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Research Article

DENTAL PRACTICES AMONG NON PROSTHODONTISTS PERTAINING TO COMPLETE DENTURE TREATMENT IN AND AROUND PUDUCHERRY, SOUTHERN INDIA – A CROSS SECTIONAL SURVEY.

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ABSTRACT

Background: Complete denture treatment have been offered by the prosthodontists and the non- prosthodontists using various materials and techniques which are adapted from the dental schools or derived from their own personal experience. With increasing life expectancy among geriatric population and increase in demand for removable complete denture treatment by the underprivileged elderly, it is vital that the prosthodontic fraternity has an awareness of the trend of the prosthodontic practices among the non-prosthodontic practitioners and other specialties. Aims/Objectives: To observe the trend of removable complete denture prosthodontic practices among the non- prosthodontists in Puducherry. **Methodology**: The trend of the removable complete denture prosthodontic practice among the non- prosthodontists, including general practitioners and other specialties, are to be observed in the areas of meticulous planning, usage of materials and techniques, awareness level of the state of art of this treatment modality. The questionnaire fulfilling the above mentioned criteria is to be distributed among the practitioners in and around Puducherry. **Results:** The answers were statistically analyzed using percentage, average and frequency distribution in various stages of complete denture treatment like impression procedures, jaw relation, setting trial, denture delivery, recall of the patient, continuing educational programs. **Conclusion:** Education and year of practice have a statistically significant effect on the concise record and documentation. Most of the non-prosthodontist care their completely edentulous patients in their private practice based on their own clinical experience.

Key words:- Complete Denture, Dental Practitioners, Survey, Prosthodontist.

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INTRODUCTION

The Complete denture treatment is one of the common modalities for edentulous arches which have been offered by the prosthodontists and the non-prosthodontists. The is done by use of various materials and techniques which have been adapted from the dental

schools or derived from their own personal experiences. [1] The current statistics show that there is an increasing life expectancy among geriatric population and thus, an increase in demand for removable complete dentures. This raise need for quantitative and qualitative complete denture treatments. The prosthodontic fraternity has an awareness of the trend of the prosthodontic practices among the non-prosthodontic practitioners and other specialties. [2]

Complete dentures are an important part of dentistry because patients lose their teeth for different reasons and want to replace them by prostheses for mastication and esthetics and psychological confident. [3]

The final denture depends upon a number of factors such as impression procedures, retention, stability, vertical dimension, occlusion, esthetics, accumulation of food under denture, speech and difficulty in chewing. [4] Also, there is not a total agreement between the patient and the dentist in assessing the adequacy of dentures and this differing perception of patients' needs makes management more difficult. The prosthodontist as well as general dentist should be aware of the factors that lead to treatment failure. [5] The wearing of a new complete denture may be associated with some complaints especially shortly after the insertion of the denture. The complaints may be lack of retention, difficulty in wearing, stability, discomfort, accumulation of food under the denture, altered speech, and difficulty in chewing. [6] The more serious complications are bone resorption in edentulous alveolar ridges and sometimes overgrowth of tissue under denture which is caused by the forces generated by the mandible, during function and parafunction as the mucosa is being injured between the denture base and the underlying bone. Pain or discomfort was reported by some researchers as the most common complaint among new denture wearers.[7] Psychological factors should be considered in denture patients which shows the ability of the patient to adapt to the new dentures. The pre-existing debilitating diseases, geriatric co-morbidities and medication in older patients have an effect on the tolerance to wearing of complete dentures in many edentulous individuals.[8] The complete denture procedure starts from history, diagnosis, impression makings, border moulding, jaw relation, setting trial and denture insertion and post insertion follow up.[9]

The general dentists who practiced prosthodontics for complete dentures need to study for affirmation of implementing diagnosis, documentation and procedural practices in line with existing guidelines or under reasonable treatment norms. Knowledge of recent trend changes, material properties and treatment / procedural errors must be updated at continuing dental education programmes/ conferences regularly for better practice and advanced treatment delivery. However, these issues are not reported in literature and seem to be a lacunae even in official state records. This questionnaire study was conducted to evaluate the non-prosthodontist practices of complete denture care in their private practices.

