

**SURVEY ON CLINICAL PERFORMANCE OF REMOVABLE
PARTIAL AND COMPLETE DENTURE****Dr. K. Sheela Sivakumar, Dr. G. Sruthi* and Dr. R. Srileka**Thai Moogambigai Dental College & Hospital, Dr. M. G. R. Educational & Research
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Corresponding Author*Dr. G. Sruthi**Thai Moogambigai Dental
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Removable partial dentures (complete and partial) treatment is considered a viable option to replace missing teeth as inexpensively as possible, but it has limitations. The objective of this study was to survey the clinical performance of removable partial and complete denture among the patients of Thai Moogambigai Dental College. Materials and methods include survey using questionnaire which consisted of 30 questions related to satisfaction of patients based on esthetics, phonetics, mastication, occlusion, hygiene maintenance and tissue conditions associated with the use of removable partial or complete dentures. Once the data were collected, a database was

created in the software Statistical Package for the Social Sciences version 21.0. Results obtained were evaluated and represented in graphs with the significant result in phonetics when compared to other criteria's in the study.

KEYWORDS: Clinical performance, patient satisfaction, phonetics.**INTRODUCTION**

Tooth loss can compromise facial esthetics, speech, and masticatory difficulties.^[1] Removable partial dentures (RPDs) and Removable Complete denture (CD) are commonly used to replace lost teeth.^[2] In spite of the increasing use of dental implants, the most common way to treat edentulousness is still by means of a conventional denture. Except for the dentist's skill, many other factors, depending entirely on the patient, are also very important in achieving optimum retention and stability of full dentures. These factors include adhesion and cohesion, viscosity and flow of saliva, the shape and degree of resorption of

alveolar ridges, and the quality and quantity of alveolar bone as well as mineral density, resiliency of soft tissue, relationship between the upper and lower alveolar ridges, neuromuscular coordination, status of oral mucosa, depth of vestibular sulcus, and presence of hypertrophy of the tongue.^[3-8]

A careful assessment of patient compliance regarding oral hygiene and routine maintenance should be completed before considering rehabilitation using Removable denture.^[9] Although a vast number of RPDs are fabricated, there is a shortage of current research that attempts to study RPDs over an extended time period. Moreover, there is a shortage of clinical studies closely investigating the effects of gender and location (maxilla vs. mandible) on Removable denture success rates. An article published on gender difference regarding oral health found differences in chief complaints between elderly males and females.^[10] Males appeared to demand that dentures improve their mastication, whereas the concerns of females centred on problems related to pain, hypersensitivity and esthetics. The results from another study on RPDs revealed no significant difference in general satisfaction between males and females, aside from men being less satisfied with the mastication with lower RPDs.^[11]

Psychological factors, occlusion, esthetics, mastication and speech play a role and also provide valuable information for the prediction of satisfactory outcome of removable denture treatment. This survey was done to investigate if clinical quality of removable dentures predicts patient satisfaction, to investigate possible relationships between patient and clinical factors and patient satisfaction with new removable dentures.

MATERIALS AND METHODS

The patient was selected for study on the certain basic category such as their preference of choosing removable partial or complete denture and their clinical performance. The criteria also include mental attitude of the patient classified based on Dr. M.M. House (1950) such as class 1: philosophical patients, class 2: exacting patients, class 3: indifferent patients, class 4 hysterical patients.

Inclusion criteria

- Patient who received removable partial and complete denture from the department.
- Patient who received removable partial and complete denture prosthesis elsewhere.
- Patient wearing removable partial and complete denture prosthesis for more than two weeks.

Exclusion criteria

Patient with implant supported denture prosthesis.

The 50 patients who received removable partial and complete denture prostheses were randomly selected from the outpatient section of the Dept. of prosthodontics in our college. Patients were recalled after two weeks of receiving the prosthesis. Data were collected by the questionnaire which consisted of 30 questions related to satisfaction of patients on esthetics, phonetics, mastication, occlusion, hygiene maintenance and tissue conditions associated with the use of removable partial or complete dentures. Each question has 2 answers, 1-satisfied (yes) 2- not satisfied (no). Some factors investigated by the questions include tasting difficulties, denture-related pain, and denture-related esthetics. The details regarding the newly constructed prostheses or old prosthesis was recorded as it was reported by the patient. The patient was encouraged to give opinion about his/her new denture or old denture. The questions were asked in his/her own mother tongue. Once the questionnaire was completed for 50 patients, they were grouped based on the scale of satisfaction level or yes or no answers for different parameters like i) appearance of denture, ii) smile, iii) mastication, iv) dislodgement of speech, v) retention, vi) stability.

