Cognition and Perception of Dental Implants among Dental Students in Chennai

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Abstract:-

➢ *Aim*

The purpose of this study was to evaluate the level of cognition and perception about dental implants among a selected section of dental students in Chennai, Tamil Nadu.

➢ *Methods*

20 questionnaire based survey was conducted through Google forms during the Covid lockdown period from September 2020 to October 2020. A total of 200 dental students participated in this survey.

➢ *Results*

On knowledge of implants as a treatment modality, 29.5 % were aware about it very well and 60.5% only moderately. Poor knowledge was exhibited by 10%. Implant treatment was considered to be conservative by 54% and 27% did not. 31% recognized case selection as the important factor for implant success whereas 27.5% related it to patient compliance and 27% to surgical technique. 53% were aware about immediate implants and 43% responded that 1 year was the duration for delayed implant placement. The main advantages of using implants was attributed to aesthetics by 21%, improved function by 12.5%, stability by 18.5% and all the three by 48%. The cost, longer treatment time and patient compliance were regarded as the main disadvantage of using implants by 45.5% of the participants.

➢ *Conclusion*

This study demonstrated a moderate level of cognition about dental implants among a selected sample of dental students from Chennai. Changes in curriculum may serve as a better resource for students to dissipate correct information and implants as a treatment option to the patients.

I. INTRODUCTION

Dental implants is one of the viable treatment option to replace missing teeth either partially edentulous or also in complete edentulism. Implants are not new - Gold implant has been tried out as early as 1809. One of the earliest implants was the Greenfield implant system which was made of iridioplatinum attached to a gold crown[1]. In 1940's, a two stage screw implant was introduced and blade implants was developed by Linkow[2] in 1967. However, the revolution in implantology was by Per Ingvar Branemark[3], who introduced the concept of "osseointegration".

Nowadays, successful implant therapy plays an important role in both functional and psychological acceptance by patients[4]. It depends on both patient and surgeon factors. Sound knowledge by the clinician, with adequate patient compliance as well as good general health leads to a predictable outcome.

Dental students at the undergraduate and postgraduate level must be aware of implants as a treatment modality to match the demands of the patients. This study was undertaken to assess their knowledge towards dental implants.

II. METHODOLOGY

This cross sectional study, was carried out in September 2020 – October 2020, Since this study was conducted during COVID 19 Pandemic lockdown period, online Google forms were distributed. A sample size of 200, randomly selected among the dental students across Chennai participated in this survey. Participants were informed about the study and assured that their participation was purely voluntary. The main outcome of the study is to assess the level of awareness, knowledge about dental implants among dental students. The required information was collected from various articles pertaining to the subject. The data was collected via, self administered structured questionnaires, which consisted of 20 questions in English terms, including demographic details, socio economic status of the participants and substantive questions exploring the students on oral hygiene practices and slowly progressing to questions on dental implants. The questionnaire had both combination of selected response to the certain questions and also few close ended questions (Yes / No). On completion, their responses were collected and subjected to statistical analysis.

III. RESULTS

Two hundred dental students were involved in the study among which 63.5% were females and 36.5% were males. Among the 200 participants, the majority recorded from Chennai (37%). With regards to SE status, 26% were in the income range of 75,000 to 1, 25,000 and only 4.5% fell under the < 10,000 category.

When quizzed about oral hygiene practices, 53% brushed once a day, whereas 41% twice a day and 6% more than twice a day. 71.5% were aware that brushing plays a vital role in maintaining oral hygiene and 21% did not. 69% agreed that oral hygiene had an impact on general health and 16.5% did not and 14.5% were undecided.

39% responded that old age was the commonest cause for tooth loss, while36.5% attributed to poor oral hygiene and 22% to systemic diseases like diabetes. 43.5% agreed that missing teeth should be replaced within 2 – 3 months, 6 months was the time period by 43% whereas 11% agreed to 1 year. 43% believed dental implants was the best treatment option while 32% FPD and 15% scored RPD.

In relation to their knowledge on implants, only 29.5 % were aware about it very well and 60.5% only moderately. Poor knowledge was exhibited by 10%. Implant treatment was considered to be conservative by 54% and 27% did not. 31% recognized case selection as the important factor for implant success whereas 27.5% related it to patient compliance and 27% to surgical technique. 53% were aware about immediate implants and 43% responded that 1 year was the duration for delayed implant placement. In relation to survival rate of implants, 31% marked Type 2 bone density while 29% and 26% scored Type 1 and Type 3 respectively.

