

To evaluate the knowledge and awareness of Dental Implants and Periimplantitis among students of HCDSH, Hazaribag, Jharkhand: A Questionnaire Survey.

Abstract:

Introduction: Dental implants are widely accepted as a prosthetic treatment of completely or partially edentulous patients ever since the concept of Osseo integration has been accepted. However, there is a lack of information regarding the knowledge of Dental Implants and especially, the awareness of Peri-implantitis among students.

Objective: To evaluate the knowledge and awareness of Dental Implants and Peri-implantitis among students of HCDSH, Hazaribag, Jharkhand.

Materials and Method: A cross sectional Survey was conducted among 210 participants which included both Undergraduate and Postgraduate students of HCDSH, Hazaribag, Jharkhand using a self-explanatory questionnaire. The awareness about maintaining the hygiene for dental implants, cost, advantages, disadvantages and also knowledge about periimplantitis was assessed and the results were tabulated.

Results: 98.5% of students had heard about dental implants. 64.4% students cited high cost as the biggest disadvantage of a dental implant. Only 54.7% of students had heard about Periimplantitis. 59.8% of students didn't know the clinical features of Periimplantitis. 68.8% of students had never heard of peri implant mucositis. 68.5% of students were clueless when it came to the clinical feature of Peri implant mucositis and 65.2% of students did not know the sequelae for Peri implant disease.

Conclusion: The results of the present survey showed that the majority of the students were largely aware about dental implants but a significant majority of them were unaware about periimplantitis.

Key-words: Dental Implants, Peri implant disease, Peri implantitis, Peri implant Mucositis.

Introduction:

The ultimate aim of dentistry is to restore the patient's normal functions, proper aesthetics, normal speech and overall oral health. This includes various treatment modalities including restorations, scaling & root planning, extractions of teeth with poor prognosis and rehabilitation of missing teeth. Currently, dental implants are widely accepted as a prosthetic treatment of completely or partially edentulous patients. Dental implants when placed correctly can help improve denture retention, stability, functional efficiency and ultimately lead to an improvement in the quality of life. The other advantages of an implant-supported restoration include psychological benefits and conservation of tooth structure adjacent to the teeth to be replaced. According to Narby et al., a previous study

conducted based on two questionnaires, in Sweden, there was, over the course of a decade, a dramatic escalation in interest of implant treatment. At the time of the second survey (1999), 95% of participants expressed a desire for implant treatment in comparison with 32% in the first survey (1989)^{1,2}. Therefore,

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in terms of a permanent solution to missing teeth, dental implants come very close to the ultimate solution.

Peri-implant disease is an umbrella term that refers to all inflammatory lesions that develop in tissues surrounding dental implants (Zitmann and Berglundh, 2008)³ and it includes the two main conditions namely Peri-implantitis and Peri-implant Mucositis. In 2008, the 6th European workshop on Periodontology defined Peri-implantitis as an inflammatory disease characterized by the destruction of the supporting bone around an Osseo integrated, functioning dental implant. (Lindhe and Meyle 2008)⁴. This can compromise the longevity of an implant and, if left untreated, may lead to the loss of the dental implant.

Nowadays implant placement is a common procedure and every practitioner regardless of their specialty are doing the procedure in an almost epidemic rate. Since the procedure is extremely lucrative, a majority of dental professionals always try to include it in their treatment plan instead of opting for it on a case-by-case basis. Few practitioners are aware of the complications which can arise after a dental implant placement and even fewer know how to manage these complications. These complications which are basically peri-implant diseases, if left untreated will lead to implant failure and not to mention the psychological & physiological trauma a patient will have to undergo. This lack of awareness and especially knowledge can be seen at the most basic level of dentistry, which are the students. So, there is a need of the hour to educate and inform students about these complications as well as the general notion of dental implants, as these students of today will become the practitioners of tomorrow.

Therefore, the aim of the present study was to evaluate the knowledge and awareness of Dental Implants and Peri implantitis among students of HCDSH, Hazaribag, Jharkhand.