Methodology:

Study settings*:*

A cross-sectional survey was carried out from 08.05.15 to 20.08.15 on 61 dental surgeons form areas in and around Pondicherry. The subjects were recruited by purposive sampling, where in the registered dentist list obtained from Dental council of India, Pondicherry branch was subjected to set criteria and those who gave willingness were only considered. The Inclusion criteria were dentists who are general practitioners and specialty practitioners (except prosthodontists) in practicing in Pondicherry. The dentist who were practicing elsewhere or those who had less than 1 year of experience in same area were excluded. All participants had given written informed consent to participate in the study.

Data collection tool (Questionnaire):

A validated structured questionnaire was used to assess the outcome of the study.[7] The tool was developed based on the objectives of the study title, by reviewing relevant literature, along with expert opinions from practicing dental surgeons. The questionnaire was circulated among the subject experts and based the suggestions of the subject experts the questionnaire was modified was validated.

Testing of the instrument:

Subject or content validation:

The content was validated by 10 experts who were Associate professors (n=5) and Professor (n=5) in prosthodontics. They were requested to review and verify the item for adequacy, clarity, and meaningfulness. Some modifications of the questions were made on the basis of suggestions and comments of experts, which were taken into account while preparing the final tool.

Object validation (Pretesting):

The pilot study was conducted from 05/07/2015 to 07/06/2015 to assess the feasibility of the study, plan of statistical analysis and also to determine the flaws in the design. A set of 53 questions was circulated among 20 practitioners in Puducherry as a pilot study. The questionnaire was checked for reliability using Cron bach's alpha test. The reliability score was 0.7 after deletion some questions.

Data collection method:

The informed consent was obtained and need for study was explained to all participants. The data was recorded by the questionnaire tool by providing the copy of the same in personal interviews with participants that satisfied the criteria.

Statistical analysis:
The data was analyzed as frequency and percentages.

Results

The study population consisted on 61 participants who answered the questionnaire with 15 questions depicted in figures 1, 2. The questions are numbered as Q1 to Q15 for convinent sake and results are represented in percentages as shown in Figures 3-6.

The majority of the non-prosthodontists have given 10-15 minutes of time (Q1) and around 83% of them gave importance to case documentation (Q2). The mental attitudes, prior to treatment (Q3) were assessed by 96.7% of the non-prosthodontist which is very high. The utilization of prosthodontics consulting services (Q4) was around 11.5% in the locality. Most of participants (around 88.5%) have reported to evaluate old / existing denture.
The single impression techniques (82%; Q6), non-usage of semi-adjustable articulators (around 73%; Q9), avoiding selective grinding (around 57%; Q12), and lack of updating from CDE programs (around 75%; Q15) are important findings from non-prosthodontic practices.
Around 67% of the participants have reported difficulty in recording 'jaw relation' and that 96.7% of them spent long time adjusting final dentures on patients.

Figure-1

1. **Do you allot time to make a concise record of the patient before starting treatment?**

a. Yes b. No

If yes, i) 5-min ii) 5-10 min iii) >15 min

2. Do you give importance for documentation of case details?

a. Yes b. No

3. Do you assess the different types of mental attitude of patient?

a. Yes b. No

4. Do you call a prosthodontist to be a consultant?

a. Yes b. No

5. Do you evaluate the patient's existing dentures before treatment?

a. Yes b. No

If yes,

i) Maintance of the existing denture

ii) Wearing of the teeth

iii) Loss of retention of denture

6. Which impression technique you follow?

a. Single stage with putty/impression compound/alginate

b. Double stage with special tray fabrication and final impression.

7. Do you give importance for posterior palatal seal area by recording it in the impression?

a. Yes b. No

8. Do you find difficulty in recording jaw relation?

a. Yes b. No

If yes,

i) Recording centric relation

ii) Recording VDO

iii) Recording VDR

Figure-2

9. In your complete denture practice by you or your consultant have you used a semi adjustable articulator?

a. Yes b. No

10. Do you spend time for selection of teeth following any of the guideline?

a. Yes I take into consideration the guidelines for teeth selection based on size, shade, shape and form of face

b. No Most of the times the technician arranges the teeth based on available space and follow an universal shade. I just check in the patient mouth.

