Original Article

"Assessment Of Confidence Level Of Dental Interns In Various Steps While Treating Complete And Partialy Edentulous Patients."

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DOI: 10.47750/pnr.2023.14.04.87

Abstract

Aim: "To assess the confidence level of dental interns in various steps while treating complete and partially edentulous patients."
Material and methods: In this present study, only dental intern students participated. This is a questionnaire-based study, with Multiple Choice of Answers.The questionnaire is validated before its application. The questionnaire includes questions regarding confidence level of dental intern students in numerous steps while treating complete/partial removable and fixed prosthodontic patients. A five-point scale (Likert scale) will be used to measure the level of confidence. After the data collection phase of the research was complete, it was input into a master chart created in Microsoft Excel and analysed statistically.
Results: With a 100% response rate, most students felt "confident" and "very confident" in Removable Dentures clinical procedures. One Way ANOVA and Post hoc Analysis compared the confidence level in all 3 categories. Overall, most students felt less confident in border moulding procedure, recording jaw relation, and procedure of cast partial denture, and in various fixed prosthodontic procedures like impression techniques and selection of special abutments and occlusal evaluation.
Conclusions: The intern students had highest confidence in Complete dentures followed by removale partial dentures and lastly fixed partial dentures. The majority of students gave favourable ratings to the quality of their prosthodontics education, with one major recommendation to enhance students' self-assurance being more time spent in clinical settings.

Key-words:

- Perceived confidence
- Fixed prosthodontics
- Removable prosthodontics
- Questionnaire survey

INTRODUCTION:

- In the course of their undergraduate education, dental students are exposed to a wide range of clinical procedures. Some students may lack Confidence in their ability to carry out certain tasks in a variety of courses, including prosthodontic procedures. Confidence is "a state of certainty in the success of a certain behavioural act," according to one definition. [1] The development of dental students' Confidence in delivering direct patient care is seen as a crucial learning outcome.

- Numerous prosthodontic therapeutic techniques are performed by dental students at the undergraduate level.[2] Complete denture fabrication is one such operation, and it has been shown in several studies to be one of the most challenging procedures to learn and execute. Removable dentures (RDs) are still an option for the edentulous population in terms of oral rehabilitation. In dental schools, increasing students' self-assurance in performing prosthodontic procedures should be a top priority.[3] Most dental students lacked Confidence in their ability to create full dentures. Some students, however, seem to lack Confidence while dealing with older patients during their clinical rotations. The design of a prosthesis that can be taken on and off is crucial to its effectiveness. Easy insertion and removal, less risk of tooth decay and gum disease in the abutment teeth, and greater patient acceptance are all benefits of a well-designed prosthesis.[4]

- As a result, new dentists should have no trouble creating prostheses that will improve their patients' health. On the other side, fixed prosthodontics contains more complex and difficult procedures therefore Most of the undergraduates lack knowledge about these procedures and feel less confident. PBL, or problem-based learning, is a relatively new approach to education and Since its implementation in clinical dental education, evidence reveals that a student-cantered, small-group, PBL has resulted in higher-quality practitioners than those who were trained using purely traditional methods.[5] The purpose of this investigation is to learn more about dental undergraduates' confidence levels when doing removable denture and fixed dental prosthesis therapy. To find out where the dental intern students lack knowledge in various prosthodontic treatments, To find out difficulties that students are facing while treating prosthodontic patients and improve them by tea or clinical demonstration.

MATERIAL AND METHODS:

In this present study, only the dental intern students participated.

- This is a cross-sectional research, therefore participants were asked to choose just one answer from a list of predetermined options.
- The questionnaire was validated before its application.
- The questionnaire includes questions regarding confidence level of dental intern students in numerous steps while treating complete/partial removable and fixed prosthodontic patients.[Table.1]

Sr.No.	Questions	Level of confidence (Scale)				
		1	2	3	4	5
GROUP-1 COMPLETE DENTURE						
1.	How confident are you regarding the complete denture procedure?					
2.	How confident are you while taking Primary impression of complete denture?					
3.	How confident are you while doing border molding?					
4.	How confident are you while taking final impression?					
5.	How confident are you while recording maxillo-mandibular Jaw relationship?					
6.	How confident are you in carry out post insertion adjustment of denture if any?					
7.	How confident are you in carry out selective grinding if any occlusal discrepancies present?					