Once the data were collected, a database was created in the software Statistical Package for the Social Sciences (SPSS) version 21.0, a program that also performs statistical analyses. It is based on comparison of satisfaction level in male and female and overall analysis.

RESULTS

Fifty patients (28 men and 22 women) between the minimum ages of 21years to maximum age of 76 years participated in this study with the mean age of 48.04.

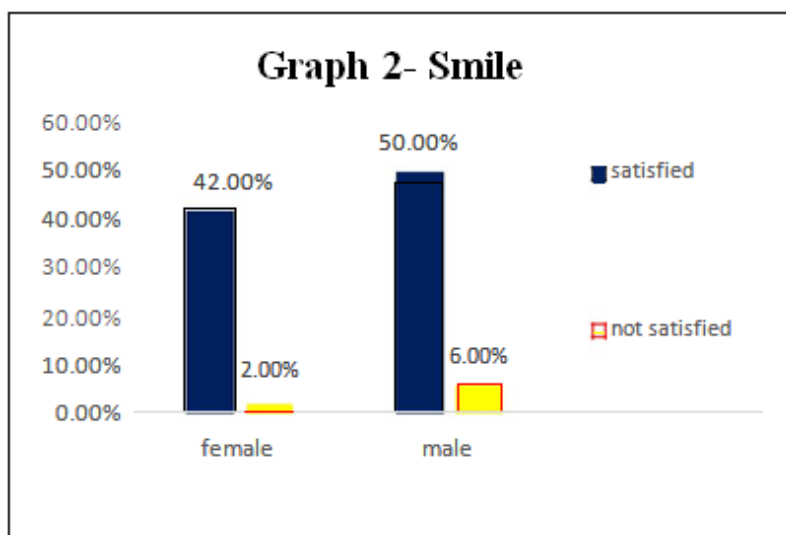
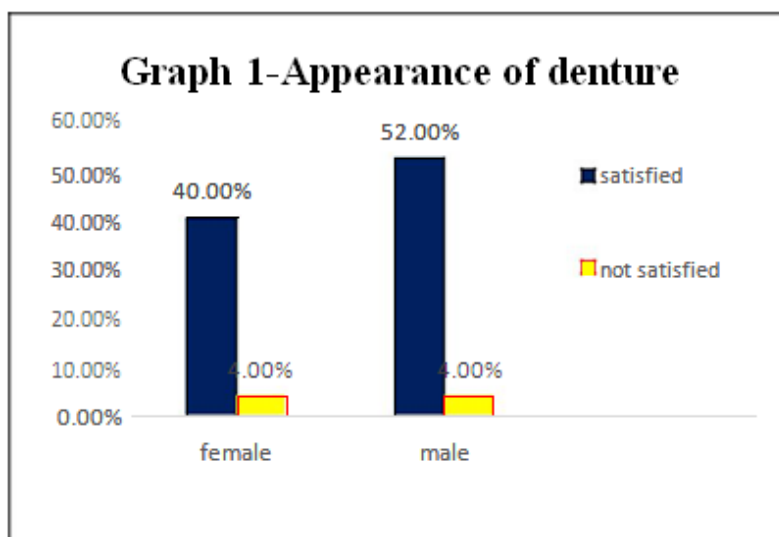
The frequency table based on overall satisfaction between 50 patients is showed in table 1.0 based on certain category is appearance of denture, smile, phonetics, dislodgement on speech, retention, stability, pain on function, mastication, tissue evaluation and bad breath.

