles are more prominent during contraction. Management of the masseter muscle is divided into non surgical and surgical Management of the idiopathic masseter hypertrophy on psychological counselling, use of the mouth guards, muscle-guards and Anxiolytic drugs, analgesic, Anxiolytic drugs, analgesics, physical therapy, dental restoration, and occlusal correction. Surgical treatment is based on the intra and extra oral approaches. Both the techniques involve removal of the excessive muscle fibres from the inner third of the masseter muscle fibres. Reduction of the osteoplast may be performed in cases of bony hyperplasia of the mandibular angle.



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UP STATE DENTAL JOURNAL

Leading the Way in Tobacco Cessation: Government College of Dentistry, Indore Sets a Benchmark in Madhya Pradesh

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INTRODUCTION

According to the World Health Organization (WHO), health is the most valuable asset of human life, influenced by a range of physical, chemical, and biological factors. Among the most harmful lifestyle habits affecting health is the use of tobacco, whether through smoking or chewing. Tobacco consumption is widely recognized as the leading cause of preventable and premature mortality globally (WHO, 2008). India, being the second-largest consumer and producer of tobacco, bears a significant share of this burden—contributing to nearly one million deaths annually. Projections suggest that if current usage patterns persist, tobacco will be responsible for approximately 13% of all deaths in India by the year 2020 (Jha et al., 2008).–

The Global Adult Tobacco Survey (GATS) – Phase II, conducted in India during 2016–2017, highlighted the widespread prevalence of tobacco use across the adult population. The data showed that 19% of men, 2% of women, and 10.7% of all adults (around 99.5 million people) were active smokers. Smokeless tobacco use was even more prevalent, with 29.6% of men, 12.8% of women, and 21.4% of all adults (approximately 199.4 million) reporting current use. Overall, the survey revealed that 42.4% of men, 14.2% of women, and 28.6% of the adult population (an estimated 266.8 million individuals) were consuming tobacco in some form, either smoked or smokeless (MOHFW, 2017).

Tertiary healthcare institutions are fundamental to the functioning of any nation's health system, with hospitals playing a vital role in delivering not just medical care but also in fostering wellness through preventive and therapeutic services. Beyond their clinical responsibilities, hospitals are uniquely positioned to cultivate a culture of health by involving both staff and patients in proactive health-related practices. They are seen as exemplars in setting standards for health-supportive environments and hold a distinct obligation to encourage practices that benefit public well-being (Groene et al., 2005). One effective initiative in this direction is establishing tobacco-free hospital premises. Such environments reflect a strong commitment to public health by minimizing exposure to harmful substances, encouraging cessation efforts, and positively influencing the attitudes and behaviors of healthcare workers and patients toward tobacco use (Wheeler et al., 2007).

The Government College of Dentistry, Indore, stands as a beacon of hope in the fight against tobacco addiction in Madhya Pradesh. As the only government dental college in the state, the institution holds a unique responsibility not only in dental education and patient care but also in spearheading impactful public health initiatives. Functioning as a fully equipped tertiary care center, the college houses all dental specialties under one roof, offering comprehensive services to thousands of patients from urban and rural parts of the state.

Recognizing the severe health burden posed by tobacco use, the college has strategically aligned its resources to contribute significantly to tobacco cessation and awareness efforts in the state. At the heart of this mission is the integration of various departments, each playing a vital role in tobacco control from diagnosis and counseling to treatment, surgical intervention, and rehabilitation.

Historical Background: WHO &MoHFW Initiatives in India

The concept of structured tobacco cessation services was inspired by global public health initiatives, particularly those led by the World Health Organization (WHO). Recognizing the growing tobacco epidemic, WHO promoted the establishment of cessation services as a key strategy for reducing tobacco-related morbidity and mortality.

In India, the Ministry of Health and Family Welfare (MoHFW), in collaboration with WHO, launched the first formal tobacco cessation clinics in 2002. Initially established in select medical colleges and tertiary care hospitals, these clinics laid the foundation for the current network of TCCs. The early programs were supported by WHO's India Country Office and included pilot sites in cities like Delhi, Mumbai, and Bangalore.

Integration with the National Tobacco Control Programme (NTCP)

The National Tobacco Control Programme (NTCP), initiated by the Government of India in 2007–08, expanded the scope of tobacco control efforts nationwide. TCCs were formally integrated into NTCP as a key component of its cessation and treatment strategy.

Under NTCP, TCCs aim to:

- Provide cessation services at the district and sub-district levels.
- Build capacity among healthcare providers through training.
- Coordinate with school health programs and community outreach.
- Ensure data reporting and surveillance on tobacco use and quit rates.

