10.5005/jp-journals-10051-0097

ORIGINAL RESEARCH

Contemporary Trends in the Treatment Modalities and Preferences of the Practicing Dentists of Kerala for the Partially Edentulous Patient: A Survey

[1]Menon P Rajagopal, [2]Monika Gupta, [3]Pradeep S Simson, [4]Rahul Nageshraj, [5]Nidhin Ramabhadran, [6]Benny Thomas

ABSTRACT

Introduction: Treatment strategies and preferences for the partially edentulous patient is witnessing a gradual shift from the traditional cast metal-based frameworks to the more flexible polymer-based materials. There has been no attempt especially in India to find out the reasons behind this trend which is based more on convenience and ignorance rather than basic fundamentals. This survey attempts to shed light on the treatment preferences of the dental practitioners in regard to the partially edentulous patient and tries to decipher the causes of these emerging trends.

Materials and methods: A Google forms questionnaire was prepared with eight questions and sent online to dentists all over Kerala, India. We received 540 responses and the results were analyzed.

Results: The data showed that there is a definite tendency to prefer flexible dentures to the cast partial denture (CPD). The reasons for preferring the flexible dentures were partly economic and partly due to inadequate clinical and technical knowhow regarding the CPD. A substantial number of practitioners believe that implantology is decreasing the relevance of the conventional partial denture.

Conclusion: There is a definite trend among the practitioners of Kerala, India to provide flexible polymer-based partial dentures. The reasons for this emerging trend are greater expense involved in fabrication of the CPD and lack of clinical knowledge in designing and fabricating the CPD.

Keywords: Cast partial denture, Flexible dentures, Partially edentulous cases, Survey, Treatment preferences.

How to cite this article: Rajagopal MP, Gupta M, Simson PS, Nageshraj R, Ramabhadran N, Thomas B. Contemporary Trends in the Treatment Modalities and Preferences of the Practicing Dentists of Kerala for the Partially Edentulous Patient: A Survey. Int J Oral Care Res 2017;5(3):202-205.

Source of support: Nil

Conflict of interest: None

[1,2]Professor, [3]Reader, [4-6]Senior Lecturer

[1-6]Department of Prosthodontics, Educare Institute of Dental Sciences, Malappuram, Kerala, India

Corresponding Author: Menon P Rajagopal, Professor Department of Prosthodontics, Educare Institute of Dental Sciences, Malappuram, Kerala, India, e-mail: menonprasad75@gmail.com

INTRODUCTION

Partial edentulousness is a commonly seen dental malady and its incidence varies depending on various factors. The treatment modalities vary from the very basic interim acrylic partial denture to the more recent options that are implant based. The classical definitive partial denture has been the metal framework-based prosthesis, also called the CPD. This particular treatment modality is extensively taught in the undergraduate curriculum but has been vastly underused as a treatment option in the Indian population possibly due to different reasons ranging from inadequate clinical exposure during undergraduate training to economics. Various new materials like polyetheretherketone[1,2] are being used as framework materials instead of the conventional cast metal. Flexible dentures made up of thermoplastic nylon (polyamides), polyesters, polypropylenes, and acetal resins have been used for many years.[3] The disturbing trend in the treatment modalities has been the scant regard given to the principles of removable partial denture (RPD) design and the popularity of the various "flexible" dentures. The flexible varieties though esthetic do not differ much in principle from the commonly used interim acrylic denture also referred to as the "flipper" or "gum stripper." Various case reports have lauded the role of flexible dentures in managing esthetically challenging cases.[4]

The objective of this survey was to analyze the various treatment preferences and trends in terms of RPD prosthesis for the partially edentulous patients among the practicing dentists of Kerala, India. PubMed searches of similar surveys showed that attempts were made to find out treatment preferences from dental laboratories and practicing dentists in the United States.[5,6] Recently, a survey was done in Greece and Croatia to assess dentist's attitude and knowledge regarding flexible RPD prosthesis.[3] This survey is unique in the sense that perusal of literature failed to reveal any attempts to understand the treatment preferences of practicing dentists in India.

