

An assessment of implant treatment modalities and preferences among prosthodontists of kerala: a questionnaire based survey

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Citation of this Article: Syama Rajan, Rajesh Kumar, Menon Prasad Rajagopal, Pradeep Samuel, “An assessment of implant treatment modalities and preferences among prosthodontists of Kerala: a questionnaire based survey”, IJDSIR- July - 2021, Vol. – 4, Issue - 4, P. No. 07 – 13.

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Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Introduction: Implant treatment is a commonly done treatment. It is a prevalent treatment. But very less has been done to assess the treatment modalities and preferences among the practicing prosthodontists. To the knowledge of authors no previous studies have been conducted to associate the implant treatment plan. So, the present study aimed to assess the implant treatment modalities and preferences among prosthodontists in Kerala.

Methodology: This survey was conducted by the Department of Prosthodontics, Educare Institute of Dental Sciences, Malappuram, Kerala, India. A questionnaire was framed and was circulated among peers and colleagues for their critical review. This corrected questionnaire was uploaded as Google forms and it was circulated among the prosthodontists of Kerala

Results: A total of 201 responses were obtained among the prosthodontists of Kerala. Majority of the participants were into both clinical practice and academics. Most of the respondents handled less than 4 cases (39.3%) and 21.9% handled more than 10 cases a month. The preferred surface treatment is sandblasting and acid etching (60.7%) in majority of the respondents. Most of the respondents splint open tray transfer copings and they prepare open tray transfer copings for multi implant materials. A very less percentage of respondents never splint the open tray transfer copings. According to the survey, the most preferred implant abutment connection was internal hex followed by the external hex. Most participants gave implant over dentures in the mandible compared to the maxilla and few participants were providing for both arches.

Conclusion: The results of the study have brought forward very interesting insight into the implant treatment preferences and modalities among the prosthodontists of Kerala. This can help us in guiding of future treatment plan and overcoming certain limitations of the treatment.

Keywords: Implant, Treatment modalities, Survey, Prosthodontists

Introduction

Long-term clinical studies of dental implants have proved the effectiveness of implant treatment as an option to replace missing teeth¹. A dental implant is an artificial root inserted surgically to support the complete denture or to replace single or maxillofacial prosthesis². It is the best treatment option to replace single or multiple missing teeth³. It was originally used for the treatment of edentulous patients to improve denture retention, stability, and functional efficiency⁴. To the knowledge of authors no previous studies have been conducted to associate the implant treatment plan. So, the present study aimed to assess the implant treatment modalities and preferences among prosthodontists in Kerala.

Materials and Methods

This survey was conducted by the Department of Prosthodontics, Educare Institute of Dental Sciences, Malappuram, Kerala, India. A questionnaire was framed and was circulated among peers and colleagues for their critical review. This corrected questionnaire was uploaded as Google forms and it was circulated among the prosthodontists of Kerala by the following means.

- From the Indian Prosthodontic Society website, contact details of prosthodontists in Kerala were downloaded.
- Individualized mails were sent to all the prosthodontists working in dental colleges.
- Effort was made to include the practitioner group prosthodontists by acquiring data from the IDA Kerala

records.

- The questionnaire was circulated through social media in the form of whatsapp.

Follow up was done and reminders were sent at regular intervals. Data was collected. The results were analyzed at the end of the survey. Demographic information gathered from the responders along with other information.

Study Design: Data were collected between June 2020 and September 2020.

Sampling Techniques and Size

Total 201 responses were obtained. The questionnaires were sent to various prosthodontists of Kerala through email and whatsapp. Follow up was done and reminders were sent during the study period. All the respondents were informed about the aim of the study.

Survey Tool: A questionnaire was prepared and tested within the peer group and a total of 17 items were included which is finalized and given to the study group.

Statistical Analysis: The collected data was analysed by using Excel SPSS Version 21.

Results

A total of 201 responses were obtained among the prosthodontists of Kerala.

Majority of the participants were into both clinical practice and academics (45.3%) followed by prosthodontists who were only clinicians (32.8%). 21.9% respondents were solely into academics (Graph 1). Majority of respondents had years of experience in the range of 1-5 years (52.7%) followed by 28.4% with more than 5 years and least experience of less than 1 year (18.9%) (Graph 2). 45.8% of the patients avail implant treatment based on the motivational skills by the clinician, while 23.4% came based on the relatives and friends feedback and least number of patients approached with information from the social media and magazines and periodicals read by the patients (graph 3). Most of the

respondents handled less than 4 cases (39.3%) and 21.9% handled more than 10 cases a month.

technique and 22.9% preferred open tray technique for single implant while majority of the participants preferred open tray impression technique for multiple implants(Graph 7,8).



