

# Trend analysis of prosthodontic treatment modality between 2005 and 2008 in Seoul National University Dental Hospital

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**PURPOSE.** The aim of this article is to analyze the preference for treatment modality of dentists. **MATERIAL AND METHODS.** Data of 20,038 patients was involved. Data analysis were done by distribution according to the various kinds of prosthesis, including complete denture, removable partial denture, fixed partial denture, implant-supported dental prosthesis as well as distribution according to the professional titles of the dentists finishing the treatment, including resident and professors. **RESULTS.** The number of cases of dental prosthesis increased year by year. 61.06% of the patients accepted fixed partial denture restoration. The number of patients who accepted implant supported restoration is also increasing year by year. The number of complete denture, implant-supported dental prosthesis finished by professors was larger than that done by residents, while it was contrary for removable partial denture, fixed partial denture, and the difference was statistically significant ( $P < .05$ ). **CONCLUSION.** Professors and residents have some difference in the categorization of prosthesis finished. Fixed partial denture and implant-supported dental prosthesis are preferred. **KEY WORDS.** Treatment modality, Fixed partial denture, Implant-supported dental prosthesis [*J Adv Prosthodont* 2010;2:4-6]

## INTRUDUCTION

The development of oral science, especially the achievement in dental material and technology, led to the innovation of prosthodontics. More and more restorative techniques and methods are appearing. Dentists change their treatment opinions. Despite the significant development of knowledge and techniques, it is still controversial to which degree of the therapy solutions of oral rehabilitation approaches the therapy's ideal, and also the way in which particular aspects of the prosthetic treatment, the general status and socioeconomic criterion influence the clinical result. The implant-prosthetic therapy represents the state of art in modern treatment of edentulous patients, starting from the simplest cases and ending up with complex situations. However the problem of choosing the best treatment option remains, confusing the patient between several possibilities and numerous limits. In the best of cases, the patient understands, accepts and can afford the adequate treatment option. In other cases, choosing the therapeutically solution can be made only under the impulse of external factors.

This study analyzed the distribution of data according to the various kinds of prosthesis and the professional titles of the den-

tists finishing the treatment in the recent 4 years, thus in order to examine the tendency for prosthodontic treatment during the past 5 years in Seoul National University Dental Hospital.

## MATERIALS AND METHODS

(1) A total of 20,038 patients who visited the department of prosthodontics of the Seoul National University Dental Hospital from 2005 to 2008 were included in this study.

(2) Data analysis by distribution was performed according to the various kinds of prosthesis, including complete denture (CD), removable partial denture (RPD), fixed partial denture (FPD), implant-supported dental prosthesis (ID).

(3) Data by distribution were analyzed according to the professional titles of the dentists finishing the treatment, including residents and professors.

(4) Data were shown in frequency tables, and difference between groups by the year, prosthesis category, and the professional titles of the dentists finishing the treatment were analyzed using the chi-square test. Statistical analysis were performed using SPSS version 12 (SPSS, Chicago, IL, USA) ( $\alpha = 0.05$ ).

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Received December 7, 2009 / Last Revision February 24, 2010 / Accepted March 2, 2010

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**RESULTS**

(1) A total of 20,038 patients visited the department of prosthodontics from 2005 to 2008. The number of cases increased year by year, and the increasing rate was 3.74% for 2006, 1.61% for 2007, and 3.43% for 2008 (Fig. 1).

(2) During the recent four years, 61.06% of the patients were given FPD restoration, and that percentage was higher than the sum of other categories. The least number and percentage was for CD. Comparing the data year by year, a declined tendency for the percentages of both CD and RPD was found, while a tendency for FPD and ID was increased (Table I).

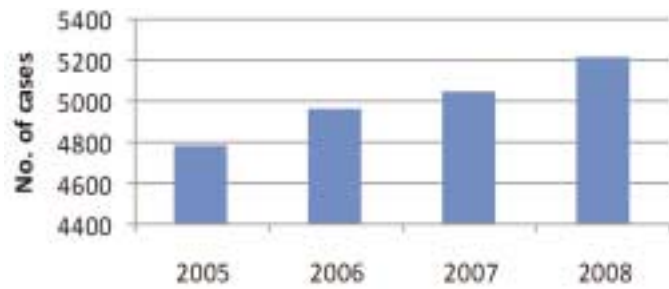


Fig. 1. The number of cases for the department of prosthodontics from 2005 to 2008.

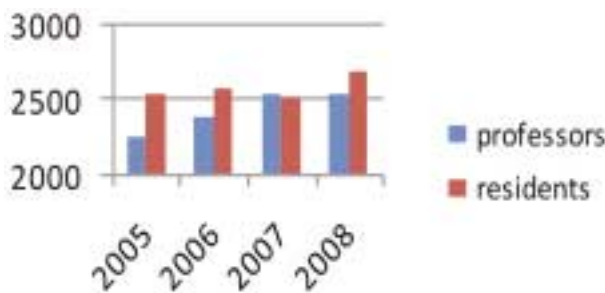


Fig. 2. The numbers of patients finished by professors and residents.