MATERIALS AND METHODS

This survey was conceived and executed by the Department of Prosthodontics, Educare Institute of Dental Sciences, Malappuram, Kerala, India. A questionnaire

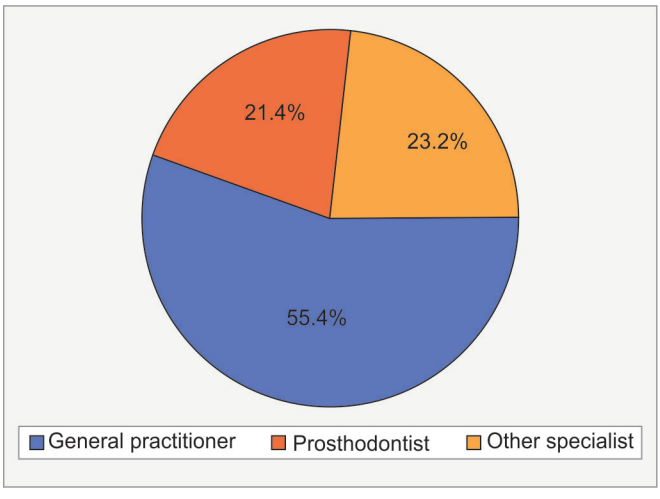
prepared with the help of Google forms software was framed with eight questions and sent online to practicing dentists all over Kerala. We received 540 responses and the results were analyzed. The model of the questionnaire follows.

RESULTS

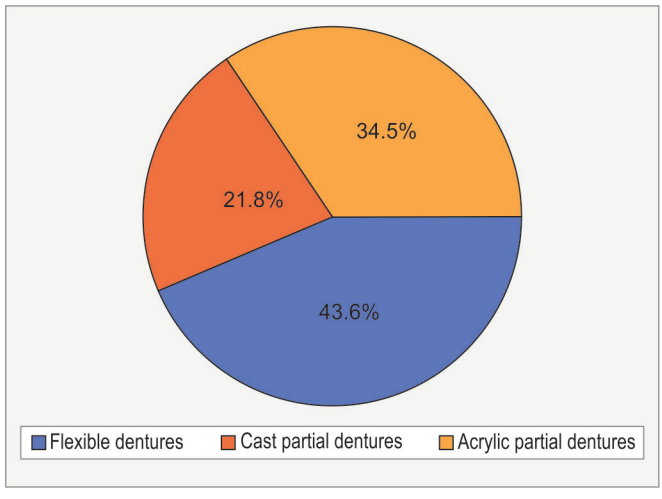
A vast majority of responses were from general practitioners (55.4%) followed by prosthodontists (21.4%) and other specialists (23.2%; Graph 1). Graph 2 shows 43.6% respondents preferred to treat their cases with flexible dentures followed by 34.5% of them with acrylic partials and the least numerical for CPDs (21.8%). Graph 3 reveals 61.1% of respondents delivered 1 to 5 flexible RPDs in a month and 76.4% of respondents do not deliver a CPD in a month (Graph 4). Graph 5 shows 40% of respondents avoided CPDs due to the expenses involved, while 32.7% cited inadequate clinical knowledge as prime reason for avoiding CPDs. Reasons like esthetics (10.9%) and lack of adequate lab support (16.4%) were given less importance (Graph 6). Graph 7 shows that a significant percentage (50.9%) wanted to incorporate CPDs in their practice in the future, and 34.5% of them were undecided; 38.2 % of responses indicated that partial dentures may be losing their relevance due to rapid strides made in the field of implantology, while 40% disagreed with the view. A lesser percentage (21.8%) were undecided on the matter (Graph 8).