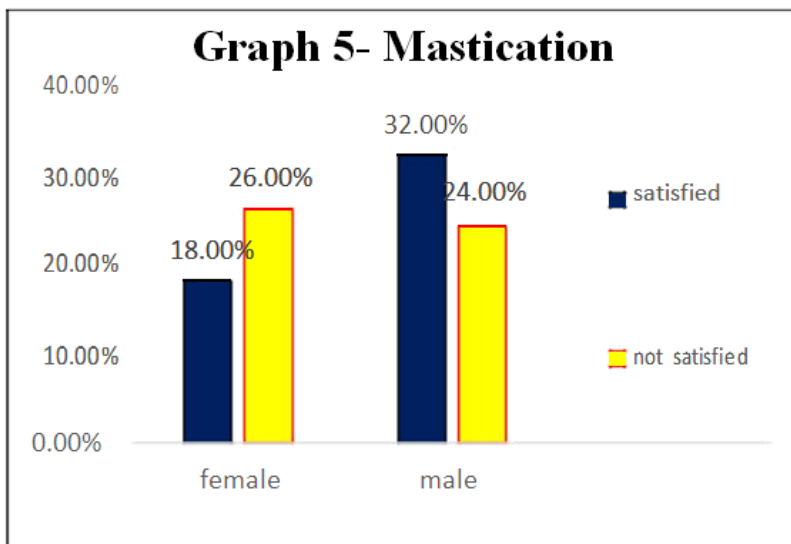
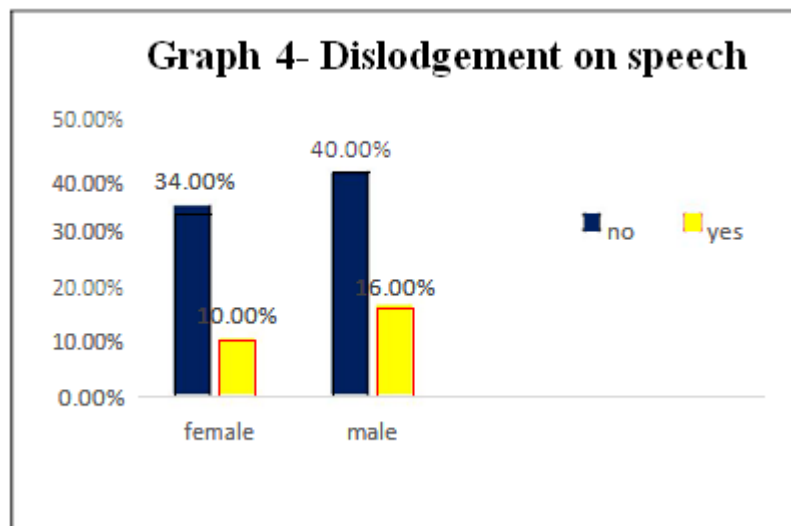
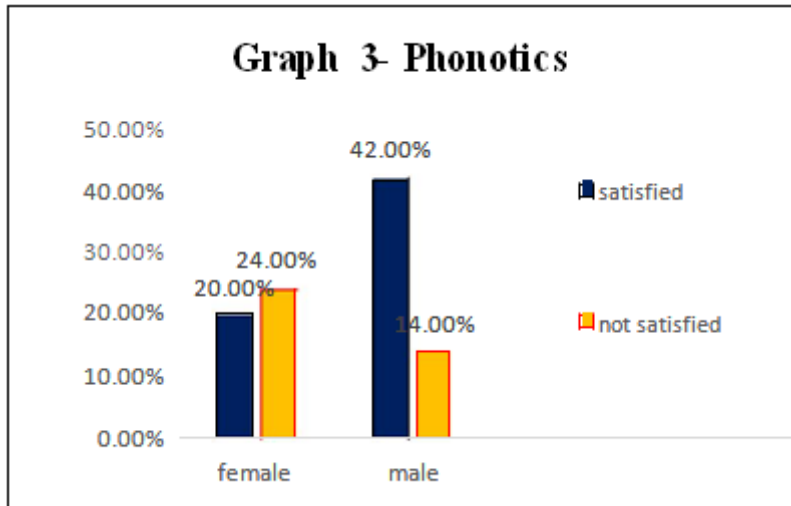
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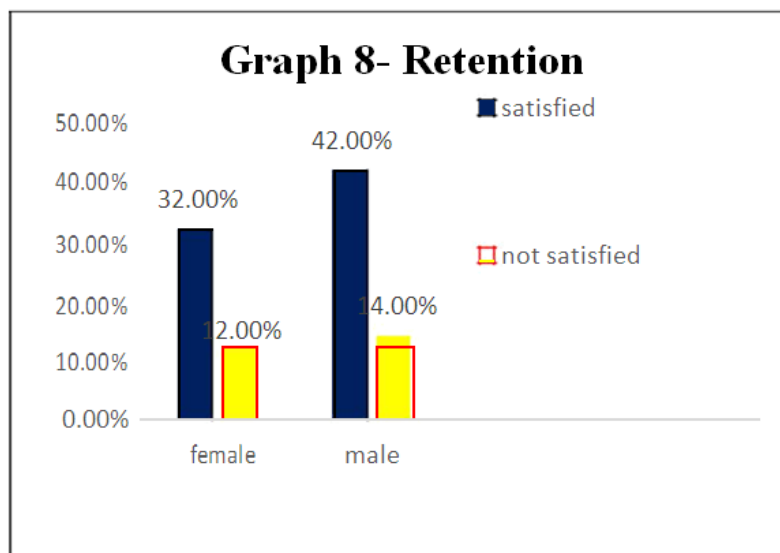
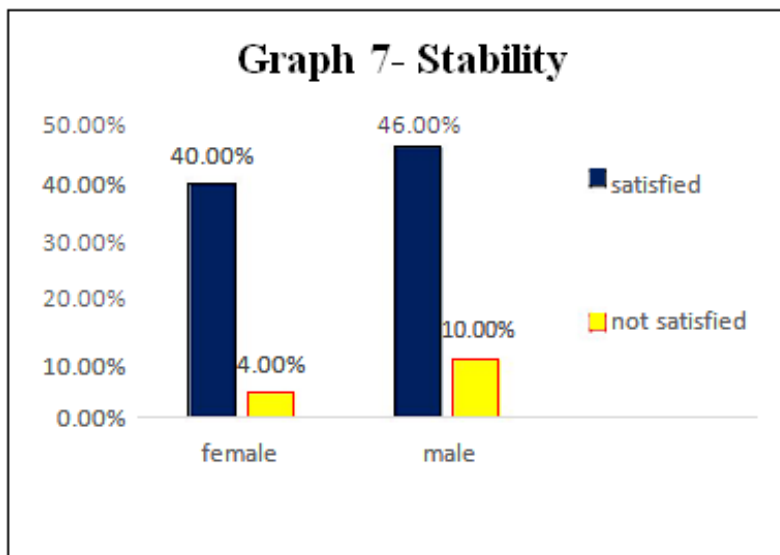
