

Evaluation of the Awareness Regarding Dental Implants in South Mumbai

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ABSTRACT

*Aim-*In developing nations like India, awareness and education regarding dental implants as a treatment modality is still insufficient. As Implant dentistry is currently the leading and exclusive treatment modality, there is a need to understand its awareness in the general population. The main aim of this survey was to assess the knowledge and awareness in the general population of Mumbai regarding dental implants prior to undergoing this procedure.

Material and Methods- A Questionnaire based survey consisting of 19 questions was created via google forms and disseminated using various messaging platforms on the internet like whatsapp, facebook and others; with a single choice of answer to be marked on basis of which we received 408 responses. Statistical Analysis was performed using spss 17.0 and anova test was used to study significance ($p < 0.01$).

*Results-*The responses recorded shows individuals requires less time for healing when compared with at least 2 months after placing the dental implants but maximum responses expects at least 2 months of healing period after tooth extraction while performing dental implant procedures the bulk of the participants wanted it to be performed by Dental specialties like the periodontist, prosthodontist and not by the Dentist or other skilled forms.

*Conclusion-*The general population is quite knowledgeable with regard to dental implants and their limitations, which indeed helps understand their necessities while treating them and thereby improve the dentist-patient relationship for delivering the best treatment possible.

Keywords: Dental implants, Survey, Mumbai

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I. Introduction

Dental implantology is fast becoming a specialty in the field of dentistry¹. Within the last few decades, dentistry appears to have made its most significant advancement in the field of dental implantology²⁻⁴. In Developing nations like India, before opting for it as a treatment modality the general population should be aware of the procedure as well as the consequent outcomes⁴. They should be able to weigh their options before and after selecting implant dentistry a treatment modality. The purpose of Implant dentistry should serve individuals and help assess their total needs with regard to cost, function, esthetics and longevity⁴.

Mumbai being the financial, commercial and entertainment capital of India, with several dentists practicing their specialties and with recent advancements like implant dentistry, it becomes essential to gain information regarding the awareness of implants in this region. Hence, the aim of this study was to assess the knowledge of the population of South Mumbai with regard to the awareness, information, and their acceptance and satisfaction on dental implants as a treatment option.

II. Materials And Methods

A questionnaire-based survey in English language consisting of 19 questions on implant treatment awareness was sent to randomly selected 500 individuals in the city of South Mumbai, India out of which 408 responses were received. Distribution for each question was assessed using percentages in a demographic bar graph form. Each question allowed only a single choice answer. The survey was sent via the internet through various social media platforms like WhatsApp, Facebook and others to random individuals⁷. The questionnaire was sent out in September 10/2019 -till October 10 /2019. Statistical Analysis was performed using spss 17.0 and anova test was used to study significance ($p < 0.01$).

The Questionnaire Google form consisted of the following questions and a series of choices, to which an individual selected a single choice.

- Q1. Are you aware of dental implant treatment as an alternative for missing teeth ?**
- Yes
 - No
 - Maybe
- Q2. What alternatives do you know for replacing teeth ?**
- Complete Denture
 - Partial dentures
 - Bridges (Fixed partial dentures)
 - none of the above
- Q3. If you have heard of dental implants where have you heard it from?**
- Newspapers/Magazines/Articles/Journals
 - Television/radio
 - Internet
 - Dentist
 - Relatives
- Q4. Are you willing to go for Implant treatment if required?**
- Yes
 - No
 - Maybe
- Q5. What do you think are the limitations of implant-supported crowns/bridges/dentures?**
- High cost
 - Lack of knowledge
 - Need for surgery
 - Long treatment time
- Q6. Do you think insurance coverage is needed in our country for dental implant treatment?**
- Yes
 - No
- Q7. Would you accept to undergo bone harvesting procedure for the treatment?**
- Yes
 - No
 - Maybe
- Q8. Would you prefer intra -oral harvest bone procedure?**
- Yes
 - No
 - Maybe
- Q9. Would you prefer graft from an animal like a cow,pig,etc?**
- Yes
 - No
 - Maybe
- Q10. Would you prefer the use of synthetic bone substitute material to avoid bone graft surgery?**
- Yes
 - No
 - Maybe
- Q11. Would you accept additional costs of guided implant surgery to avoid bone graft surgery?**
- Yes
 - No
 - Maybe
- Q12. Would you expect fixed dentures to last longer than removable dentures?**
- Yes
 - No
 - Maybe
- Q13. Would you expect dental implants to last for a lifetime?**

- Yes
- No
- Maybe
- Q14. Would you expect implant supported dentures to last longer than tooth-supported dentures?**
- Yes
- No
- Maybe
- Q15. Would you expect a healing period of at least 2 months after tooth extraction?**
- Yes
- No
- Maybe
- Q16. Would you expect a healing period of at least 2 months after implant placement?**
- Yes
- No
- Maybe
- Q17. Would you accept Implants to be placed by a general dentist or a specialist (Periodontist, Prosthodontics, etc) to do so?**
- Yes, only by a Dental Speciality
- Yes, by a General Dentist only
- BOTH
- Q18. Do you think post-operative care after implant placement is very difficult for smokers?**
- Yes
- No
- Maybe
- Q19. Post -implant placement care is very crucial?**
- Agree
- Disagree
- Strongly disagree

The representation of the questionnaire in form of tabulated bar graph. The responses were as follows.