DISCUSSION

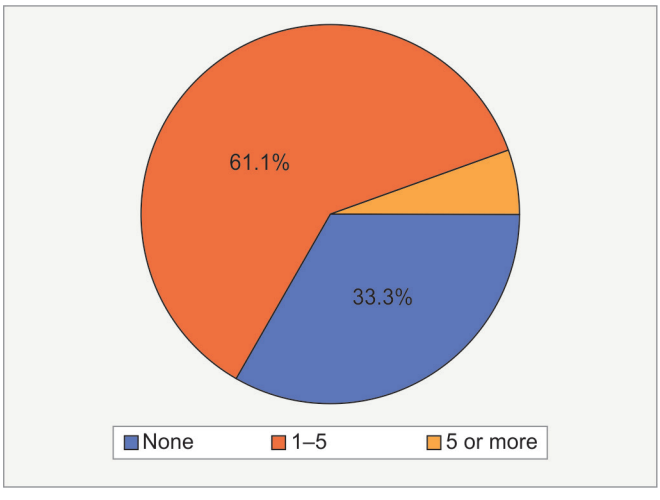
Extensive research and noteworthy surveys have been conducted regarding the design of CPDs in the United States.[7] Designs of frameworks have been analyzed and surveyed by collecting information from casts sent to laboratories. Unfortunately very little has been done to find out the treatment rationale and preferences for the partially edentulous patient especially in India. Material advances in flexible polymers and resins have appealed to the esthetic sense of dental practitioners, which has led to the gradual sidelining of the metal framework-based



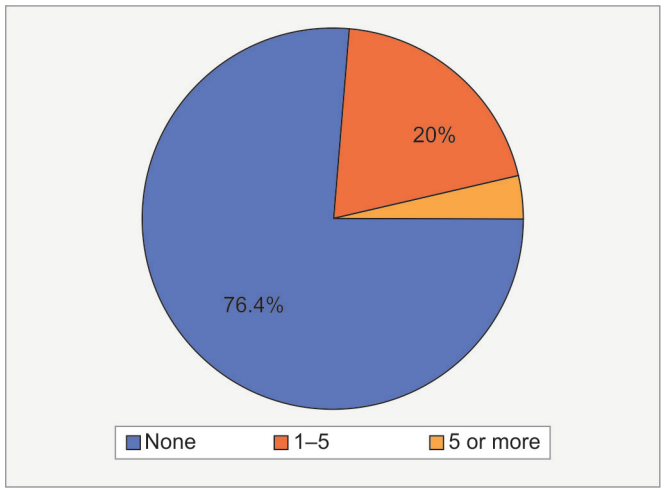
Graph 1: Are you practitioner?



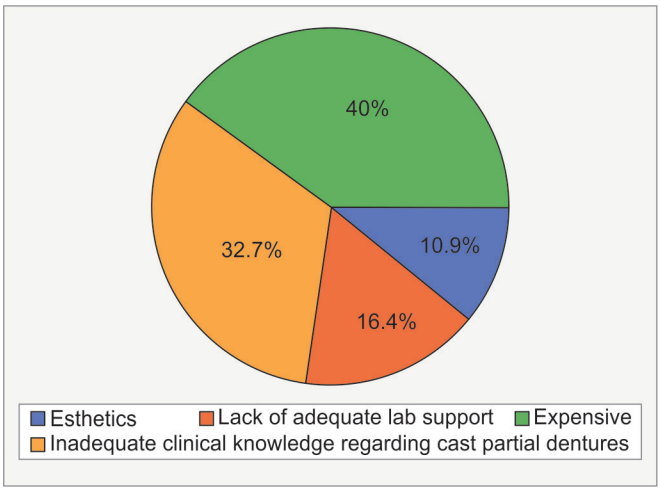
Graph 2: What do you prefer in partially edentulous cases?