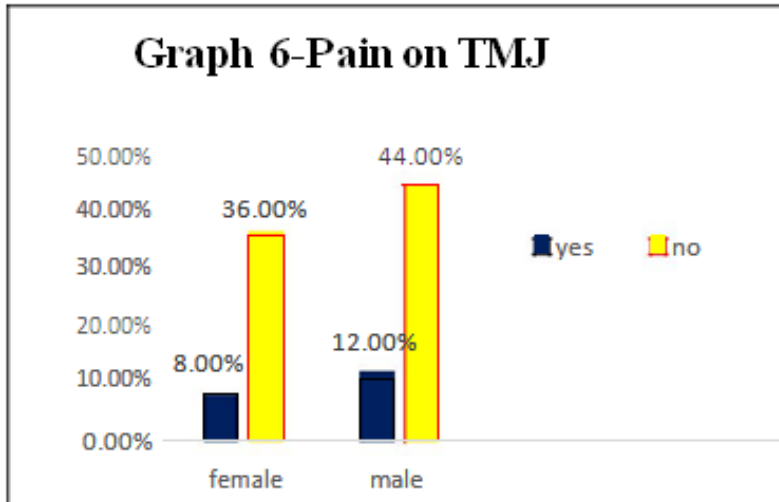
Category	Frequency	
	1	2
Appearance of denture	46	4
Smile	46	4
Mastication	25	25
Dislodgment on speech	13	37
Retention	37	13
Stability	43	07
Pain on function	10	40
Tissue evaluation	10	40
Bad breath	20	30
phonetics	31	19