On the concept of osseointegration, 60% were aware, and 76.2% responded that Branemark proposed the concept of osseointegration and 23.8% as Weiss. The main advantages of using implants was attributed to aesthetics by 21%, improved function by 12.5%, stability by 18.5% and all the three by 48%. The cost, longer treatment time and patient compliance were regarded as the main disadvantage of using implants by 45.5% of the participants.

IV. DISCUSSION;

This present questionnaire based study was conducted to assess perception and knowledge of dental implants among dental students. The students selected were from in around Chennai. Two hundred students were involved in this study, among them 63.5% were females, 36.5% were males. The age group was between 18 to 25 years. It was conducted during September 2020 through Google forms and data were analysed.

The questionnaire proceeded in a systematic way, firstly aboutoral hygiene, systemic health and oral health and then the options to treat a missing tooth/teeth followed by implants. Majority of the students (71.5%) were well aware of the importance of brushing in maintain oral health and 69% were sure of the impact of general health on oral health. When quizzed about dental implant awareness level majority of the respondent 60.5%were responded as moderate level about it, 29.5% were informed very well about it, only 10% responded as poor and 43% agreed that the best option for replacing missing teeth was dental implants. Our results similar to that of Arati Sharma et al[5], who reported that a total of 54.6% respondents perceived to be moderately well-informed about dental implants. This shows that students had a great interest about knowing implants, but differed from the results of Sanchez Garces et al,[6] their results being low than our current study results.

When considering the criteria for successful implant treatment, the results were divergent. 31% responded as case selection, 27.5% responded as patients compliance, 27% as surgical technique, remaining 14.5% responded as experience contributing to it success. Evidence in the literature shows case selection as the most vital factor in establishing a successful implant therapy, but only 31% here responded so. Our results are at par with Arati Sharma et al[5] wherein 31.9% of the students considered case selection as a defining criterion. This clearly shows that though the students were aware implant as a better treatment modality, they were not well cognizant about the factors. Our results are in contrast with Sanchez Garces et al[6], where 41.93% responded as case selection, and only 3.22% as surgeons experience.

When asked about conservative nature of implants than other treatment modalities, more than half (54%) of the participants responded as yes, only 27% anticipated as no, remaining 19% were not sure about it. When compared to study by Sharma et al[5], only 27.5% responded as yes, which differs from our results. Regarding the main advantages of

using implants, 21% responded as aesthetics, 18.5% as stability and retention, 12.5% as improved function, remaining 48% responded as all the above factors to be the main advantages of using implants. This clearly indicates the student's perception on the advantages pertaining to implants. Cost was quoted as the major disadvantage by 22.5% of the students, 17.5% responded as patient co-operation, 14.5% as long duration of the treatment, remaining 45.5% as all the factors to be the disadvantages of using implants.

When questioned about immediate and delayed implant placement, poor knowledge was exhibited among the students. Since the age group was randomly selected and not classified in to first to final years, it is difficult to stratify which year lacked the knowledge. Since concepts of osseointegration, immediate and delayed implants are imparted to students at the fourth and fifth year, may explain for the mixed response.

Thus from our current study, it is clear that awareness, knowledge about implants among dental students were moderate. Changes in the academic curriculum, incorporating it from first to fifth year, will enable them to be more adept in handling patients and answering their queries.

V. CONCLUSION

The present study showed a mixed response among dental students concerning replacement options for missing teeth and dental implants as a modality for teeth replacement. This indicates, dental institutions in future must alter their teaching methods to inculcate knowledge about implants from the first year so that patients can benefit from the right kind of information and treatment

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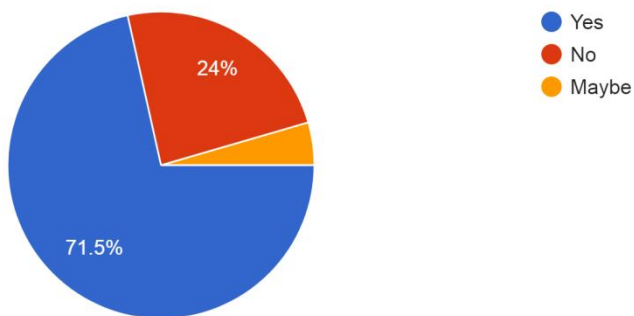
Gender