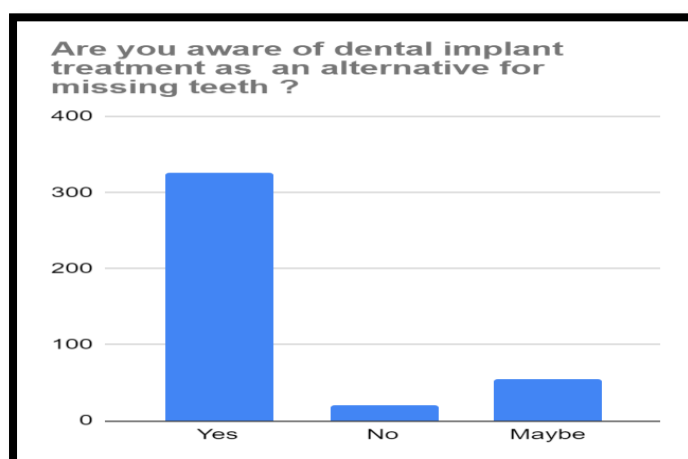


FIGURE 1-Represents the awareness of dental implant treatment as an alternative for missing teeth.

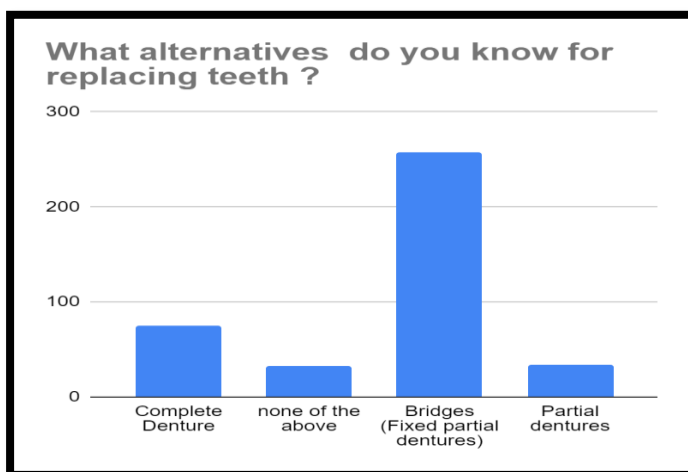


FIGURE 2-Represents the alternatives of replacing teeth.

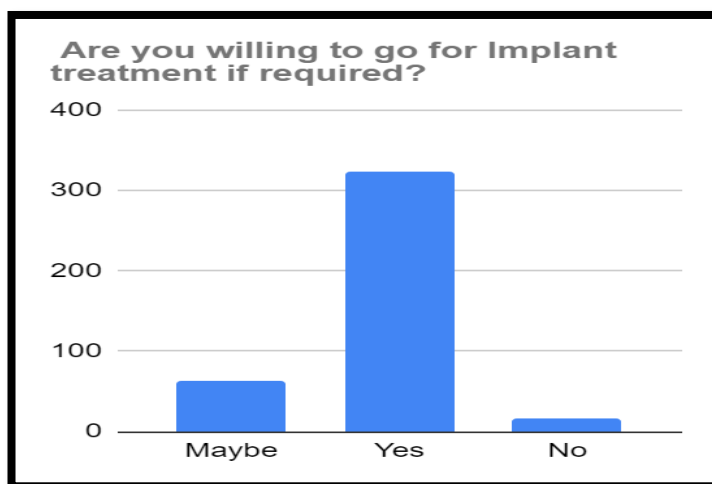


FIGURE 3-Represents the willingness to go for implant treatment if required.