11. Do you take approval and consent form from the patient during try in?

a. Yes b. no

12. Selective grinding is done after processing [you / technician]?

a. Yes b. No

13. Has Denture delivery given you problems that you spend time in adjustments for a long time?

a. Yes b. No

14. Do you recall the patient for checkup?

a. Yes b. No

If yes,

Mention the regimen you follow.

15. Do you make it a habit to participate in CDE program pertaining to complete denture?

a. Yes b. No

Figure-3.

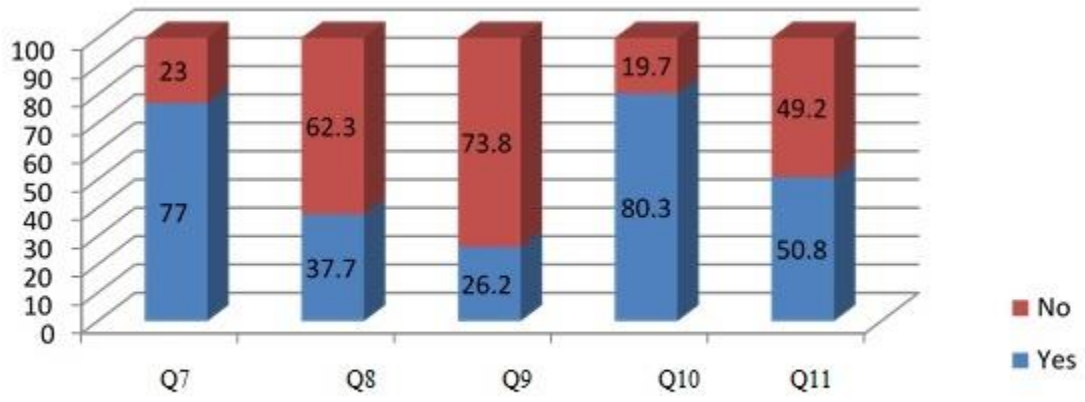


Figure-4.

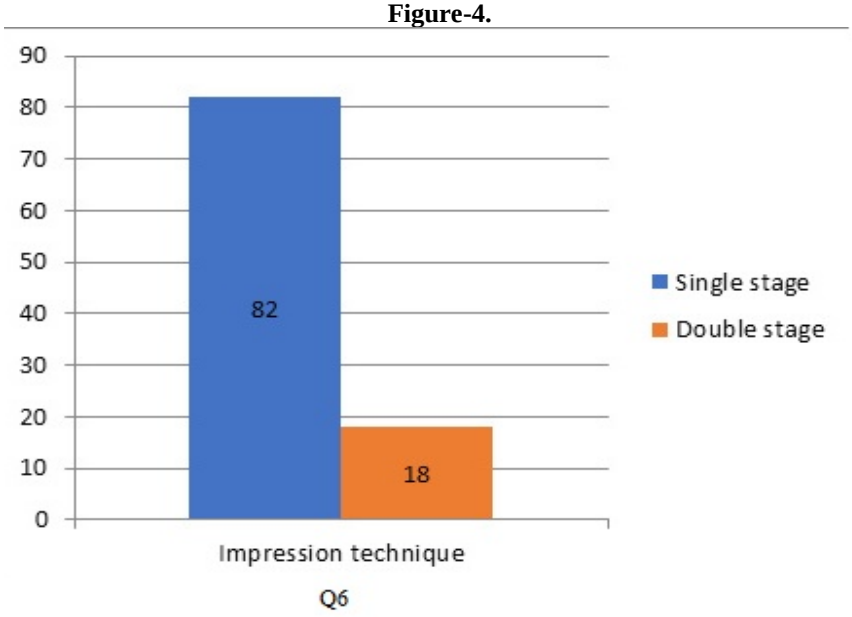
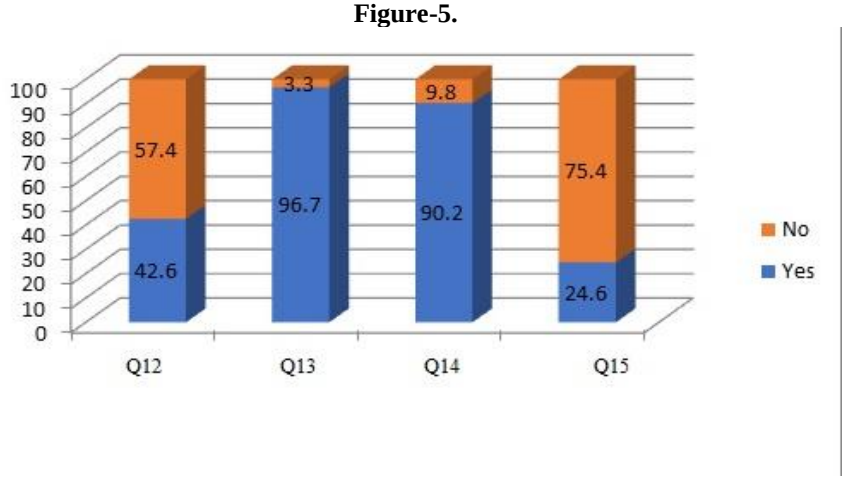