200 responses

Female
Male

36.5%

63.5%
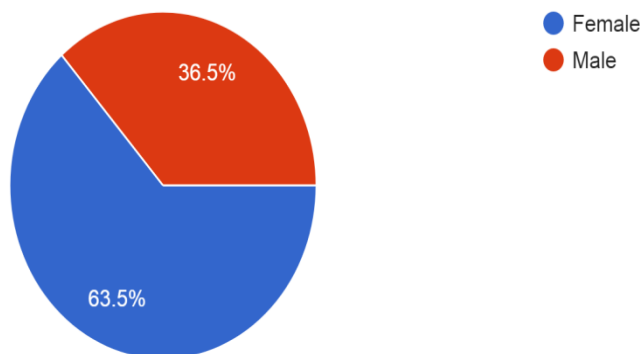
1.How often do you brush in a day?
200 responses

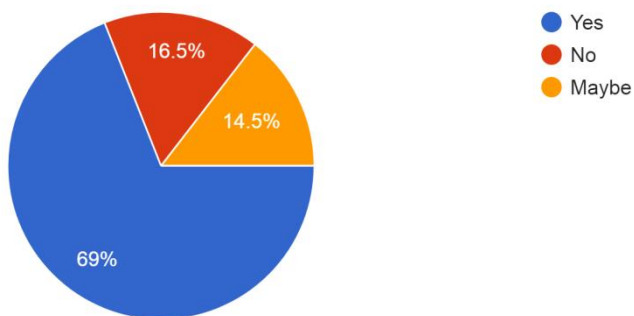

- Once
- Twice
- More than twice a day
- None
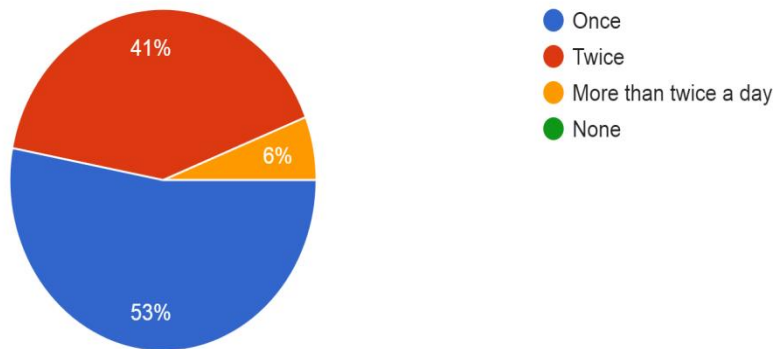
2.Does brushing play important role in maintaining oral hygiene?
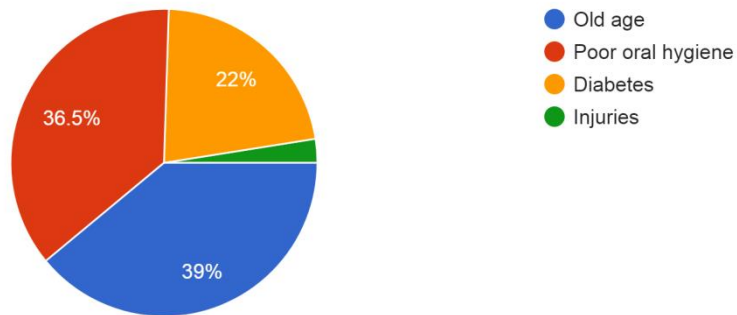200 responses

- Yes
- No
- Maybe

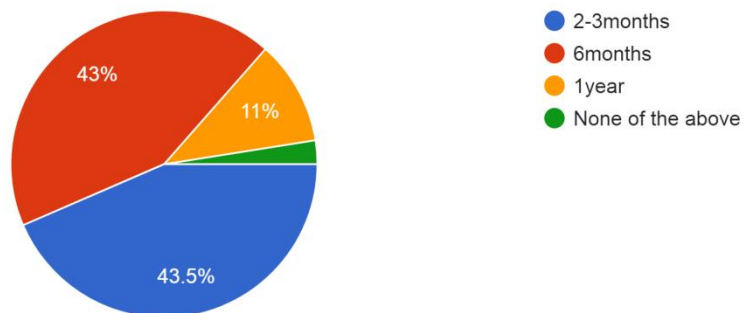3.Do you think any effects in oral hygiene can cause impact in general health?
200 responses