Figure 1



Figure 5



Figure 2

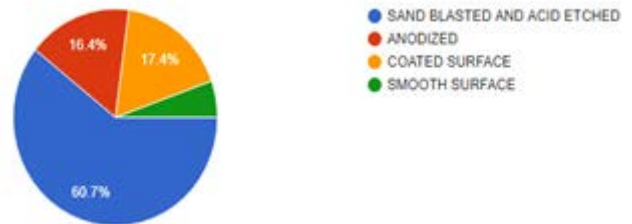


Figure 6



Figure 3

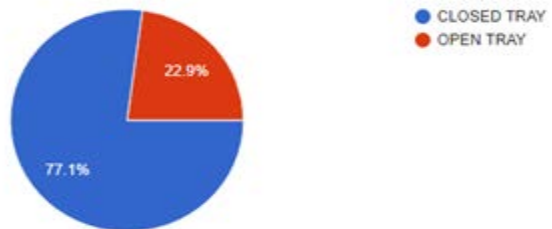


Figure 7

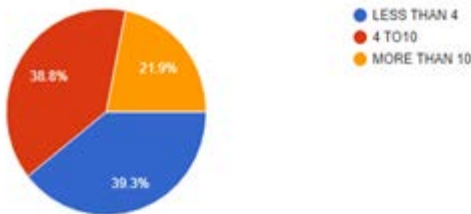


Figure 4

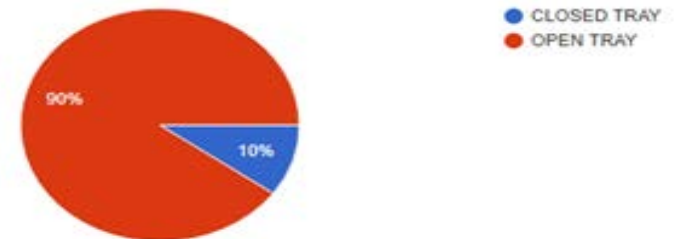


Figure 8

A majority of the Prosthodontists had used more than one implant system in the survey conducted. The preferred surface treatment is sandblasting and acid etching (60.7%) in majority of the respondents (Graph 6). A large number of respondents(77.1%) preferred closed tray impression

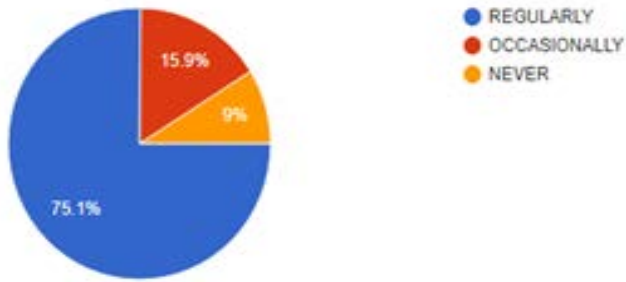


Figure 9

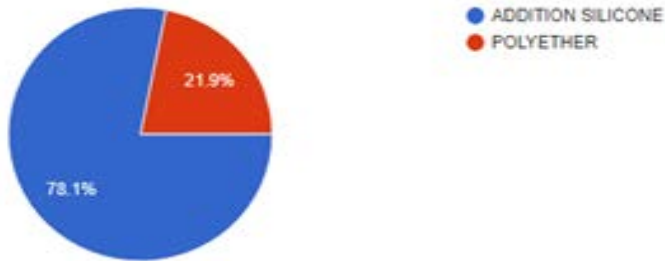


Figure 10

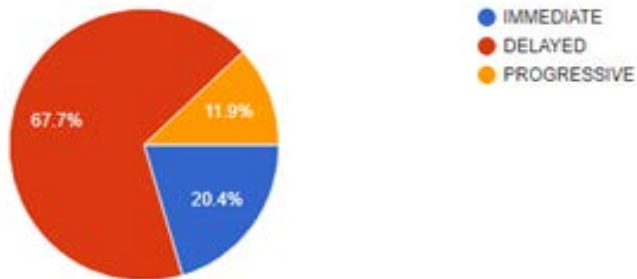


Figure 11

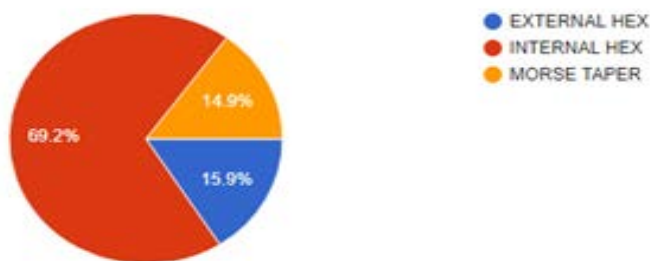


Figure 12

Almost equal number of respondents used screw retained (47.3%) and cement retained (52.7%) as the prosthesis insertion technique (Graph 13). The preferred luting agent was GIC followed by resin cement; eugenol based provisional cement and others. The preferred attachment mechanism for the implant overdentures was the ball

attachments followed by the magnetic and the locator attachments (Graph 15). Most participants gave implant over dentures in the mandible compared to the maxilla and few participants were providing for both arches (Graph 16).