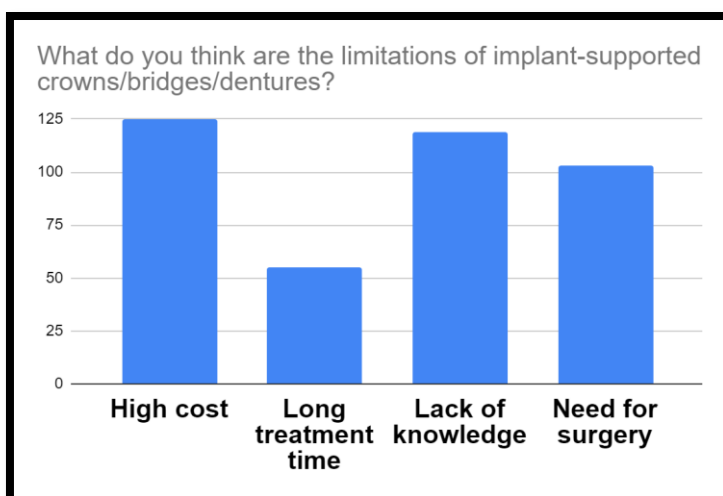


FIGURE 4-Represents the major limitation to the implant supported prosthesis.

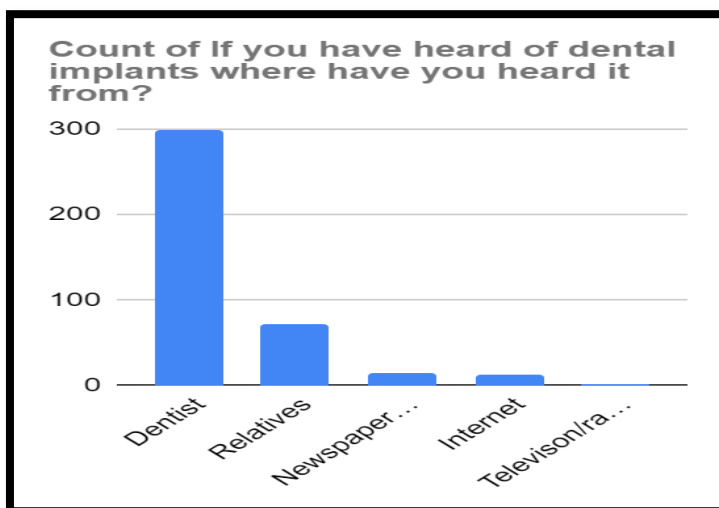


FIGURE 5-Represents how an individual has come to know or has heard about dental implants from-Dentists, relatives, internet, television and radio.

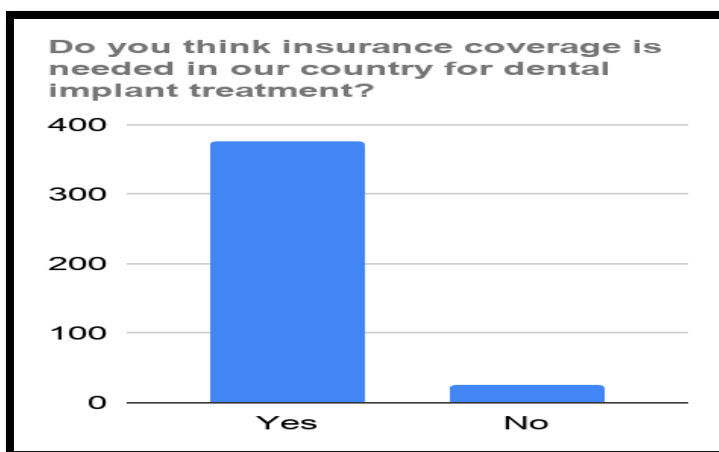


FIGURE 6-Represents the need for insurance coverage in our country for dental implant treatment.

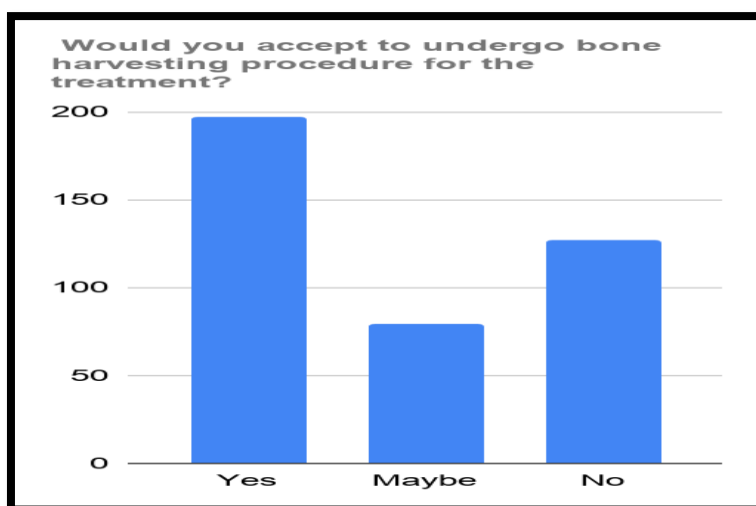


FIGURE 7-Represents the acceptance of Bone harvesting procedure for the treatment.