Material and methods:

A cross sectional survey was conducted among the students of HCDSH, Hazaribag, Jharkhand using a self-explanatory questionnaire. The survey was conducted over a period of 2 months. Final year undergraduates, interns and postgraduates' students of the college were included in the study. The information was collected using a self-explanatory questionnaire. The nature and purpose of the survey was

explained to the subjects and written consent was obtained. A total of 25 questions were selected for the survey. This protocol was approved by the Institutional Ethical Committee. Descriptive statistics were generated to summarize the responses.

Questions:

1. Gender
 - a) Male
 - b) Female
2. Designation
 - a) Undergraduates
 - b) Interns
 - c) Post graduates
3. Do you think missing teeth should be replaced?
 - a) Yes b) No c) Maybe
4. Have you heard about dental implants?
 - a) Yes b) No
5. How well informed do you feel about dental implants?
 - a) Very well b) Moderately well c) Poorly d) Not at all
6. Where did you get the information about dental implants as an alternative for replacing missing teeth?
 - a) Dentists b) Friends and acquaintances c) Books/magazine/internet
7. How long does a dental implant lasts in your opinion?
 - a) 5yrs b) 10yrs c) 20 yrs. d) A lifetime
8. What do you think is the biggest advantage of a dental implant?
 - a) Fixed replacement is better b) Looks better c) Better function in chewing d) Long term solution
9. What do you think is the biggest disadvantage of a dental implant?
 - a) High-cost b) Requires surgery c) Long treatment duration d) Pain post-surgery
10. Do you think dental implants need special care and hygiene?
 - a) No, needs less care than natural teeth.
 - b) No, but can be cleaned like natural teeth.
 - c) Yes, but can be cleaned like natural teeth
 - d) Yes, needs more care than natural teeth

11. What do you personally think of dental implants?
a) Will opt for, if needed. b) Would look for other options
12. Who in your opinion should opt for dental implants treatment?
a) Everyone b) Only rich people c) No one
13. How do you rate the treatment charges?
a) Very affordable b) Affordable c) Somewhat affordable
d) Not affordable
14. What in your opinion majorly contributes to the cost of dental implant treatment?
a) Cost of the Implant b) Cost of the surgery
c) The Dentist
d) Company supplying the Implant
e) Don't know
15. Have you heard about periimplantitis?
a) Yes b) No
16. Do you know that periimplantitis can be treated
a) Yes b) No
17. What do you think leads to periimplantitis?
a) Not maintaining proper oral hygiene after implant placement
b) Starts by it's own
c) Differs from person to person
d) Due to dentist error while placing implant
e) Don't know
18. Select the correct clinical features of Peri-implantitis
a) Itching sensation around the affected region
b) presence of inflammation confined to the soft tissue surrounding a dental implant with no signs of loss of supporting bone
c) Burning sensation around the implant
d) Includes both soft tissue inflammation and progressive loss of supporting bon
e) Don't know
19. Select the correct types of Peri-implantitis (only one option)
a) Unilateral and Bilateral
b) Chronic and Acute
c) Marginal and Retrograde
20. Select the correct type of Peri-implantitis (only one option)
a) Unilateral and Bilateral
b) Chronic and Acute
c) Marginal and Retrograde
21. Have you heard about Peri-implant mucositis?
a) Yes b) No
22. Select the correct clinical feature of Peri-implant mucositis?
a) Ulceration and abscess formation around implant
b) Bone loss and implant mobility
c) Presence of inflammation confined to the soft tissue surrounding a dental implant with no signs of loss of supporting bone.
d) Systemic symptoms like fever, malaise and GIT dysfunction along with severe pain in the affected region
e) Don't know
23. one option)
a) Assessing implant mobility
b) Assessing for tenderness on percussion
c) Assessing Bleeding on probing (BOP) and suppuration
d) Don't know
24. What is the Correct sequelae of peri implant disease?
a) Peri-implant mucositis leads to Peri-implantitis
b) Peri-implantitis leads to Peri-implant mucositis.
c) Don't know
25. Which is reversible?
a) Peri-implantitis
b) Peri implant mucositis
c) None of the above
d) Both of the above