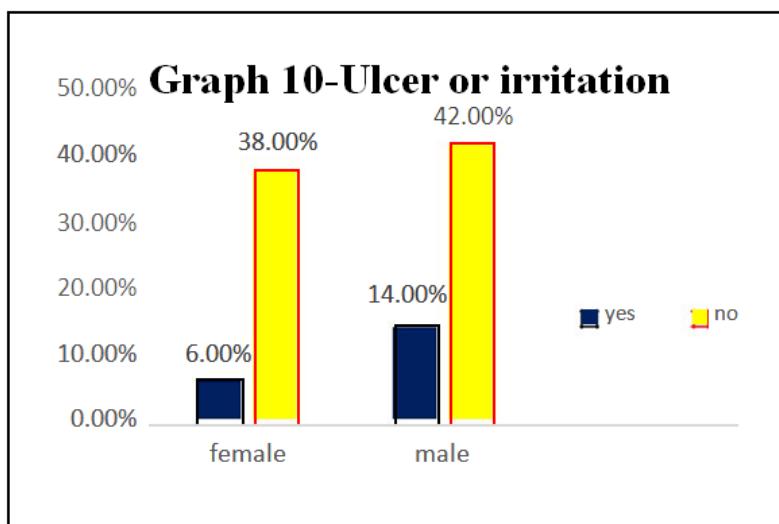
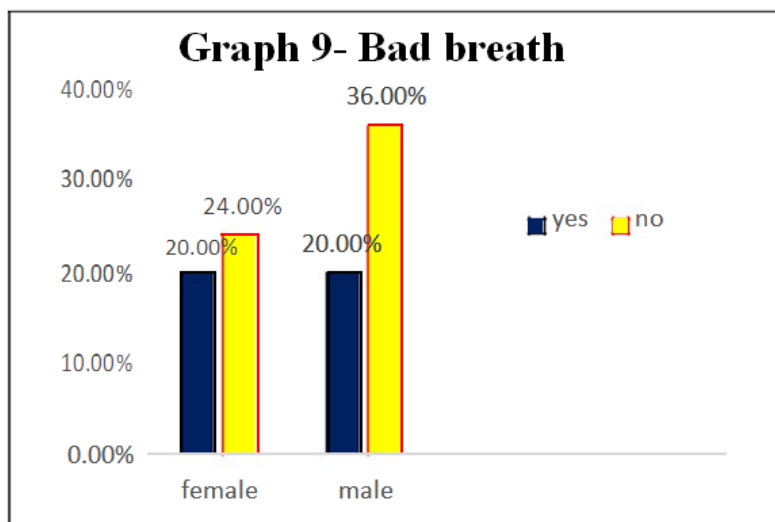
1- satisfied/yes, 2- not satisfied/no