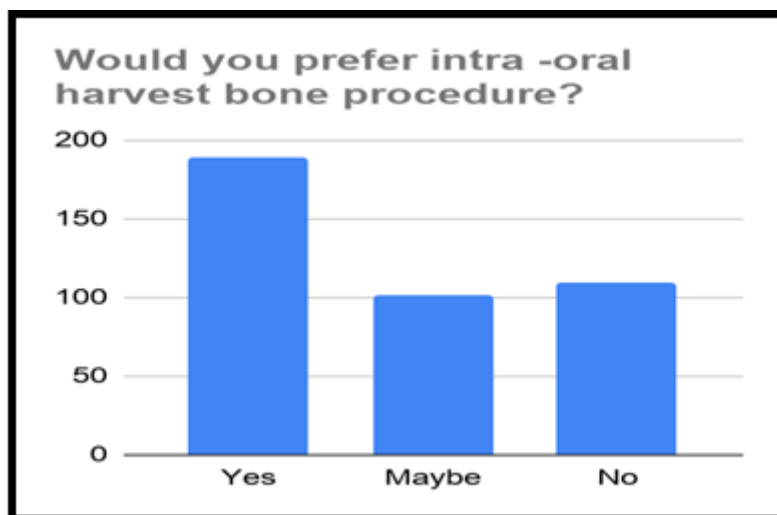


FIGURE 8-Represents the preference of the intra oral harvest bone procedure for the dental implants.

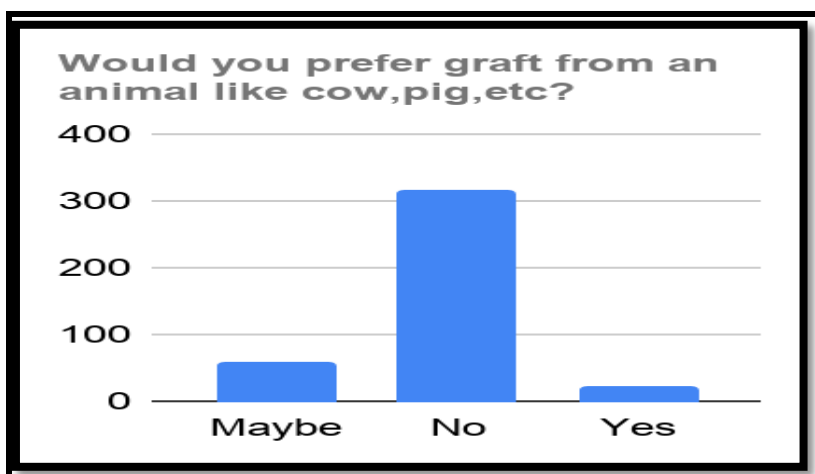


FIGURE 9-Represents the most individuals being objectionable to use of grafts from cow, pigs.

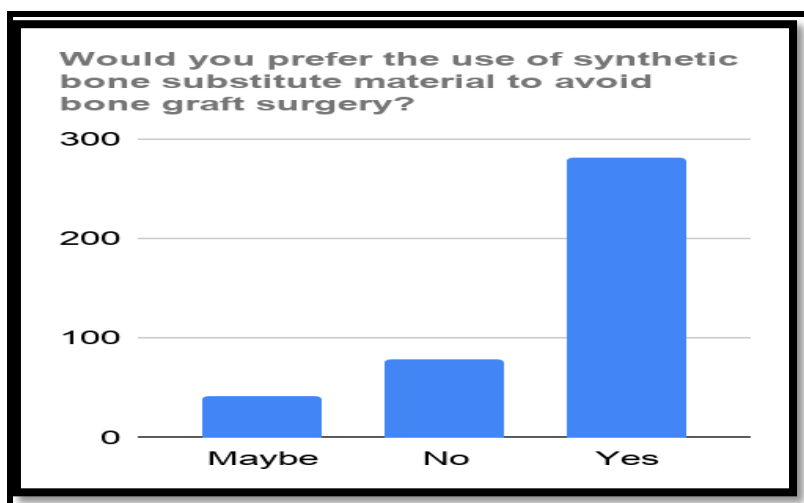


FIGURE 10-Represents the majority preference to the use of synthetic bone substitute material to avoid the bone graft surgery.