Results:

The present survey gives information about student's awareness, acceptance and their perceived-cost of dental Implants as a treatment modality for replacement of missing teeth in patients of HCDSH, Hazaribag, Jharkhand. A total of 210 participants participated in the study. Out of the 210 participants, 70.4% were females and 29.6% were males. 92.2% were undergraduates, 6.3% were interns and 1.5% were postgraduates. When subjects were asked whether missing teeth should be replaced, 90.3% were in favour of replacing a missing tooth. (Fig 3)

On asked about the different treatment alternatives for missing teeth, 65% of students were aware of FPD, RPD, CD and dental implants. (Fig 4) 98.5% of students had heard about dental implants. (Fig 5) 47.8% of students were moderately well informed about dental implants. (Fig 6) 62.4% of students cited dentists as the source of information for dental

implants being an alternative treatment option for missing teeth. (Fig 7)32% of students were in favour of dental implants lasting a lifetime. (Fig 8) According to 59.7% students, the biggest advantage of a dental implant was that it was a long-term solution. (Fig 9) According to 64.4% students, high cost was cited as the biggest disadvantage of a dental implant. (Fig 10)

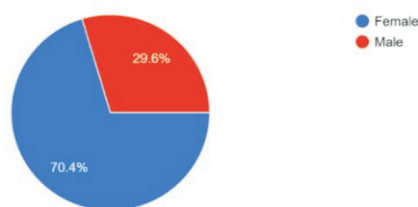
54.7% of students believed that dental implants needed special care and hygiene and could be cleaned like natural teeth. (Fig 11)84.9% of students believed that they would opt for dental implant as a prosthetic rehabilitation measure if required. (Fig 12)68.7% of students were in the opinion that dental implant treatment should be opted by everyone regardless of their financial condition. (Fig 13)46% of students rated the treatment charge of a dental implant as somewhat affordable. (Fig 14)

37.2% of students believed that the cost of the implant itself led to the increase cost in the treatment. (Fig 15)54.7% of students had heard about Periimplantitis. (Fig 16)50.3% were aware that periimplantitis could be treated. (Fig 17)Only 32.3% of students were aware that not maintaining proper oral hygiene after implant placement was the cause of Periimplantitis. However, 51.6% of students were largely unaware about the cause. (Fig 18)

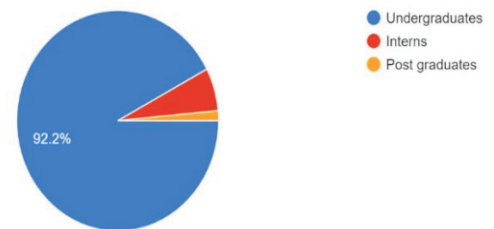
59.8% of students didn't know the clinical features of Periimplantitis. Only 17.5% of students knew the correct clinical features associated with periimplantitis. (Fig 19)Only 36.3% of students selected marginal and retrograde as the correct type of Periimplantitis. Whereas 43.9% students selected Chronic and Acute as the correct type. (Fig 20)68.8% of students had never heard of peri implant mucositis. Only 31.2% of students were aware. (Fig 21)68.5% of students were clueless when it came to the clinical feature of Peri implant mucositis. (Fig 22)

73.5% of students were unaware about methods for assessing peri implant mucositis. (Fig 23)65.2% of students did not know the sequelae for Peri implant disease. (Fig 24)According to 38.8% of students both peri implant mucositis and periimplantitis were reversible. (Fig 25)