8.	How confident are you in carry out relining and rebasing procedure?					
9.	How confident are you in repair of broken denture?					
GROUP-2 REMOVABLE PARTIAL DENTURE						
10.	How confident are you regarding the removable partial denture procedure?					
11.	How confident are you regarding the knowledge of steps for fabrication of cast partial denture?					
12.	How confident are you in taking dual impression for Removable partial denture?					
13.	How confident are you during insertion of removable partial denture?					
GROUP-3 FIXED PARTIAL DENTURE						
14.	How confident are you regarding the fixed partial denture procedure?					
15.	How confident are you in proper case selection for fixed partial denture?					
16.	How confident are you in occlusal evaluation and correction?					
17.	How confident are you in selecting a special abutment(Tilted molar abutment/cantilever abutment/pier abutment)?					
18.	How confident are you in selecting impression technique for given clinical study? (single wash/ double wash)					
19.	How confident are you regarding knowledge of post insertion instruction?					
❖ Scale :- 1. Not confident 2. Very little confident 3. Little confident 4. Confident 5. Very confident						

Table 1: Study proforma

- All the participants has been given the questionnaire to be filled through verbal meeting.
- Level of confidence will rate using five-point rating scale (Likert scale).
  - Scale 1 - No confident
  - Scale 2 - Very little confident
  - Scale 3 - Little confident
  - Scale 4 - Confident
  - Scale 5 – Very confident
- Principal investigator collected the questionnaire sheets.
- At the conclusion of the research, the data was input into a master chart created in Microsoft Excel, and statistical analysis would follow.

RESULTS:

300 dental interns participated in this survey with 100% respond rate.

The surveys shows that the mean was 3.32. This indicates that 3.32 is the average value in the dataset. Standard deviation is 0.965 for this collection of numbers. Most of the values in the dataset are within 0.96 standard deviations of the mean, as shown by this statistic [Table.2]

Group	N	Mean	SD	Minimum	Maximum	Median
1	1800	3.46	0.859	2	5	4
2	800	3.30	1.001	1	5	3
3	1200	3.11	1.051	1	5	3
Total	3800	3.32	0.965	1	5	

Table 2: Descriptive analysis:

The results of a one-way analysis of variance the number of squares for the space between groups is 87.898, which is much higher than the sum of squares for the space inside groups, which is 3452.813. This suggests that there is a large disparity between the two groups' mean. [Table.3]

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	87.898	2	43.949	48.330	.000
Within Groups	3452.813	3797	.909		
Total	3540.711	3799			

Table 3: One way ANOVA:

The F statistic is 48.330, which is well above the critical value for an F distribution with 2 and 3797 degrees of freedom. This indicates that the means of the two groups are different in a statistically significant way.
Given that the p-value is less than 0.001, it is very unlikely that the null hypothesis would lead to a F statistic as great as or larger than the one that was observed. This allows us to confidently reject the null hypothesis.
The means of the groups are significantly different, as shown by the one-way analysis of variance.

Post Hoc Tukey HSD test for pairwise comparison:[Table.4]

(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.160*	.041	.000	.06	.25
	3	.349*	.036	.000	.27	.43
2	1	-.160*	.041	.000	-.25	-.06
	3	.189*	.044	.000	.09	.29
3	1	-.349*	.036	.000	-.43	-.27
	2	-.189*	.044	.000	-.29	-.09
*. The mean difference is significant at the 0.05 level.						

Table 4: Post Hoc Tukey HSD test for pairwise comparison:

Statistically significant differences between pairs of means were investigated using post hoc testing. All three sets of means were found to be statistically different when a post hoc test was performed. This demonstrates that the differences between the groups are not coincidental.
The specific differences between the groups are as follows:

- Group 1 has a mean that is 0.160 standard deviations (SD) higher than group 2. This means that the scores for group 1 are, on average, 0.160 SD higher than the scores for group 2.
- Group 1 has a mean that is 0.349 SD higher than group 3. This means that the scores for group 1 are, on average, 0.349 SD higher than the scores for group 3.

Group 2 has a mean that is 0.189 SD higher than group 3. This means that the scores for group 2 are, on average, 0.189 SD higher than the scores for group 3.

DISCUSSION:

This questionnaire survey was conducted to evaluate the quality of prosthodontic education and to obtain insight into the level of confidence dental undergraduates have in their ability to deliver prosthodontic treatments.
In this questionnaire-based study, 300 intern students participated in the evaluation of confidence levels while performing different prosthodontic procedures while fabricating complete dentures, removable partial dentures, and fixed partial dentures in complete and partially edentulous patients.