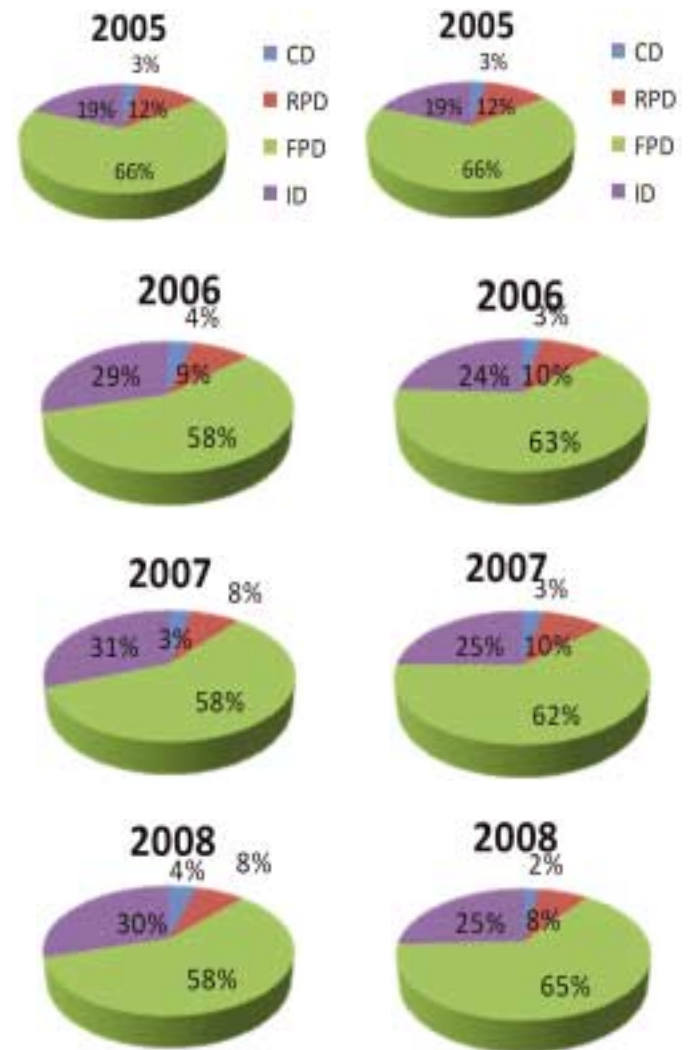
Table I. The distribution of patients according to denture categories from 2005 to 2008

	CD		RPD		FPD		ID	
	N	%	N	%	N	%	N	%
2005	202	4.22	543	11.33	2984	62.27	1063	22.18
2006	173	3.48	474	9.54	2998	60.31	1326	26.67
2007	169	3.35	439	8.69	3037	60.13	1406	27.84
2008	174	3.33	397	7.60	3217	61.58	1436	27.49
Total	718	3.58	1853	9.25	12236	61.06	5231	26.11

(3) The numbers of patients treated by professors and residents was shown in Fig. 2, and the distribution of patients according to treatment categories was shown in Fig. 3. The number of CD, ID finished by professors is larger than that done by residents, while it is contrary to RPD, FPD. The difference was statistically significant by the chi-square test ( $P < .05$ ).

**DISCUSSION**

The analysis about the dentists and their choice of the treatment may contribute to better understanding of the tendency for the development of prosthodontics, in order to provide better design and better serve patient care. The year by year



A. the percentages for CD, RPD, FPD, and ID finished by professors. B. the percentages for CD, RPD, FPD, and ID finished by residents.

Fig. 3. The percentages for CD, RPD, FPD, and ID finished by professors (left) and residents (right).

increasing tendency of the number of the patients shows that, with the improvement of living conditions and health care levels, more and more people perceive the need for restoration of tooth defect, defect of dentition, and dentition loss. Both the number and percent of patients with CD have been ever decreased. This may be partly due to better health care leading to reduction of teeth loss. Furthermore, some patient would not be restorable in the conventional method with CD, but prefer to take the implant supported FPD, or implant supported overdenture. The latter is more comfortable for the patient, combined with more functional performance and aesthetic outcomes.<sup>1</sup> From Table I, we can also see that both the number and percentage of patients with RPD are decreasing year by year. This also indicates that dentures play important roles not only physically but also in the mental and social life of the patients. The prevalence of poor dental and facial aesthetics may be associated with low moods and a reduced desire to communication. FPD is the most frequently selected treatment modality and its quantity takes the overwhelming majority among kinds of prosthetic restoration. From 2005 to 2008, 61.06% of the patients accepted FPD restoration. FPD is the overriding restorative form, for its excellent masticatory performance, good appearance and contribution to better periodontal conditions. The number of patients who accepted implant supported restoration is increasing year by year (Table I). Despite the high cost, increasing demands of the patient regarding aesthetics and function is influencing the demands for implant therapy.<sup>2</sup> The improvement of oral function and subjective chewing comfort, the preservation of tooth structures or existing reconstructions and the replacement of missing, strategically important teeth are major indications for implant placement. The single tooth replacement with an implant is the first choice when the neighboring teeth are healthy or minimally restored, compared with conventional FPD or RPD. Stability

of CD is the major problem especially for the mandible. Placement of two implants supporting an overdenture greatly improves chewing capacity, increases quality of life and is a simple and cost-effective tendency for denture restoration. CD, RPD, FPD, and ID are the four kinds of prosthesis in clinical restorative treatment and each of them has its indication. Nevertheless, their respective indications also have some circumstances mixed together. Decision-making is influenced by the dentist, patient, and treatment system. Dentist factors include biases, and personal and practice-related characteristics.<sup>3</sup> In the present study, the number of RPD, FPD finished by professors is smaller than that done by residents, while it is converse as to CD or implant supported restoration. The reasons may lie in two aspects. On one hand, with relatively less clinical experience, residents are always inclined to adopt the kind of denture most commonly used, especially when they can't predict the prognosis properly for a clinical case. On the other hand, for CD or ID restoration that of more professional experiences or high cost is needed, patients want dentists with more professional knowledge, experience, and skill to finish the treatment, thus to get satisfactory clinical outcomes. Therefore, to dentists, more professional knowledge, experience, and skill mean more trust and acceptance from the patients.

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