This integration ensures uniformity in protocol, resource allocation, and service delivery across India.

Tobacco Cessation Cells (TCCs) are specialized units established within healthcare institutions—such as hospitals, medical, and dental colleges—to provide support for individuals seeking to quit tobacco use. These cells offer a structured approach combining behaviouralcounselling, pharmacotherapy, and follow-up services to help users overcome nicotine dependence.

The journey toward tobacco cessation begins in the Department of Oral Medicine and Radiology. This department serves as the first point of contact for most patients, many of whom present with tobacco-related oral conditions. Equipped with advanced diagnostic tools, experienced clinicians here are trained to detect precancerous lesions such as leukoplakia, erythroplakia, oral submucous fibrosis, and even early stages of oral cancer.

To provide systematic and continuous support to those wishing to quit tobacco, the college runs a dedicated Tobacco Cessation Cell (TCC) under the Department of Public Health Dentistry. This cell has evolved into a cornerstone of the institution's public health commitment. Over the past year, more than 7,500 patients have undergone tobacco cessation counseling at this facility with remakablequit rate. The TCC uses a combination of behavioral

therapy, motivational interviewing, and pharmacological support such as nicotine replacement therapy. Educational materials, regular follow-ups, and support sessions further ensure that patients feel encouraged and empowered to quit. Each patient's journey is tracked, and their progress is monitored with care and empathy. In many cases, family members are also counseled, making the cessation process a community effort rather than a solitary battle.

Counselling and intervention Protocols

1. Brief Intervention: The 5 A's and 5 R's Model

The 5 A's model provides a concise yet powerful framework for initiating conversations with tobacco users:

- Ask about tobacco use at every visit.
- Advise all users to quit with clear, personalized messages.
- Assess the patient's willingness to make a quit attempt.
- Assist by providing counseling or pharmacotherapy.
- Arrange follow-up support to prevent relapse.

For patients who are unwilling to quit, the 5 R's approach helps build motivation:

- Relevance – Highlight why quitting is personally important.
- Risks – Explain the harmful consequences of continued use.
- Rewards – Emphasize the benefits of quitting.
- Roadblocks – Explore barriers and discuss solutions.
- Repetition – Revisit these discussions at each encounter.

2. Behavioral Therapy Techniques

Behavioralcounseling helps users understand their triggers and develop coping mechanisms. Techniques include:

- Cognitive Behavioral Therapy (CBT) to challenge unhelpful thought patterns.
- Stimulus control (e.g., avoiding smoking cues).
- Contingency management, which uses rewards for abstinence.
- Problem-solving training to deal with high-risk situations like stress or peer pressure.

These methods are particularly effective when delivered through individual, group, or telephonic sessions tailored to the patient's context.

3. Pharmacotherapy Options

To support cessation, especially in cases of strong nicotine dependence, pharmacological interventions can be combined with counseling:

- Nicotine Replacement Therapy (NRT): Available as patches, gums, lozenges, and inhalers, NRT helps reduce withdrawal symptoms and cravings by delivering controlled doses of nicotine.
- Bupropion: A non-nicotine prescription medication that works on brain neurotransmitters, reducing the urge to smoke.

- Varenicline: A partial nicotinic receptor agonist that diminishes withdrawal and blocks the reinforcing effects of nicotine.

Pharmacotherapy selection depends on the patient's level of dependence, medical history, and preferences.

4. Motivational Interviewing (MI)

Motivational Interviewing is a patient-centered communication technique used to enhance motivation and commitment to change.

Key elements include:

- Expressing empathy through reflective listening
- Developing discrepancy between current behavior and goals
- Rolling with resistance rather than confronting it
- Supporting self-efficacy and optimism

MI is particularly useful in dental settings where patients may be ambivalent about quitting tobacco.

5. Follow-Up and Relapse Prevention

Continuous support post-quit attempt is critical to maintaining abstinence.

- Regular follow-up visits (in-person or via phone/text) at 1 week, 1 month, and 3 months improve success rates.
- Relapse prevention strategies include reinforcing coping skills, identifying early signs of slip-ups, and encouraging recommitment to quitting.
- Offering peer support groups and involving family members further enhances long-term outcomes.

Ongoing Programs

Understanding the critical role of prevention and early intervention, the department of public health dentistry has also launched a Tobacco Control Training Program targeting government school teachers. Teachers, as influencers of young minds, are ideal agents of change in the community. The training program is designed in three phases. Phase I, which has already been successfully completed, involved knowledge and awareness assessment in 15 government schools. A total of 254 school teachers participated in this phase, undergoing evaluations that revealed gaps and opportunities in their understanding of tobacco-related health issues. This initiative aims to eventually train school teachers to become educators and advocates of tobacco-free lifestyles within their institutions. The future phases will include intensive training modules, interactive learning sessions, and community projects. By empowering teachers, the program seeks to create a ripple effect, where awareness and healthy habits are passed down to generations of students, ultimately building a stronger, healthier society.