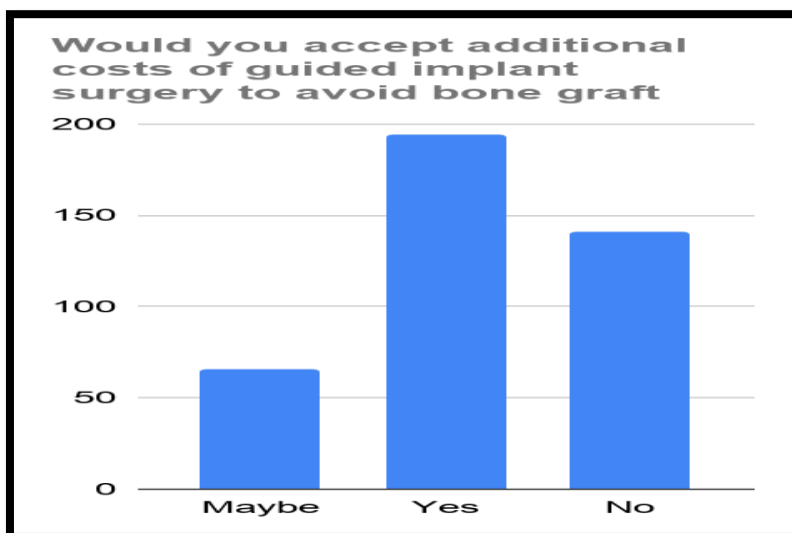


FIGURE 11-Represents majority of population is ready to go high on budget and spend an additional expense to receive a guided implant surgery than have a bone graft.

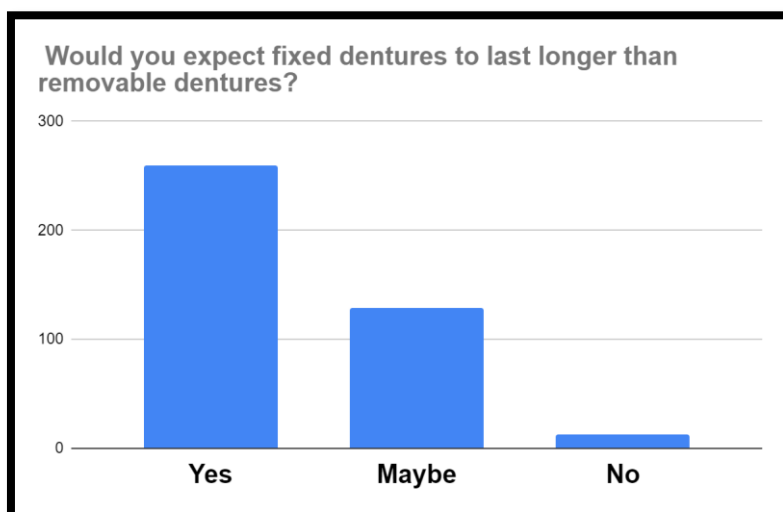


FIGURE 12 -Represents most individuals expecting Fixed dentures to last more than Removable dentures.

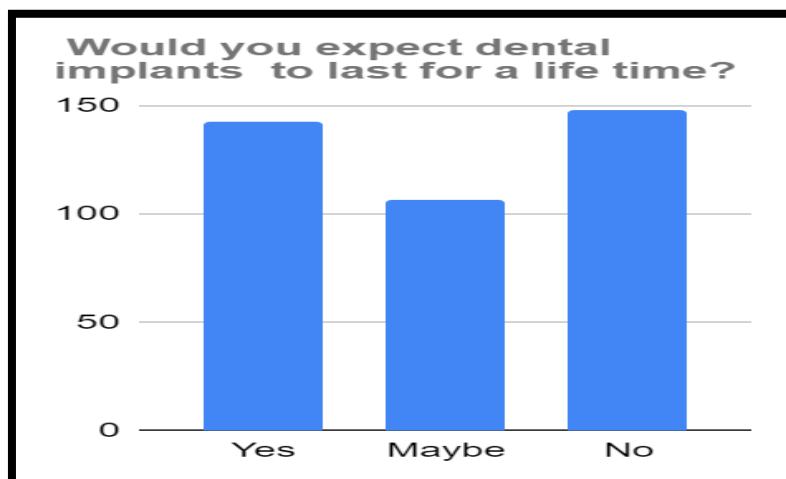


FIGURE 13-Represents population mindset of dental implant not lasting throughout a lifetime.

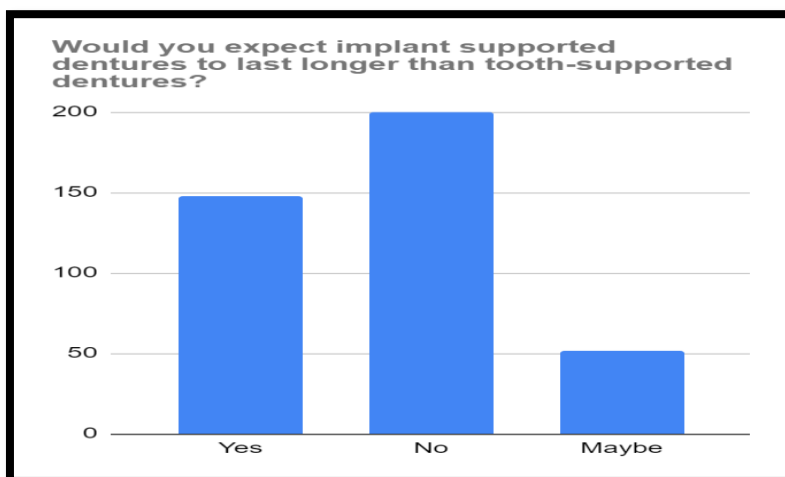


FIGURE 14- Represents the Majority of responses agreed to no expetency with longetivity of implant supported dentures when compared with tooth supported dentures.