- Yes
- No
- Maybe

4.Do you aware about the most commonest cause of missing teeth?
200 responses

- Old age
- Poor oral hygiene
- Diabetes
- Injuries

39%
36.5%
22%

5.Missing teeth should be placed within duration of ?
200 responses

- 2-3months
- 6months
- 1year
- None of the above

43%
11%
43.5%

6.According to you which is better option for replacement of missing teeth?
200 responses

- RPD
- FPD
- Dental Implants
- No idea

43%
10%
15%
32%
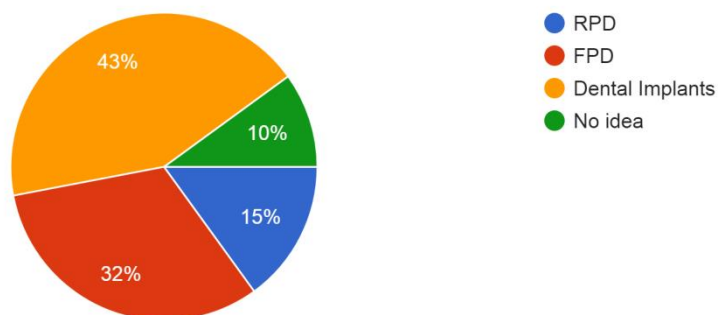
7.Do you aware about dental implants?
200 responses

- Very well
- Moderately
- Poor

60.5% | 10% | 29.5%
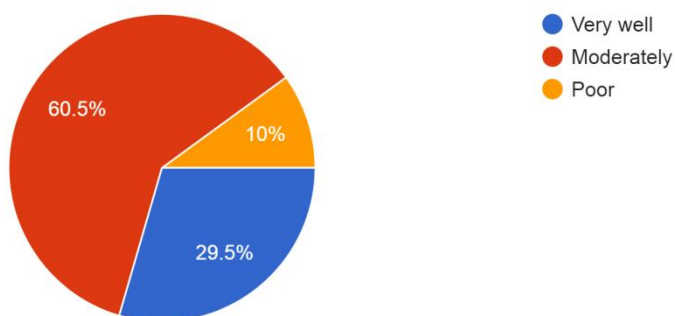
8. Do you think that implants are conservative than other treatments, in reconstruction of tooth structure?
200 responses

- Yes
- No
- Maybe

27% | 19% | 54%
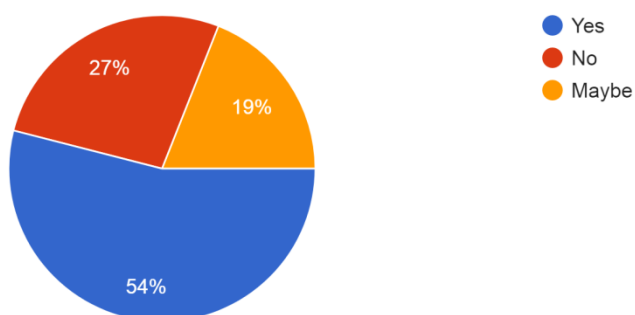
9. .Does implant require additional oral hygiene maintenance than other procedure?
200 responses

- Yes
- No
- Maybe

22.5% | 22% | 55.5%
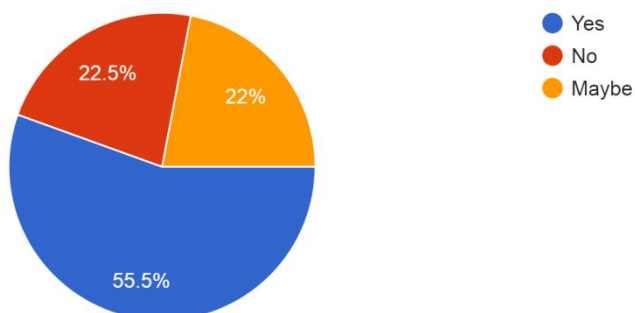
10. What is the important factor for implant success?