Beyond institutional care, the Department of Public Health Dentistry has been actively involved in organizing community outreach programs. In the past year alone, the department has conducted 30 screening and awareness camps across various community settings, reaching a total of 2,630 beneficiaries. These camps provide oral cancer screening, basic dental check-

ups, and tobacco awareness education, particularly in underserved areas. Visual aids, interactive talks, and free health kits make these sessions both informative and accessible. In addition to these, six special outreach programs were conducted in rural and remote districts of Madhya Pradesh. These targeted interventions reached 207 individuals who might otherwise have remained outside the formal health system. Many of the beneficiaries were first-time visitors to any healthcare facility, indicating the deep penetration of these efforts into neglected communities.

The success of the college's tobacco control initiatives also hinges on its collaborative, multi-departmental approach. The Department of Oral and Maxillofacial Pathology and Microbiology plays an essential role by conducting histopathological examinations and cytological analyses to confirm suspected cases of precancerous or cancerous lesions. Their timely and accurate diagnoses enable swift treatment decisions and improve patient outcomes significantly. Following diagnosis, the Department of Oral and Maxillofacial Surgery steps in for surgical management. Whether it is the removal of suspicious lesions, tumor resections, or reconstructive procedures. These interventions are crucial not just for survival, but also for restoring function and improving quality of life. For patients who have undergone major surgeries affecting the oral and facial structures, the Department of Prosthodontics offers custom-fabricated maxillofacial prostheses. These include obturators, facial prosthetics, and other devices that help restore appearance, speech, and chewing functions. Such rehabilitation is vital for the psychological and social reintegration of patients, making them feel confident and whole again.

Each of these departments works in synergy, forming a complete continuum of care from early detection and diagnosis to counseling, surgical treatment, and prosthetic rehabilitation. This integrated model ensures that patients are not lost in a maze of fragmented care but instead receive consistent support throughout their recovery journey.

The Government College of Dentistry, Indore, is not just treating individuals; it is transforming communities. By combining clinical excellence with community outreach, research, and intersectoral collaboration, the college has set a powerful example for other institutions across India. Its efforts align closely with the goals of the National Tobacco Control Programme.

Future Directions

1. Integration with Digital Health Technologies

The advancement of digital platforms provides an opportunity to enhance the reach and impact of tobacco cessation services.

- Mobile apps, chatbots, and web-based tools can deliver 24/7 behavioral support and track quit attempts.
- SMS reminders and motivational messages can serve as effective follow-ups, reduce relapse, and improve patient adherence to cessation plans.
- Integration of digital records within hospital management systems (HMS) ensures streamlined tracking of cessation outcomes and continuity of care.

2. Interdisciplinary Collaboration

Tobacco use affects multiple organ systems, requiring a multidisciplinary approach.

- Collaboration with ENT specialists ensures early detection and management of tobacco-related oral and throat cancers.
- Psychiatrists and psychologists can provide support for managing addiction, withdrawal symptoms, and mental health comorbidities.
- Involving departments such as internal medicine, pulmonology, and community medicine fosters a comprehensive and coordinated cessation program.

3. Policy-Level Inclusion in the DCI Curriculum

To empower future dental professionals as frontline tobacco cessation counselors:

- Modules on behavioralcounseling, pharmacotherapy, communication skills, and public health laws should be includedwithin the BDS and MDS curricula.

The future holds even greater promise. Plans are underway to integrate tele-counseling services and mobile health applications into the tobacco cessation model, making support more accessible and continuous. The Tobacco Control Training Program for teachers will soon expand to more districts, while follow-up studies are planned to evaluate long-term quit success rates. Collaborations with state health departments are also being explored to ensure a unified approach to tackling tobacco use as part of the broader fight against non-communicable diseases.

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Utilizing Mobile Dental Units and GIS Mapping for Comprehensive Oral Health Services in Rural Underserved Areas- A Review

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Abstract:

Oral health disparities remain a significant public health concern in India, particularly in rural and remote regions where access to timely and affordable dental care is limited. The persistent barriers to dental care in underserved areas, includes inadequate infrastructure, workforce shortages, and socioeconomic challenges. This review highlights the integration of Geographic Information Systems (GIS) and Mobile Dental Units (MDUs) as innovative tools for bridging the urban-rural divide in oral healthcare accessibility. Together, MDUs and GIS can transform rural oral health service delivery and contribute meaningfully to equitable and inclusive healthcare in India.