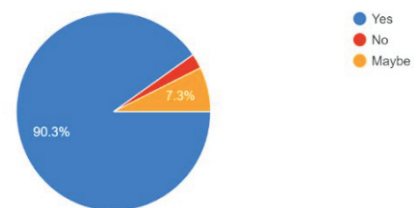
1. Gender
206 responses



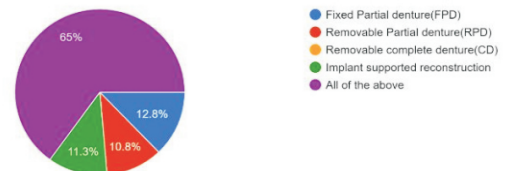
2. Designation
206 responses



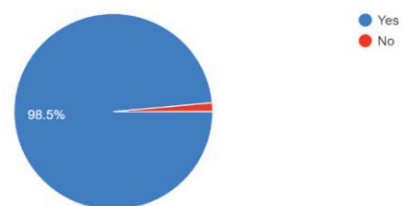
3. Do you think missing teeth should be replaced?
206 responses



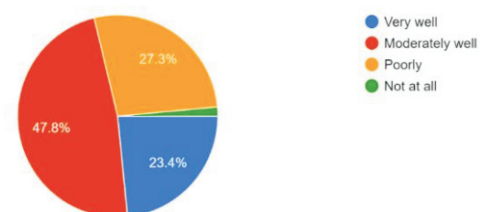
4. What alternative for missing teeth do you know?
203 responses



5. Have you heard about Dental Implants?
205 responses

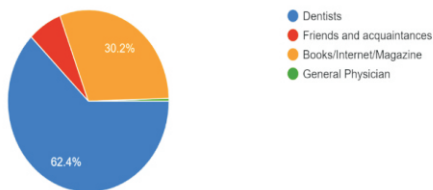


6. How well informed do you feel about Dental implants?
205 responses



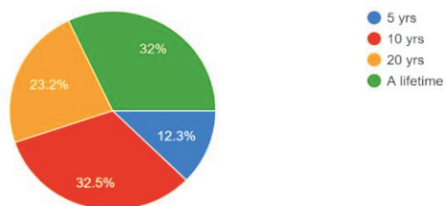
7. Where did you get information about Dental Implants as an alternative for replacing missing teeth?

205 responses



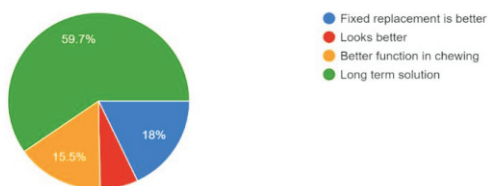
8. How long does a Dental implant lasts in your opinion?

203 responses



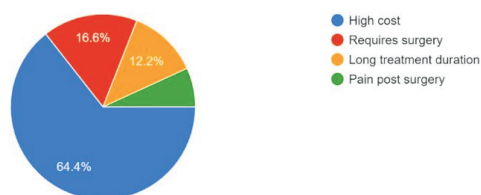
9. What do you think is the biggest advantage of a Dental Implant?

206 responses



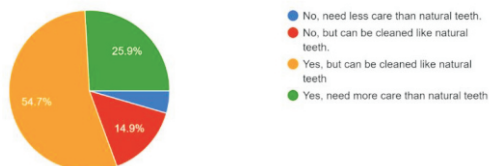
10. What do you think is the biggest disadvantage of a Dental Implant?

205 responses



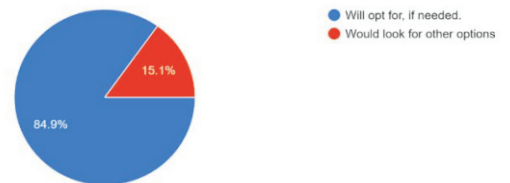
11. Do you think Dental Implants need special care and Hygiene?

201 responses



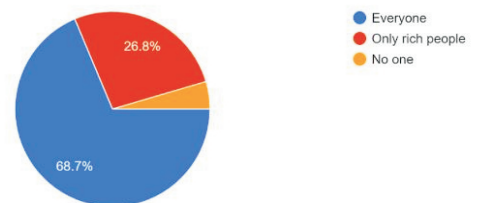
12. What do you personally think of Dental Implants?