200 responses

- ● Case selection
- ● Patients compliance
- ● Surgical technique
- ● Experience of the operator
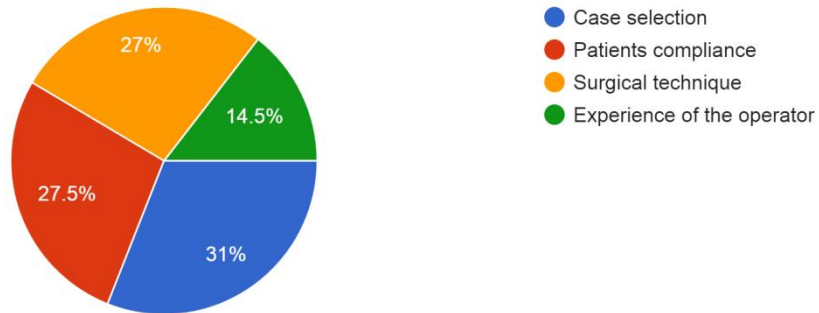
11 Survival rate of implant success, is based on which type of bone density given below?

200 responses

- ● Type 1
- ● Type 2
- ● Type 3
- ● Type 4
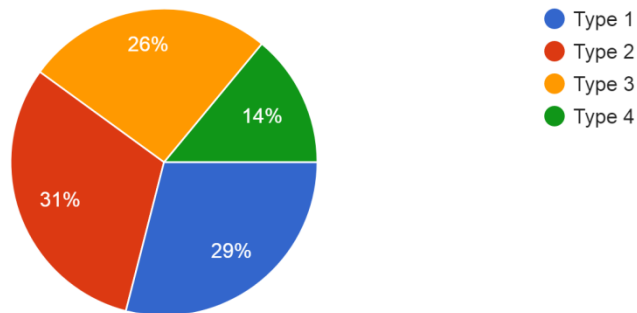
12. .Do you agree that awareness among public about dental implants are increasing nowadays?

200 responses

- ● Yes
- ● No
- ● May be
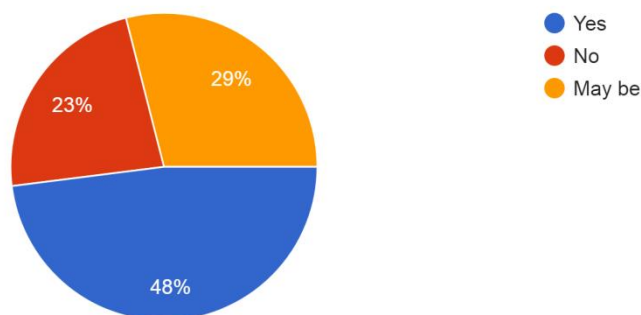
13. .Are you aware about ,immediate implant placement after extraction?
200 responses

- Yes
- No

47%
53%
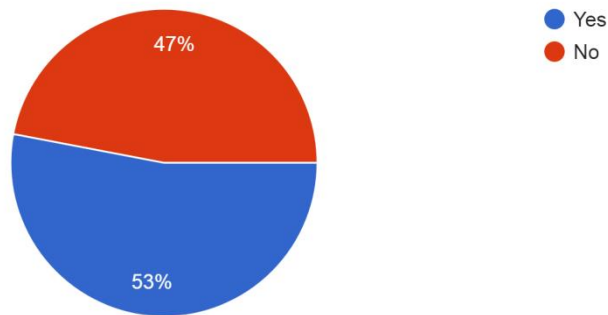
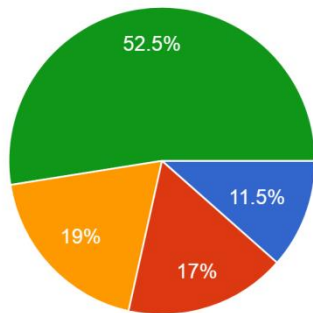14. what is the duration for immediate implant placement?
200 responses

- 1-2weeks
- 2-3weeks
- 4-8weeks
- No idea

25%
30%
7%
38%
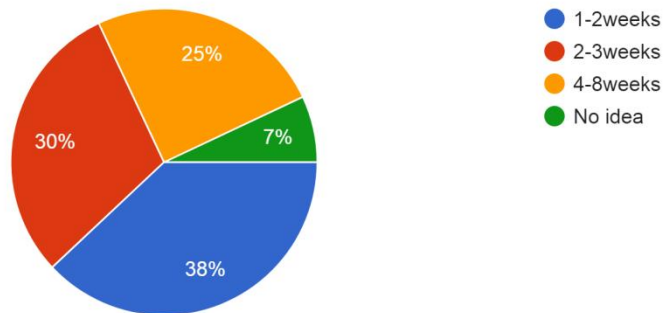
15. what is the duration of delayed implant placement?
200 responses