INTRODUCTION

Oral health is the state of the mouth, teeth and orofacial structures that enables individuals to perform essential functions such as eating, breathing and speaking, and encompasses psychosocial dimensions such as self-confidence, well-being and the ability to socialize and work without pain, discomfort and embarrassment. Oral diseases disproportionately affect the most vulnerable and underprivileged groups.1 Dental caries, periodontal diseases, malocclusion, Oral sub-mucosal fibrosis(4 per 1000 adults in rural India), oral cancer etc are some of the common diseases. Cleft lip and cleft palate also continue to affect the population. Oral lesions are also common with patients with HIV/AIDS and other debilitating systemic conditions. 2

As of 2023, estimates point to a rural population of roughly 909–915 million, representing about 63.6% of India's total population. 3 The oral health of the rural population is poor, and their attitudes and practices toward oral health hygiene are often neglected. 4 According to studies, the frequency of dental caries and periodontal disease is high in these underprivileged groups, and because of the country's high tobacco usage, India has been dubbed the "oral cancer capital" of the world.5

Social issues, financial limitations, lack of transportation, and geographic isolation are some of the obstacles to dental treatment. Due to poor public transport and tough terrain, rural residents may have to travel great distances to reach a dentist.6 In India the dentist: population ratio is 1:9000 in the urban areas and 1: 200,000 in rural areas which is a major barrier.7 Despite having the second-highest number of dentists worldwide, access to oral healthcare and dentist distribution are the major issues. Access to healthcare has an important role to play in the overall health system, in reducing the burden of disease.8 In order to provide dental care to people who are unable to visit traditional clinics, innovative approaches are required.9

The present narrative review aims to critically explore the role of Mobile Dental Units and GIS Mapping for Comprehensive Oral Health Services in Rural Underserved Areas

Oral Health Inequalities in Rural India

Reduction in health inequalities and providing universal access to health care have been identified as two important global milestones by the World Health Organization for countries to achieve by 2030.10

The primary obstacles to receiving oral healthcare are the expense of care, the patient's health, any disabilities, transportation, living in a rural area, the sufficiency of the dental staff, and the attitudes and conduct of dental healthcare professionals.11

The distribution of dentists across geographical regions is also vital for ensuring equality in physical access to oral health care. The WHO recommends a dentist to population ratio of 1:7500 .12 The dentist to population ratio in India clearly indicates that there is a major rural and urban divide in the availability of dentists in India as the dentist to population ratio is 1:200,000 in rural areas.7

Role of Mobile Dental Units (MDUs)

Mobile dental clinics, also known as 'mobile dental vans' or 'mobile dental units' (MDUs) are a practical solution for providing oral healthcare services in underserved locations.13 It can be a truck or a bus consisting of four parts such as a generator compartment, a driving compartment, a registration counter and waiting area, and a dental procedure room. The surgery room is the focal point of the mobile dental van, with a fully-equipped dental unit and instruments that are available in most dental clinics.14 Mobile dental services assist remove constraints connected to transportation and physical distance, making healthcare more affordable and accessible. The capacity of MDUs to lessen the disparity in oral healthcare between urban and rural areas is one of its main benefits. In India, mobile dental clinics are prepared to provide a variety of necessary dental services, with an emphasis on basic curative and preventive care that takes care of the most prevalent issues. 15 Clinical examination, scaling, polishing, health education, individual and group teaching in dental hygiene, fluoride applications, fissure sealants, amalgam and composite restorations, extractions, and minor oral surgery etc can be supplied at no cost to the patients.16

GIS Mapping for Oral Health Planning

Spatial referenced data (that is, the data is linked to a geographic location) can be mapped, stored, retrieved, and altered using a computer-based system called a geographic information system (GIS). In order to identify potential spatial linkages, GIS enables users to concurrently show a range of data on different maps.17 Geographic information system (GIS) based accessibility interpretation is the most scientific and succinct method that can be used to calculate the extent to which geographical access is obtained.18 It is a modern information system with capabilities of accepting, recording, analysing, managing and presenting the spatial referenced data.19 GIS enables and facilitates the comparison and cartographical representation of data, which can be utilised to create more targeted and effective healthcare programs. Based on the geographic proximity or distance to the closest medical institution, a GIS-based approach has been used in various nations to estimate the number of new oral health facilities required. It is beneficial to examine the geographic distribution of both public and private dental healthcare providers in order to pinpoint underserved areas.20

Integration of MDUs and GIS: A Synergistic Approach

In remote places, traditional methods—like building hospitals and dentistry facilities or using disposable materials to provide outreach treatments—are ineffective and impractical. Conventional oral health treatment is deficient in many place .16 MDUs play a crucial role in delivering preventive and curative services directly to marginalized populations, while GIS mapping enables precise identification of high-need regions, aiding in effective planning, resource allocation, and service delivery. Integrating these technologies into national health strategies aligns with the goals of Universal Health Coverage (UHC), ensuring that all individuals, regardless of their geographic location, receive essential oral health services without financial hardship.