199 responses



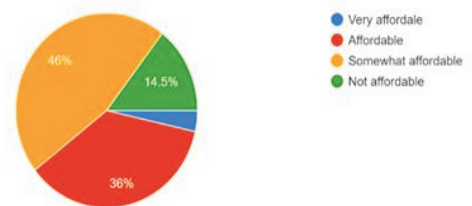
13. Who in your opinion should opt for Dental Implants treatment?

198 responses



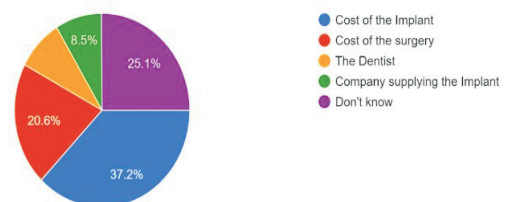
14. How do you rate the treatment charges?

200 responses



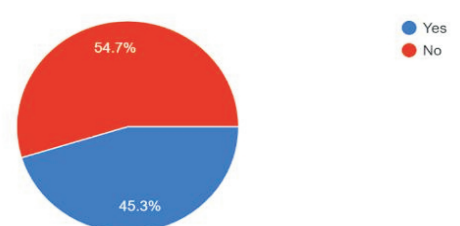
15. What in your opinion majorly contributes to the cost of Dental Implant treatment?

199 responses



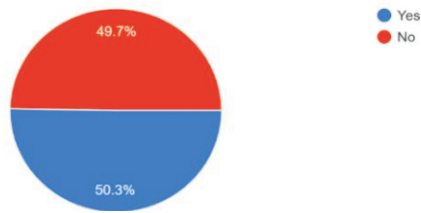
16. Have you heard about Peri-Implantitis?

201 responses



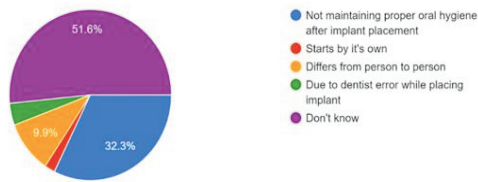
17. Do you know that Peri-implantitis can be treated?

197 responses



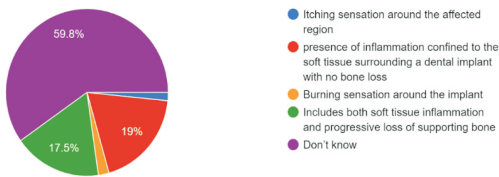
18. What do you think leads to Peri-implantitis?

192 responses



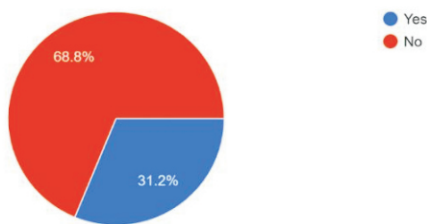
19. Select the correct clinical features of Peri-implantitis:

189 responses



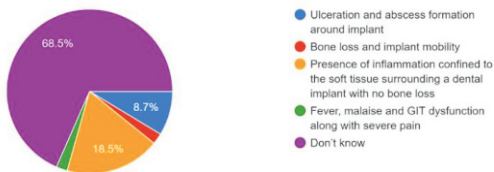
21. Have you heard about Peri-implant mucositis?

189 responses



22. Select the correct clinical feature of Peri-implant mucositis:

184 responses



23. Assessment of peri-implant mucositis involves: (select only one option)

185 responses



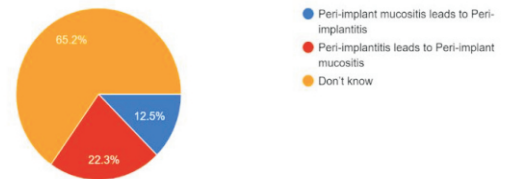
23. Assessment of peri-implant mucositis involves: (select only one option)

185 responses



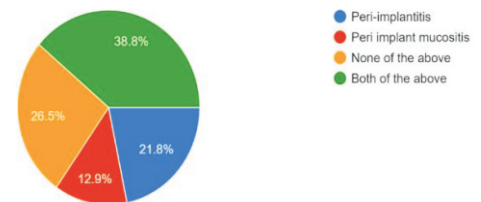
24. What is the Correct sequelae of peri implant disease?