- After 1months
- After 2months
- After 12months
- No idea

43%
12%
18.5%
26.5%
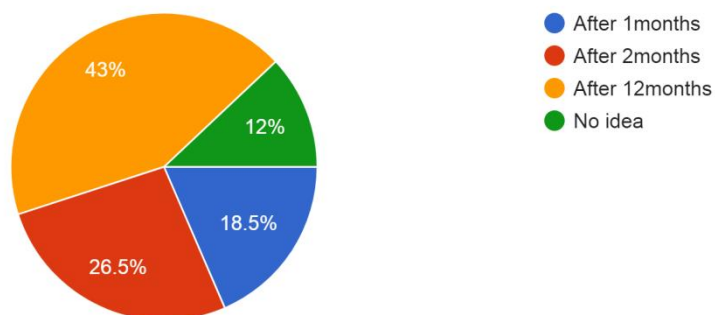
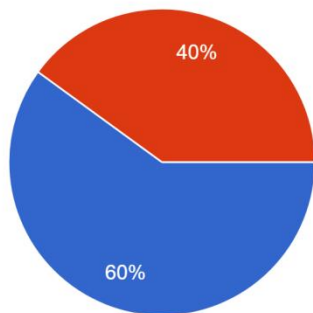16. On which factor ,Implants can be classified?
200 responses

- ● Based on placement
- ● Based on material
- ● Based on reaction with bone
- ● All the above

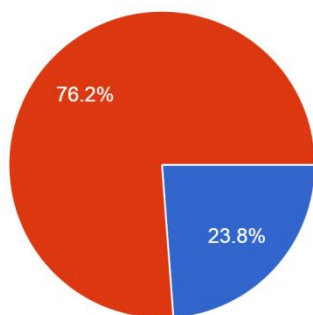17. Do you know about osseointegration?
200 responses

- ● Yes
- ● No
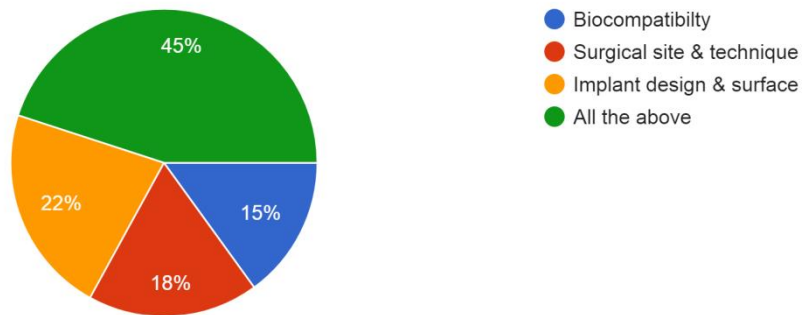
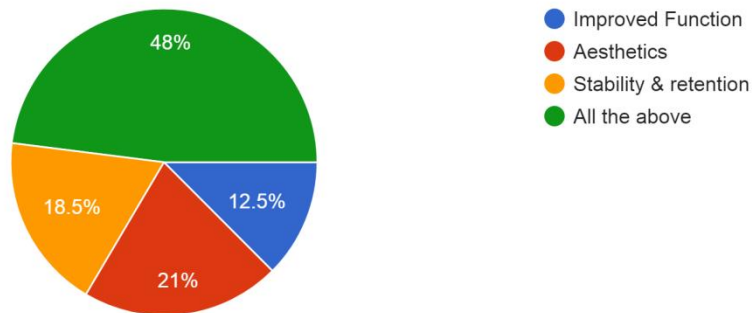if yes, who proposes osseo integration?
168 responses

- ● Wiess
- ● Branemark

18. what are the factors affecting Osseo integration?

200 responses

- ● Biocompatibilty
- ● Surgical site & technique
- ● Implant design & surface
- ● All the above

19. What is the main advantages of using implants?

200 responses

- ● Improved Function
- ● Aesthetics
- ● Stability & retention
- ● All the above

20.what is the main disadvantage of using implants?

200 responses

- ● Expensive
- ● Patient co-operation
- ● Longer duration of treatment
- ● All the above