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Awareness of Micro-Implants among Dental Practitioners

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ABSTRACT

Introduction: Anchorage control is one of the most important aspects of orthodontic treatment. The success of orthodontic treatment hinges on the anchorage protocol planned for a particular case. Introduction of Temporary anchorage devices in orthodontics have solved this problem as they have become the best source of reinforcing anchorage revolutionizing the field of anchorage in Orthodontics. **Materials and Method:** This is a cross-sectional study conducted with general dental practitioners. Two hundred dentists were asked to click on a link to complete an automated questionnaire of 10 multiple-choice questions submitted through google forms.

Results: The present study was undertaken to assess the awareness of micro-implants amongst dental practitioner's general practitioners. They had a fair knowledge about micro-implants but were not entirely aware about it. **Conclusion:** This survey displays the awareness regarding mini-implant usage in clinical practice among general dental practitioners. Although, orthodontists visiting the dental office had thorough knowledge about micro-implants, however, general practitioners had idea about micro-implants but were not entirely aware about it.

Keywords: Micro-implants, Orthodontists, General Practitioners

INTRODUCTION

Anchorage control is one of the most important aspects of orthodontic treatment. The success of orthodontic treatment hinges on the anchorage protocol planned for a particular case. Use of extra oral anchorage devices require full patient cooperation, which is unpredictable and sometimes not possible. Introduction of Temporary anchorage devices in orthodontics have solved this problem as they have become the best source of reinforcing anchorage revolutionizing the field of anchorage in Orthodontics. They are devices that are temporarily fixed to the bone for the purpose of enhancing orthodontic anchorage either by supporting the teeth of the reactive unit (indirect anchorage) or by obviating the need for the reactive unit altogether (direct anchorage), which is subsequently removed

after use. They work on the principle of Osseo integration. The use of implants as a source of anchorage has a number of advantages such as no patient cooperation, easy to use, shortening of treatment time and good control on tooth movements.

Orthodontic mini-implants have been in clinical practice since Konomi first mentioned them as an anchorage device in 1997.1 contemporarily, miniimplants have a wide array of indications in clinical practice with a wide range of size and design options. Mini-implant anchorage is reported to be used in many cases, such as the upper third molar alignment,2 correction of a canted occlusal plane2, alignment of dental midlines2, correction of deep overbites,2,3 closure of extraction spaces,4-6

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extrusion of impacted canines,7 extrusion and impacted uprighting of molars,8-10 molar intrusion,11-15 maxillary molar distalization, distalization of mandibular teeth, 16-20 intermaxillary for correction sagittal anchorage the of discrepancies, 16, 21 en masse retraction of anterior teeth.21 molar mesialization,22,23 and correction of vertical skeletal discrepancies,23,25 close edentulous reposition malposed spaces, teeth. reinforce anchorage, correct severe malocclusions, partial edentulism, individuals requiring surgical intervention and orthopedic movement.

In the current era of evidence-based practice, it is necessary to have a scientific rationale for any treatment modality, hence, it was felt necessary to explore the awareness and knowledge of microimplants by general dental practitioners.

This present study was designed to investigate the general awareness of micro-implants among dental practitioners.

MATERIALS AND METHOD

This is a cross-sectional study, conducted with general dental practitioners. An invitation for the **RESULTS**

questionnaire was sent via e-mail, and the dentists were asked to click on a link to complete an automated questionnaire of 10 multiple-choice questions created through google forms. All of the questionnaires were automatically saved in an online system. The questionnaire was blinded and did not require any personal information. Two hundred practitioners were asked to join the survey and all answered all the questions. The objective of this study was to assess the percentage of general awareness of micro-implants among general dental practitioners and factors influencing the use of microimplants. The selection criteria was based on general dental practitioners of central India population who were willing to participate in this investigation.

STATISTICAL ANALYSIS:

The responses to questionnaires were summarized and this was accomplished by converting the recorded information into representative numbers (codes). The data was entered and analyzed using Statistical Package for Social Sciences (SPSS) version 25 software package (SPSS Inc., IBM, and Chicago, IL, USA). The responses of the questionnaire were scored as Yes (1) and No (0).