Figure 13



Figure 14

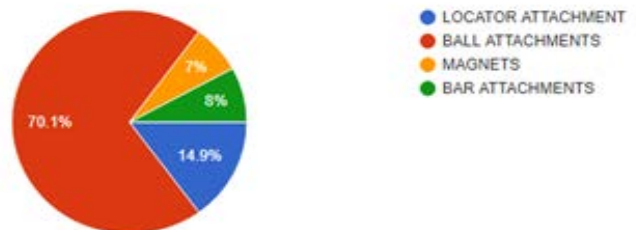


Figure 15

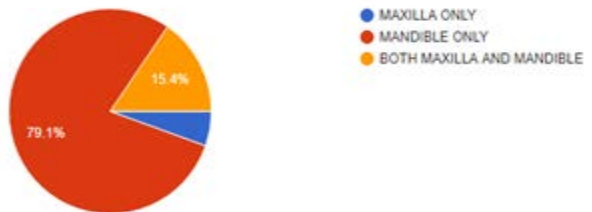


Figure 16

Discussion

The present survey assessed the implant treatment modalities and preferences among prosthodontists of Kerala. Surveys have been used by the dental professional in the past to establish a professional consensus, especially

in areas of limited or convicting evidence. Judgments for implant dentistry are often made with-out strong evidence to support our decisions. Before long-term studies documenting implant success, clinical handling procedures, and implant surface treatment, the predictability outcomes of implant dentistry were unknown⁵.

According to the survey 45.8% people avail the implant treatment based on the motivational skills which is contradictory to many observations where implant treatment was preferred based on friends and relatives feedback or any previous experience with implants⁶

Frequency of handling cases by most of the respondents was less than 4 cases. This could be due to the fact that implantology as a treatment modality is not very widespread in India due to relatively higher expenses and long waiting period for the restoration of the implant.

Most of the prosthodontists in the survey had used more than one implant systems and this could be due to greater years of experience. Prosthodontists use different systems. Generally with increasing years, people tend to realize the deficiencies of one system and then they try all other systems.

Majority of the respondents prefer Acid etched and sandblasted surface. This could be due to the more availability of the implant material and increased production from the manufacturers⁷.

Most of the people prefer closed tray impressions copings with single implants and with multiple implants they prefer open tray. This is in accordance with the generally accepted trend globally⁸.

Open tray copings are generally splinted by the operators. According to the survey results majority of the operators prefer splinting of open tray copings. This is according to the theoretical principles of implant impressions⁹.

Addition silicone is the most commonly used impression material¹⁰. This could be due to the greater availability of addition silicone and also due to the lesser availability and relatively higher expense of polyether. Moreover polyether is available in a single consistency whereas addition silicone is more versatile due to its different consistencies.

Internal hex is the most preferred connection among most of the operators¹¹. This could be due to the greater availability of internal hex systems in the market and also may be due to the relatively higher expense of morse taper connections.

Preferred luting agent was GIC followed by resin cement and eugenol based. This is slightly contradictory to the preferred luting agent i.e. eugenol based cements¹². Eugenol based cements facilitate easy retrieval of the prosthesis and hence it is commonly recommended in textbooks. Implant prosthesis are generally machined and have excellent retention, hence there is lesser need to use GIC and resin cement.

People prefer ball attachment in overdentures. This is in accordance with the global trend¹³. The reason could be that most of the marketed attachments are ball attachments. They are easier to procure and less expensive compared to locator attachments¹⁴. They also provide excellent retention and hence could be the reason for the preferred use by the operators.

As with most survey research studies, this paper is not without limitations. First, the response rate may be considered low. Second, this study focused primarily on prosthodontists. Maxillofacial surgeons and periodontists were not included in this survey¹⁵.

Conclusion

The majority of prosthodontists have answered this survey based on their training and their clinical experiences and practice.

This survey has tried to focus on the implant preferences and treatment preferences of the prosthodontists of Kerala which has never been attempted before. The findings that are discussed reflect how to provide deep insight in the field of implant practice.

This survey can help us in guiding of future treatment plan and overcoming certain limitations of the treatment. With implant treatment becoming more and more popular, this can serve as a useful guide to the aspiring and upcoming prosthodontists.

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