Challenges

MDUs are limited in their ability to provide sophisticated or specialised dental care and concentrate on providing basic dental services. Maintenance and technical assistance are necessary to keep a mobile dental unit running.

Despite their general cost-effectiveness, mobile clinics do have high operating expenses. The initial cost of purchasing a well-equipped mobile dental van is high and frequently only accessible to major organisations, governments, or institutions. It can be difficult to find competent dentists to operate in rural mobile units because urban settings sometimes offer better pay or more comfortable working conditions. The mere act of setting up a mobile clinic does not ensure people will utilise it. Cultural misunderstandings such as dental treatment anxieties must be dispelled with patience and constant presence. The camp or periodic visit model used by mobile dental programs can present challenges for continuity of service.15

Historically, the use of GIS technology has been hampered by a lack of infrastructure. This is partially due to the requirement for advanced (and therefore costly) licensed GIS software, which could be a major obstacle in environments with limited resources. When using GIS technology, a variety of analytical methodologies are used, requiring both fundamental and more complex expertise. However, many organizations still do not have access to even the basic technical expertise, properly trained or Committed staff, to focus on GIS-related activities and to follow standardized procedures. Limited availability of spatial data, privacy and confidentiality issues, restrictions to the access and use of individual health incident and outcomes data are some of the difficulties that can arise, especially when dealing with human diseases.21

Benefits

The affordability of mobile dental clinics in providing oral treatment to geographically distant people is one of their many alluring features. Mobile clinics assist people avoid more serious dental issues that would be more expensive to treat later in hospitals by getting to them early and offering preventative care (fluoride, sealants, education) and basic treatments.15

The role of GIS and spatial analysis is an emerging field in health service provision and accessibility. The planning of community-based health services has been significantly impacted by the introduction of GIS. It has been applied to the creation of spatiodemographic summaries of patients and the estimation of service areas for medical facilities.22

Conclusion

MDUs and GIS Mapping together create an effective model for bridging the oral health divide in rural India. With proper implementation, these can make universal health coverage a

reality by ensuring that oral healthcare services reach the most underserved populations. Mobile Dental Units bring dental care directly to the doorsteps of rural communities, addressing physical and financial access barriers, while GIS technology enables precise identification of high-need areas, improving resource allocation and service delivery. Despite certain limitations such as operational costs, staffing challenges, and technical barriers in GIS adoption, the integration of these technologies holds immense potential. A coordinated effort involving policy support, intersectoral collaboration, investment in infrastructure, and community engagement is essential for scaling up this approach. Ultimately, the synergistic use of MDUs and GIS mapping can transform the landscape of oral healthcare delivery in India, promoting equity, accessibility, and better oral health outcomes for all.

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Diary of Events 2024-25

The 3rd annual conference of Aidacon 25 was organized on 6th and 7th September at Hotel Double Tree by Hilton. President elect of Indian Dental Association Head Office Dr Manoj Srivastava, Vice President Dr Murari Prasad Sharma, Dr SK Kataria, Dr Yogesh Sharma, Dr Khushal Singh, Dr RK Ahuja, Dr Rajiv Agarwal, Dr Vivek Shah, Dr Shikha Shah, Dr Rashi Gupta, Dr Megha Yadav, etc were present in it. The inauguration ceremony was inaugurated by their hands... Workshops on dental laser and dental aesthetic were also organized. On the first day, 200 plus delegates participated in the conference!

Dr. N. S. Lodhi
Hon. Secretary
IDA Agra Branch

Dr. Yunus Khan
President
IDA Agra Branch

IDA DEORIA BRANCH organized a CDE program in which Dr. Nikhil Bahuguna was our speaker. Topic of CDE program was: Smart Restoration in daily dental practice. Dr. Murari Sharma, Vice President, IDA HO was our special guest. Chief Medical Officer, Mr. Anil Kumar Gupta was our guest of honor. Around 70 participants were there in the program. Lecture was followed by Hands on.

Diary of Events 2024-25

DA WDC Diwali meet event was organized on 15th October 2025 by IDA DEORIA BRANCH. We had a wonderful time together with lots of fun, games and crackers

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