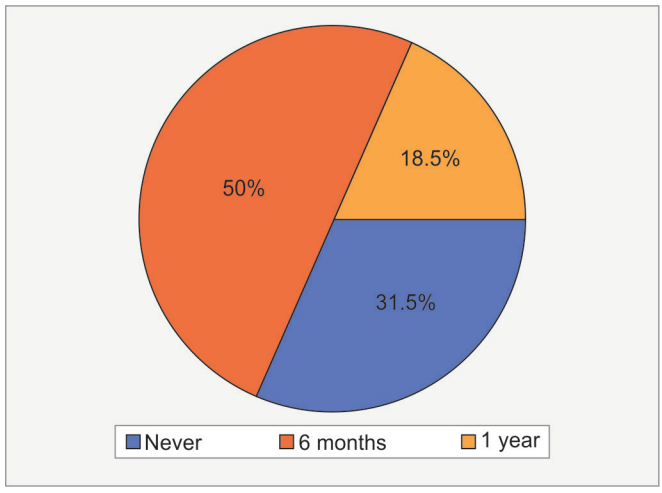
Graph 3: How many flexible dentures do you deliver in a month?



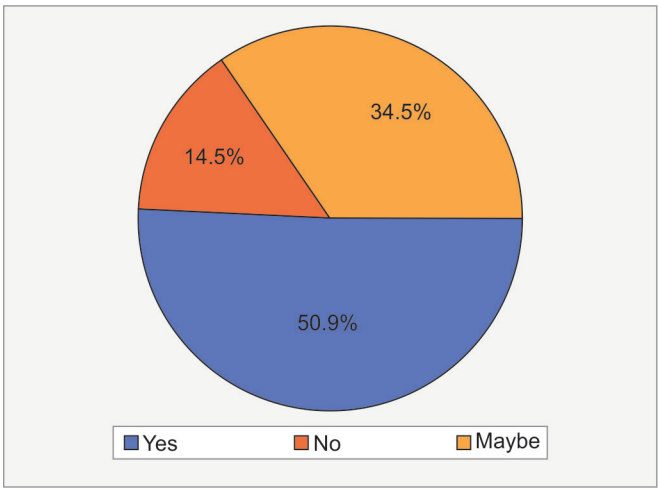
Graph 4: How many CPDs you deliver in a month?



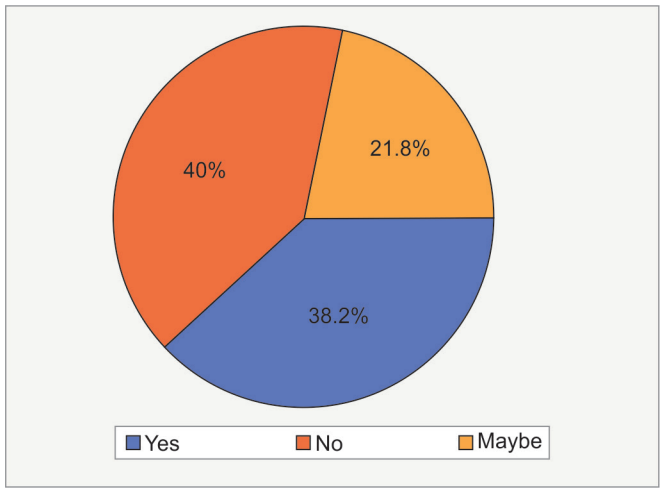
Graph 5: Do you often avoid CPDs due to any of the following reasons?



Graph 6: At what intervals do you recall patients with partial denture prosthesis?



Graph 7: Would you like to incorporate CPDs in your practice in the future?



Graph 8: Do you think partial dentures are losing their clinical relevance due to implants?

partial dentures. An analysis of the results reveals some interesting facts. Most of the responses were from general practitioners, which only imply that there are more general practitioners than specialists.