TABLE 1: AWARENESS OF MICROIMPLANTS AMONG DENTAL PRACTITIONERS

QUESTIONS	NO. OF PARTICIPANTS	TOTAL RESPONSE S (%)
Total number of responses	200	100
1) Do you practice Orthodontics as a speciality?		
Yes	17	8.5
No	183	91.5
2) Do you have a specialist visiting your dental office		
and is he/she aware of recent advances in Orthodontic practice?		
Yes	157	78.5

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No	43	21.5
3) Are Dental implants and Micro-implants same?		
Yes	12	6
No	188	94
4) Are you aware that Microimplants are a part of		
Temporary Anchorage Devices?		
Yes	101	50.5
No	99	49.5
5) Are you aware that Micro-implants can be used to		
treat various types of malocclusions like intrusion,		
extrusion, expansion, etc?		
Yes	151	75.5
No	49	24.5
6) Do you think Micro-implants can be used as a		
substitute for conventional anchorage methods (like		

Nance palatal arch, Transpalatal arch, Lingual arch etc) and are they superior?		
Yes	151	74.5
No	49	24.5
7) Do you know that skeletal jaw discrepancies can be		
treated without orthognathic surgery and with		
camouflage treatment using Micro-implants?		
Yes	75	37.5
No	125	62.5
8) Do you know about the various types of other		
Temporary Anchorage Devices used in		
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Orthodontics?		
Yes	79	39.5
No	121	60.5
9) Do you think absolute anchorage can be		
accomplished using Micro-implants?		
Yes	76	62
No	124	38
10) Do you think use of Micro-implants reduces		
treatment time?		
Yes	182	91
No	18	9

The present study was undertaken to assess the awareness of micro-implants amongst dental practitioners. A total of 200 members participated in the present study, out of which only 17% practiced Orthodontics. 78.5% of the specialist visiting dental office are aware of the recent advances in Orthodontic practice. Majority (94%) of the dental practitioners were aware that the dental implants and micro implants are not same. 50.5% of the participants knew that the micro-implants are a part of temporary anchorage devices. 75.5% of the dental practitioners were aware that the micro-implants can be used to treat various types of malocclusions like intrusion, extrusion and expansion. 74.5% of the

practitioners thinks that micro-implants can be used as a substitute for conventional anchorage methods (like Nance palatal arch, Transpalatal arch, Lingual arch etc) and they are superior as well. Only 37.5% were aware that the skeletal jaw discrepancies can be treated without orthognathic surgery and with camouflage treatment using micro-implants. Most (60.5%) of the dental practitioners are not aware of the various types of other temporary anchorage devices used in Orthodontics. 62% think that the absolute anchorage can be accomplished using micro-implants. Majority (91%) of the practitioners know that the use of micro-implants reduces treatment time. (Table 1).

Figure 1: Percentage of Awareness of Micro-Implants among Dental Practitioners



Volume 2, Issue 5; September-October 2019; Page No.297-302 © 2019 IJMSCR. All Rights Reserved The graph shows percentage awareness of micro implants amongst dental practitioners for each question. (Figure 1)

DISCUSSION

Micro-implants have become very popular in contemporary orthodontic practice, owing to their minor surgical intervention, temporary usage, immediate loading, small size, and good anchorage control abilities.

The survey was blinded on purpose so that the participants were encouraged to answer truthfully without the hesitation of being judged.

Two hundred practitioners were asked to join the survey and all answered all the questions. The objective of this study was to assess the percentage of general awareness of micro-implants among general dental practitioners and factors influencing the use of micro-implants. The selection criteria was based on general dental practitioners of Central India population who were willing to participate in the study.

The present study was undertaken to assess the awareness of micro-implants amongst dental practitioners. A total of 200 members participated in the present study, out of which only 17% practiced Orthodontics. 78.5% of the specialist visiting dental office are aware of the recent advances in Orthodontic practice. Majority (94%) of the dental practitioners were aware that the dental implants and micro implants are not same. 50.5% of the participants knew that the micro-implants are a part of temporary anchorage devices. 75.5% of the dental practitioners were aware that the micro-implants can be used to treat various types of malocclusions like intrusion, extrusion and expansion. 74.5% of the practitioners thinks that micro-implants can be used as a substitute for conventional anchorage methods (like Nance palatal arch, Transpalatal arch, Lingual arch etc) and they are superior as well. Only 37.5% were aware that the skeletal jaw discrepancies can be treated without orthognathic surgery and with camouflage treatment using micro-implants. Most (60.5%) of the dental practitioners are not aware of the various types of other temporary anchorage devices used in Orthodontics. 62% think that the absolute anchorage can be accomplished using micro-implants. Majority (91%) of the practitioners

know that the use of micro-implants reduces treatment time.

However, in the literature, there are no published data that report the awareness of micro-implants among general practitioners although most of them had a specialist visiting their dental office. The present study was designed to assess the knowledge and general idea of micro-implant usage, and one of our main aims was to determine whether the general practitioner is aware of the plethora of use of microimplants as they are on the forefront and the first line of approach for the general population who would be subsequently guided to the specialist promoting referral practice.

CONCLUSION

Therefore, the results of this study suggest that there is lack of awareness among general dentists about micro-implants, although most of them have a specialist visiting their dental clinic. They exhibit a fair general knowledge, however, their awareness of micro-implant usage in clinical practice and towards approaches in treatment planning in Orthodontics, inturn educating the masses is the need of the hour encouraging referral practice and successful adjunctive and comprehensive treatment outcomes.

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