Figure-5.



Discussion

The complete denture treatment is one of the complicated treatments in terms of procedure and steps required during the fabrication for both the dentist and the patient. Patient satisfaction has been the ultimate goal in any dental treatment. In a patient receiving complete denture prostheses, many factors have a combined role in achieving his/her satisfaction. [9] The wearing of a new complete denture may be associated with some complaints especially shortly after the insertion of the denture. The complaints may be lack of looseness, pain or discomfort, mastication problems, food accumulation, altered speech, and bad breath.[5] The implementation of diagnostic errors, wrong procedural techniques, iatrogenic lab errors and patient factors may be reasons for these issues with removable complete dentures.

Vinay *et al* in 2013 [10] had conducted a similar survey and concluded that, practitioners were using impression compound for making the primary impression. The most recognized primary impression materials are alginate and impression compound by non-prosthodontist, which is in line with the current study. Aghdaeea *et al* stated that food accumulation was noticed in 24.7% of subjects which was in contrast to the study done in which food accumulation was seen in 80% of patients. The reason behind this could be that frequency of loose denture cases in that study was more than the present one. Looseness of dentures leads to accumulation of food. [3] Smith *et al* evaluated their study that significant relationship was observed between the presence of denture retention problems and complaints of loose dentures as well as difficulties in mastication. Bad breath was also a common finding in this study because only half of the subjects were having the habit of removing dentures during sleep and some people rarely clean their dentures.[8] Khasawneh *et al* stated in their study, that frequency of fracture of denture was present, because of

poor fit of the complete denture was the main cause and movement of denture during mastication will cause fracture due to series of small loadings. [11]

The single impression techniques (82%) by majority of the participants, which has an effect on final denture outcome. A survey from India reported that 33 % practitioners still use base plate custom trays to record final impressions.[13] The issues such as difficulty in recording 'jaw relation' and that additional time spent on adjusting final dentures may be resolved by use of semi-adjustable articulators/ face bow transfer or simply apt jaw relation. In the same context, the non-usage of semi-adjustable articulators and lack of updating from CDE programs are important findings from non-prosthodontic practices in the given survey. The need for selective grinding is imperative as processing in laboratory will lead to some occlusal discrepancies needing adjustments.[14]

The survey had highlighted that use of single impression techniques, avoiding selective grinding, semi-adjustable articulators and lack of updating from CDE programs are important non-prosthodontic practices. These issues with removable complete dentures can be minimised by utilization of prosthodontics consulting services which are very minimal in the locality. The strength of the study lies in tool used for data collection while the lower sample representation was the drawback. The future directions include larger studies and consideration of experience of dental surgeons.

Conclusion

Education and year of practice have a statistically significant effect on the concise record and documentation. Most of the non-prosthodontist care their completely edentulous patients in their private practice based on their own clinical experience.

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