The study showed students showed good confidence in procedures like making of primary impression, final impression, but less confident in procedures like border molding procedure, recording of maxillomandibular jaw relations, and relining procedure and occlusal adjustment while denture insertion. In a study by Sampio- Fernandes et al[6] the 4th-year students felt Confident and scored mean 3 out of 5 score in performing most prosthodontic procedures like tray selection, Denture insertion and occlusal adjustments in clinical situations. The lowest confidence scores were obtained for “Recording intermaxillary relations,” “Immediate prosthesis,” and “Denture repairs.” and “Altered cast technique,” “Adding tooth/clasp to existing dentures”. Regarding the 5th-year participants, “Surveying diagnostic casts” and “Altered cast technique”. Both this research and a previous one by Papadiochou et al[7] found that students lacked confidence when it came to documenting jaw relations and designing the metal framework for removable partial dentures. It is interesting to note that all of these methods match to notions that were discussed in theoretical courses but not yet implemented in practical settings. Marciano John vialli paul et al.[8] conducted a study of dental interns' knowledge and awareness of jaw relationship using a questionnaire. Interns reported greater levels of awareness as the number of full denture cases they worked on increased**.** Eighty-three percent of respondents reported being knowledgeable of jaw relation and related treatments. In this study the overall confidence level of students were higher for complete denture procedures as compared to removable partial denture. Because the students are exposed to complete denture procedures from Year-3 itself both in theory as well as clinical postings. this early clinical hands-on helps them in developing good clinical skills and gaining more confidence while performing complete denture procedures.
The lowest relationship of confidence was shown for the restorative method known as "fixed prosthodontics" in this research. Students felt less confident in the selection of impression techniques, evaluation of occlusion, and selection of special abutments. According to Youngson et al.[9] many dental schools do not require their students to have completed a large number of bridgework or endodontic treatments. This has led the authors to conclude that a sizable proportion of graduating students will lack the requisite competence in these clinical domains. In a study by Hattar S et al[10] concluded that the study subjects had basic theoretical knowledge about occlusal adjustments, but their clinical implementation was questionable. Crown preparation was rated as the most difficult technique by students ($P < .05$), according to research by Hattar S et al. Operative dentistry, endodontics, and "fixed prosthodontics" all ranked higher in the students' confidence levels than any other area of dentistry.[10] In a study by J.honey et al [11] , Out of a score of 5 criteria they concluded that areas with the least confidence were the placement of stainless steel crowns (2.83), crown preparation for porcelain crowns(3.54), for complete denture construction it was (3.71) which is higher as compared to fixed prosthodontics. which suggests less confidence in fixed prosthodontic procedures. Similar findings were seen in research by Al-koky M et al.[12], which concluded that even after receiving their degrees, final-year students still need supervision and rated average confidence in some areas of fixed prosthodontic operations including crown and bridge.

Prosthodontists, like dentists and dental hygienists, should spend time in both their pre-clinical and clinical training honing their psychomotor skills. Students' opinions of their own skill in prosthodontics were positively connected with the number of treatments they had performed, lending credence to the idea put out by Montero et al.[13] that practical training is essential for success in the field. In the field of dental care for the elderly, where prosthodontics is of paramount concern, students who had earlier exposure to clinical settings reported higher levels of self-perceived skills and knowledge. Further evidence that practising a process several times boosts students' performance efficiency and confidence was presented by Gilmour and colleagues3. This lack of trust in performing these treatments may result from a lack of hands-on expertise and/or a dearth of clinical situations. Papadiochou et al.[7] drew this conclusion through a questionnaire study: the time allotted for clinical training is insufficient. Students felt that the lectures and labs did not help them much in the clinic. Numerous students have voiced their support for including craniomandibular prosthetics and implant restorations into required college curricula.

This study suggests a good quality of education in removable and fixed prosthodontics and more amount of clinical practice improved the confidence as well as competence of students while carrying out the prosthodontic treatment, which is encouraging. The feedback should be taken from the undergraduates as well to improve their removable and fixed prosthodontics education and training. and more educational seminars and clinical demonstrations should be included in the curriculum for better understanding of the subject. Students were most confident in complete denture procedures followed by removable partial dentures and fixed partial dentures.

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