184 responses



25. Which is reversible?

170 responses



Discussion:

Dental implants have been the mainstay in advanced dental treatment for quite some time now. More and more patients opt for Dental implants due to their ability to provide a long-term solution for replacement of missing teeth. So, the rate of dental implant placement in the clinical scenario has grown exponentially in the past decade. However, there is a dearth of information and knowledge regarding peri-implant diseases. This is especially the case for the common folk but also true

for a majority of dental professionals. There is a serious misunderstanding of concepts related to Peri-implantitis and Peri-implant Mucositis. Not only do a majority of dental professionals are unaware regarding these complications but they lack the necessary knowledge and skill required to handle these complications. Therefore, the present study was conducted to assess the current knowledge of dental implants and especially, Peri-implant diseases; Peri-implantitis & Peri-implant Mucositis among the student population of HCDSH, Hazaribag, Jharkhand.

In the present study 98.5% of the subjects were aware of dental implants. These findings were higher than studies conducted by Zimmer et al (1992)[5], Berge(2000)[6], Tepper et al (2003)⁷ which reported the level of awareness as 77%, 70.1% and 72%, respectively. The reason for this was simply the fact that the study population comprised of dental students.

A dental professional was the most common source of information about dental implants (62.4%). This finding was similar to study done by Johany SA et al. (2010)[8], Choudhary et al (2010)[9], Saha A et al(2013)[10] which also stated that most of the people got to know about implants by the dental professionals. 64.4% of the subjects selected high cost as the biggest disadvantage of dental implants. This finding was in accordance with findings of Tepper et al, (2003)⁷ and Kaurani P et al, (2010)¹¹.

Only 45.3% of subjects had heard about periimplantitis. 54.7% of students were unaware.

51.6% of subjects were unaware regarding the cause leading to Periimplantitis. Only 32.3% selected the option of improper maintenance of oral hygiene after implant placement as the cause.

59.8% of subjects were unaware regarding the clinical features of Periimplantitis. Only 17.5% selected the option of both soft tissue inflammation and progressive loss of supporting bone, which was the correct option.

Only 36.3% of subjects selected the correct option of Marginal and retrograde as the types of Periimplantitis which is observed. 63.7% of subjects chose the wrong option.

68.8% of subjects were unaware about peri-implant mucositis. Only 31.2% of subjects were aware of Peri-implant mucositis.

68.5% of subjects did not know the correct clinical features of peri-implant mucositis. Only 18.5% selected the option of presence of inflammation confined to the soft issue surrounding a dental implant with no bone loss, which was the correct clinical feature.

73.5% of subjects did not know the procedure for the clinical assessment of peri-implant mucositis. Only, 11.9% of subjects selected the correct option of assessing bleeding on probing and suppuration.

65.2% of subjects did not know the sequelae of peri-implant disease. Only 12.5% selected the correct option of peri-implant mucositis leading to peri-implantitis.

These findings clearly show a lack of information and knowledge regarding peri-implant diseases among the student population.

Conclusion:

The present survey showed that while a majority of subjects were aware of Dental Implants, an alarming rate of subjects were largely unaware about Periimplantitis.

The present survey also showed a large majority of subjects being unaware about Peri-implant Mucositis.

The present survey showed that there was a lack of information and knowledge regarding peri-implant diseases among the student population which is quite concerning.

Better student education is the need of the hour regarding peri implant diseases and especially the management for the same. A corrective approach towards this issue would be a focus on peri implant diseases in the undergraduate curriculum.

The survey underlines the need for providing urgent student education to improve awareness about peri-implant diseases. The survey also highlights the need for providing students the correct diagnostic knowledge and the know-how for the management of peri-implant diseases.

For it is not just enough to know a specific procedure, but it is equally important to know how to manage the complications as well because they are the different sides of the same coin.

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