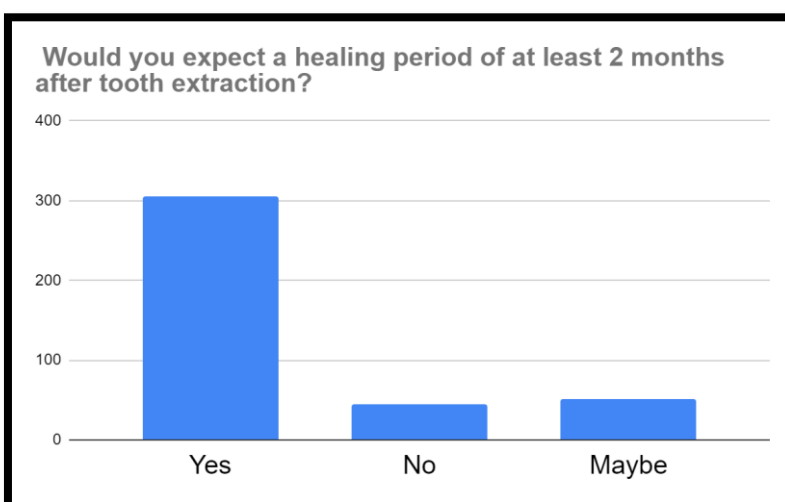


FIGURE 15-Represents population expectancy of at least 2 months of healing period after tooth extraction.

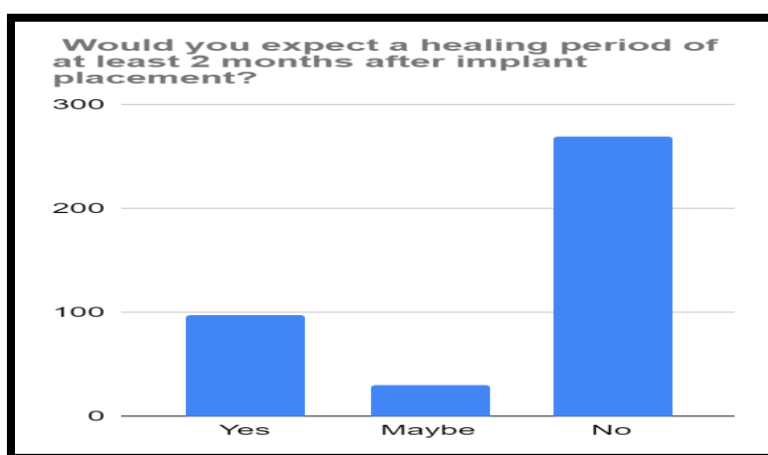


FIGURE 16-Represents majority of individuals require less time for healing when compared with atleast 2 months after placing the dental implants

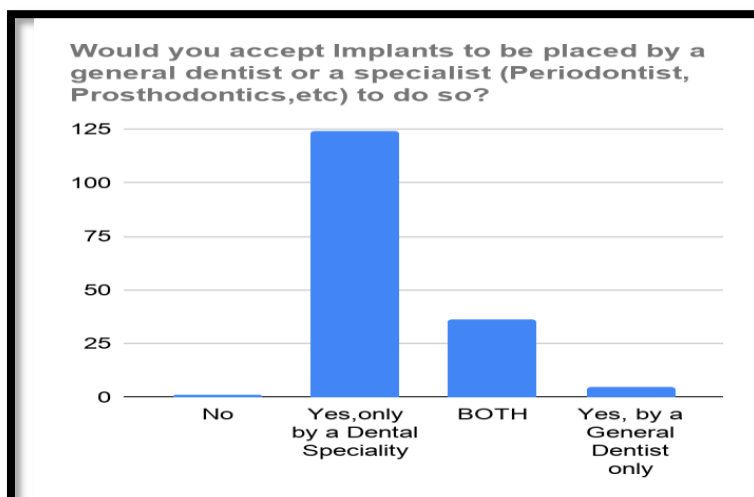


FIGURE 17-Represents the acceptance of dental implant to be placed by Dental Specialities only.