Most of the practitioners preferred flexible dentures and acrylic temporary dentures to the CPDs. A very high percentage of dentists deliver the flexible regularly and tend to avoid the CPDs. The main reasons for shunning the CPD were the expenses involved in fabricating it and inadequate clinical knowledge regarding CPDs. A survey done by Trainor et al[8] revealed the deficiencies of the graduate program in the schools of America regarding the partial denture curriculum. Laboratory expenses are significantly higher for casting and finishing the CPD and the buck is passed on to the patient via the practitioner. A disturbing trend is that a significant number of practitioners do not recall their patients regularly and hence are unable to judge the efficacy of the prosthesis in the long run. A significant number of respondents would like to incorporate CPDs in their practice. One can presume at this juncture that this would be possible if they are given adequate clinical training in the design and delivery of these dentures. It is interesting to note that even after receiving postdoctoral training in CPD, there was considerable difference in the designs of the partial denture frameworks.[9,10.] Practitioners are also divided in their response to the query regarding the preference of implant prosthesis over conventional partial dentures in future. This is quite natural as majority of the respondents are general practitioners and hence may not be adequately trained in dental implantology.

The flexible dentures are esthetic, require very little mouth preparation, and are also less expensive compared with the CPDs. The clinical steps involved in making a flexible denture is similar to the acrylic partial denture and the undergraduate students in India get very clinical training in fabricating a CPD. Most of the dental schools have an extensive curriculum dedicated to the design

and fabrication of a CPD but fail to provide clinical exposure. The reasons could range from patient affordability, lack of skilled lab technicians, and poor equipment and infrastructure. The flexible dentures though esthetic and user friendly do not adhere to biomechanical principles of RPD design and hence could lead to deleterious effects on the periodontium in the long run. Surveys regarding the teaching methodologies of partial dentures could be conducted among dental schools to get a clearer picture and provide us with valuable data.

CONCLUSION

Significant material advances in the field of polymers and a very smart marketing strategy adopted by the manufacturing companies has led to rampant clinical use of flexible dentures. The age-old principles of mouth preparation have little use in the field of flexible polymer dentures. Results of this survey indicate that there is a radical shift in the treatment preferences of the dental practitioners of India in regard to the partially edentulous patient. This shift could have far-reaching effects on the periodontal status of the patients in the years to come. According to the authors, as long as material expenses for fabrication of a CPD remain high and the undergraduate curriculum fails to provide sufficient clinical exposure for the students, this trend will continue to gather momentum. More detailed surveys involving teaching institutions, faculty, and dental laboratories will provide us with greater insight into this matter.

REFERENCES

1. Schwitalla A, Muller WD. PEEK dental implants: a review of literature. J Oral Implantol 2013;39(6):743-746.
2. Najeeb S, Khurshid Z, Matinlinna JP, Siddiqui F, Nassani MZ, Baroudi K. Nanomodified PEEK dental implants: bioactive composites and surface modification—a review. Int J Dentistry 2015.
3. Polyzois G, Lagouvardos P, Kranjcic J, Vojvodic D. Flexible removable partial denture prosthesis: a survey of dentist's attitudes and knowledge in Greece and Croatia. Acta Stomatol Croat 2015 Dec;49(4):316-324.
4. Singh K, Aeran H, Kumar N, Gupta N. Flexible thermoplastic denture base materials for aesthetic removable partial denture framework. J Clin Diagn Res 2013 Oct;7(10):2372-2373.
5. Owall BE, Taylor RL. A survey of dentitions and removable partial dentures constructed for patients in North America. J Prosthet Dent 1989 Apr;61(4):465-470.
6. Pun DK, Waliszewski MP, Waliszewski KJ, Berzins D. Survey of partial removable dental prosthesis types in a distinct patient population. J Prosthet Dent 2011 Jul;106(1):48-56.
7. McCracken WL. Survey of partial denture designs by commercial dental laboratories. J Prosthet Dent 1962;12: 1089-1110.
8. Trainor JE, Elliott RW, Bartlett SO. Removable partial dentures designed by dentists before and after graduate level instruction: a comparative study. J Prosthet Dent 1972 May; 27(5):509.
9. Frantz WR. Variability in dentist's designs of a removable maxillary partial denture. J Prosthet Dent 1973 Feb;29(21): 172-182.
10. Frantz WR. Variations in a removable maxillary partial denture design by dentists. J Prosthet Dent 1975 Dec;34(6): 625-633.