The statistical analysis for the comparison of male and female based on each criteria is shown in following graph.









The questionnaire was prepared based on different category and 50 patients were selected who were using removable or complete denture and the results are analysed statistically.

The first category, esthetics is evaluated based on appearance of denture and patient smile. The analysis based on appearance of denture between male and female reveals 40% female, 52% male were satisfied, whereas 4% female, 4% male were not satisfied as represented in graph 1. Chi-square test results were not significant. Based on smile, the results revealed that male 50%, female 42% were satisfied, whereas female 2%, male 6% were not satisfied as represented in the graph 2. The results were not significant.

Second category, phonetics is evaluated based on pronunciation of words (p,b,f,v.s) and dislodgment of denture on speech. Based on pronunciation of words, 20% of female and 42% male were satisfied as represented in the graph 3. Percentage of not satisfied patients are

24% female and 14% male, the chi-square test results shows the value 0.033 which is statistically significant. This is the only result which shows significant result in this study. Based on dislodgement of denture on speech(graph 4), the results revealed that 34% female, 42% male complaints of experiencing dislodgement on speech, where as 10% female, 16% male does not have any problem of dislodgement on speech. The results were not significant.

Third category, mastication is evaluated based on chewing ability and pain on opening and closing of mouth after using denture. Based on chewing ability, the results obtained were 18% female, male 32% were satisfied, while female 26%, male 24% were not satisfied(graph 5). Based on pain on opening and closing of mouth after using denture, 8% female, 12% male (graph 6).

Based on stability of RPD/CD, the results obtained were 40% female, 46% male were satisfied, while 4% female, 6% male shows their dissatisfaction(graph 7). On retention of denture, 32% female, 42% male are fully satisfied, whereas 12% female 14% male are not satisfied with the retention.(graph 8).

Bad breath on denture usage is evaluated after one week of denture insertion. The evaluation revealed female 20%, male 20% did experience bad breath, while 24% female, 35% male didn't experience.(graph 9).

As a final category, ulcer/ irritation on denture usage by the patient was evaluated and results obtained are 6% female 14% male were affected by ulcer/ irritation and 38% female, 42% male does not report any ulcer/irritation.(graph 10).

DISCUSSION

Many social, psychological, and biological factors will determine the real needs of a patient, and this will determine his self-perception of health. Patients satisfactory levels after the treatment are identified with the help of a questionnaire.

An article published on gender difference regarding oral health found differences in chief complaints between elderly males and females.^[10] Males appeared to demand that dentures improve their mastication, whereas the concerns of females centred on problems related to pain, hypersensitivity and esthetics. The results from another study on RPDs revealed no significant difference in general satisfaction between males and females, aside from men being less satisfied with the mastication with lower RPDs.^[11] A review of the literature also

fails to produce evidence comparing the success rates of maxillary and mandibular RPDs. One study reported patient satisfaction to be equal between maxillary and mandibular RPDs, however, the authors found a significant difference in failure rates between maxillary and mandibular RPDs.^[12] In that study, the failure rate for mandibular RPDs was 33% compared to 12.7% for maxillary RPDs. Another study showed greater patient compliance with maxillary RPDs possibly due to esthetics and comfort.^[13]

In our study, the patient satisfaction on five major categories were mainly discussed. Since the gender wise classification has already been discussed above, the overall satisfaction will be seen now. The first is esthetics which is very important. The 92% of patient were satisfied with their smile and appearance after receiving denture, in which male's satisfaction percentage were slightly higher than female and the results were not significant.

Next category is phonetics, the dislodgement of denture during speech, 76% of patients were not satisfied while 26% were satisfied, while on pronouncing words the 62% were satisfied and 38% were not satisfied, the chi-square test results for pronouncing words for gender wise classification shows significant results with value of 0.033, according to software Statistical Package for the Social Sciences (SPSS) version 21.0.

In mastication, 50% of patient is satisfied on chewing with denture while 50% shows their dissatisfaction and 20% of patient experiences pain on function in temporomandibular joint and 80% of patient does not face any problem. According to Rocha this pain can be associated with denture retention and stabilization problems, leading to ulcers. However, the number of patients who stopped using dentures because of pain was not determined,^[14] and for Moreira-da-Silva this was the main reason for 45.71% and 58% of the users to stop using upper and lower complete dentures, respectively.

The retention and stability are one of the most important factors for any denture. The 86% were satisfied on stability while 14% were not satisfied. The 74% shows satisfaction on retention and 26% shows their dissatisfaction. Both the results were not statistically significant.

On review, after a week of using denture some patients experience certain problems like bad breath or ulcer/irritation. On survey, the 20% of patient experiences ulcer/irritation and 40% experience bad breath.

CONCLUSION

Assessment of patient satisfaction should be a routine part of any dental practice after the treatment is complete. This assessment through questionnaire using various criteria as mentioned in the methodology gives opinion on performance of complete denture. Thus, this study on clinical performance of the removable partial and complete denture prosthesis showed higher satisfactory rate in all the criteria's expect in phonetics where the results obtained in this criteria was significant. Patients must be educated and made aware of the limitations and shortcomings of RPDs and CD's to ensure realistic expectations. If patient expectations and attitudes are realistic, then acceptance of the new prosthesis could be improved, potentially resulting in higher success rates.

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