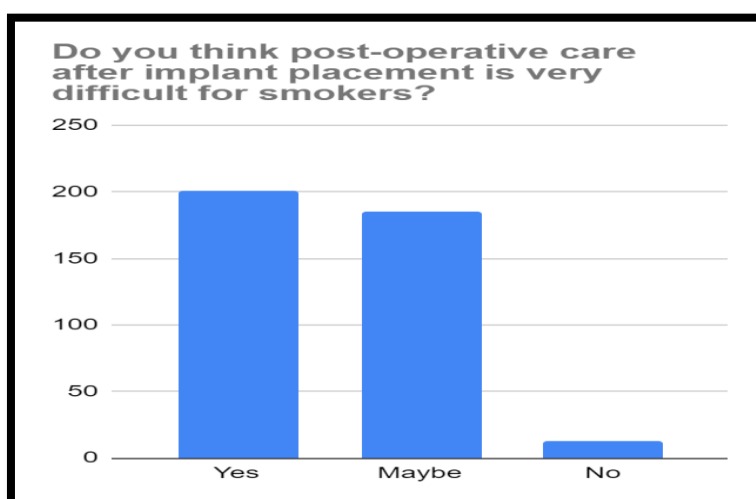


FIGURE 18-Represents most of the population aware about post operative care after implant placement is highly difficult for an individual prone to smoking.

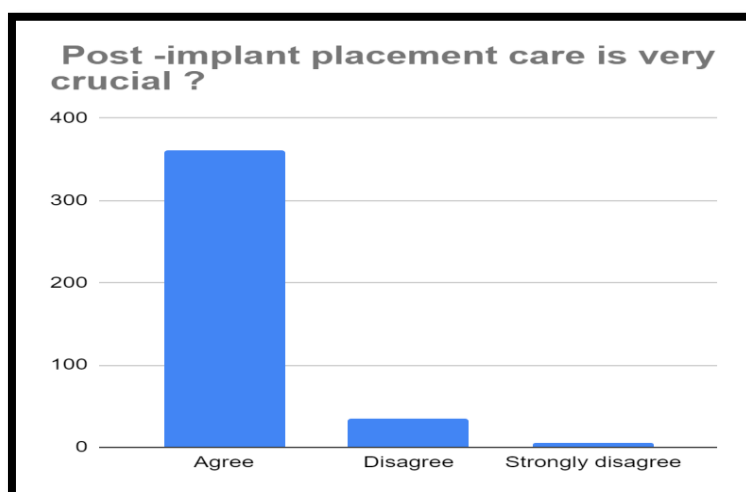


FIGURE 19-Represents the major awareness for post – implant placement care being highly crucial.

III. Result

For those who were asked about the awareness regarding the dental implant being a replacement for missing teeth, maximum number of people were aware of it as shown. When asked about other alternatives for replacing the missing teeth the population was very well known to Fixed partial dentures and other choices of treatment had poor knowledge. Implant treatment modality was majority of the participant's choices, while the cost was the major setback as well as limitation for the implant supported prosthesis. Out of all platforms for awareness, dentists served as a primary medium in case of implant treatments. Acceptance rate for undergoing bone harvesting treatment had affirmative response, with the intra-oral bone harvest as well use of synthetic bone materials weighed a approachable form of treatment as compared to other substitutes for grafting procedure. There was higher incidence of objection when asked if the majority were considerate for the use of grafts from cows, pigs, etc animal sources. The religious belief is thought to play an important role for the refusal of the graft from the above sources. Longevity of the implants to last for a lifetime when asked to the participants, maximum responses were sure that implants do not have an expectancy of a lifetime. When the subjects were asked if they would pay an additional cost to receive a guided implant surgery than have a bone graft, the responses were positive. The maximum participants of this survey insisted that India should have an insurance coverage for the dental implant treatment as well. The mind set and the acknowledgment of the participants to the fact that the fixed dentures last longer than removable ones but had of tooth supported dentures lasted for a longer period than the implant supported was shown by the responses recorded. The responses recorded shows individuals requires less time for healing when compared with atleast 2 months after placing the dental implants but maximum responses expects at least 2 months of healing period after tooth extraction while performing dental implant procedures the bulk of the participants wanted it to be performed by Dental specialties like the periodontist, prosthodontist and not by the Dentist or other skilled forms. When questions were asked about the post-operative care post implant placement in terms with individuals who are prone to smoking, the response recorded agreed to the fact that post-operative treatment care is difficult for such individuals. The potential success behind dental implants is post-operative care being crucial.

IV. Discussion

Missing teeth in the oral cavity have replacement options such as the removable form and fixed form⁵.⁶. The removable ones are called complete dentures and partial dentures, while the fixed depending on the number of teeth missing to the inter-arch space present, are single or multiple bridges, out of which dental implants emerge as the most common alternative known among the population assessed, which gives us the overview that the population is knowledgeable with the changing trends in dentistry^{5, 6}. It is thus, every patient's desire to always have a fixed form of treatment option, which makes implants as the most prevalent choice of all, showing willingness to undergo the surgical steps involved are -extraction of the tooth (if required), graft placement depending on the extraction site, surgical procedure (flap reflection), final impression and then delivery of the crown (cement retained or screw retained), which is followed by healing phase and post-operative care instructions^{5, 7}.

The main reason for the popularity of this treatment type made so widespread is by dentists themselves and not by any other means, which makes the patient trust and be well-known prior to choosing other alternatives. Most importantly, once you accept dental implant as a treatment modality, it goes without saying that you are well aware of the steps required and to be followed. Additional expenditure in the process, which includes incases of an osseous defect, bone harvesting procedure or insertion of graft, depending on the quality of the bone, age of the patient, interarchspace and patient compliance are another aspect and shown to be agreed upon the majority of the population⁸⁻¹². The selection of the material of choice plays a pivotal role. Having substantial intellect about making the choice for a graft as a patient is a key factor. Blood supply to the bone plays a major role in the transplanted site, depending on the site and size of the graft used, additional blood supply is required. More favoring towards the synthetic bone graft over the non-synthetic one. The grievances is shed over the responses to the graft achieved from animals like cow, pig, etc. may be due to the emotional and religious sentiments attached to the population being assessed, the unfamiliarity of the method or the risk of infection. The synthetic ones which are available like alloplastose no risk of disease transmission. The most common alloplastic materials are calcium phosphate based ceramics such as hydroxyapatite (HA) and tricalcium phosphate (TCP) which are bioactive in nature as well as resorbable¹³⁻¹⁵.

Then comes the additional cost corroborated with these additional procedures which may or may not have satisfactory result, but the feature of the dental implant being a fixed form of treatment, makes the decisionmaking process of the patient quite easier. Then the biggest risk factor when weighed among the population is smoking, a deleterious habit which not only impacts the mouth and overall health but also is a mere set back in the healing rates of the extraction sockets as well as post placement of implants. Post-operative care and instructions needs to be followed strictly for patients having such a habit or else the chances of implant failure are seen in future. Healing plays a role in success of an implant. Generalized knowledge of extraction

healing sites and implant healing sites appears to be an aware criteria Therefore to patiently wait for the desired period and follow the strict regulations during the healing phase is quiet essential.As dental problems cannot be neglected and is shown to be a high cost expenditure,the increased need of dental insurance comes to highlight by highest number of responses given to it.Health insurance companies are emerging but not with the par with dental insurance. Having dental insurance will not only be easy on the patients finances but will also help increase their routine dental check -up visits, regular dental consultations ,discounts on basic scaling and polishing ,treatments like root canal ,crown placement ,whitening procedures would be partially covered and with other added benefits ,which will only reduce the neglect towards dental health.

The results depict the necessity and requirement by the individual who would undertake dental implants as a replacement of missing teeth procedure and use of grafts if necessary i.e. either synthetic types or human derived.The limitations associated with the use of naturally animal derived bone graft by cow, pig, etc due to emotional and religious sentiments associated with the Hindu population of South Mumbai. The need for insurance in the country and the knowledge for additional procedures as well as cost associated with it sheds light on how individuals are willing to take additional steps for the longevity of the treatment.Smoking plays a major role in healing and is known to the public and generalized knowledge of extraction healing sites and implant healing sites appears to be an aware criteria^{16, 17}.Among all sources Dentists spread the word of the dental implants, that's how the people of Mumbai have their best source of wisdom about dental implants.Lastly also a matter of crucial importance is given is to the specialty and level of skilled dentist. Who would be undertaking this procedure .Highly opting for specialties with master's degree intheir field is the current choice.Thereby the overall results depict the necessity and requirement by the individual who would undertake dental implants as a procedure. To make the dentist -patient relationship more engaging and beneficial, this assessment will help to locate the actual requirements and areas of expertise thatrequires attention by the opinion of the public,through which a thorough and benefactor relationship can be established in the near future.

V. Conclusion-

The general population is quite knowledgeable with regard to dental implants and their limitations ,which indeed helps us to know their necessities while treating them and thereby improve the dentist-patient relationship for delivering the best treatment possible.The more we know about the what the general population expectations and choice of modality in forms of ease,expense,availability ,time efficiency better we as dentists can improvise on our skills and meet their requirements ,which would help to strength the patient doctor relationship. Each criteria has its own consideration to be evaluated in order to determine success.The survey is an efficacious ways we can spread knowledge as well access the mindset of an individual in regarding to the dental implants.

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