

Awareness of House Surgeons regarding Denture Adhesives in Dental Colleges of Islamabad and Rawalpindi

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ABSTRACT

Study Design and Setting A cross-sectional, questionnaire-based research was carried out. The questionnaires were filled by a total of 350 dental house surgeons who were working in various dental colleges of Islamabad and Rawalpindi in Pakistan.

Objectives The objective was to assess the knowledge and mentality of dental house surgeons regarding the proper use, application and limitations of denture adhesives.

Methodology A survey questionnaire was distributed among the dental house surgeons (n = 350). Cross tabulations were done and the Pearson's Chi-square test was used to compare the variables using the Statistical Package for Social Sciences (P ≤ 0.05).

Results Approximately, 85.5% of house surgeons who answered the questionnaire had learnt some of the basics about adhesives as part of their undergraduate studies. 73% agreed that Adhesives can be useful in aiding the stabilization and retention of dentures, and 95% agreed that dentists should inform denture patients about the proper use. However only a relatively small percentage (38%) routinely informed patients about the potential misuse of adhesives as part of their instructions.

Conclusion Majority of the house surgeons had sound knowledge about DAs and agreed for the need to increase patient awareness towards these products. Sufficient dentist and patient knowledge towards denture adhesives is paramount in establishing patient satisfaction and knowledge towards dentures usage.

Key words Denture adhesives, Awareness, Knowledge, Questionnaire

INTRODUCTION

Denture adhesives (DAs) are used to aid the adherence of dentures to the oral mucosa. As a general rule, DAs are indicated for patients with inadequate denture retention, neuro-muscular disorders such as Parkinson's disease, or in patients with Xerostomia. When used properly, denture adhesives contribute to psychological benefit of the patient as well; they increase the biting force [1] and improve the chewing efficiency of the patient [2]. Denture adhesives are commercially available in various forms such as powders, creams/ gel, liquid, or wafers.[3] Although the use of DAs is very common in partial and complete denture wearers, Prosthodontists are generally somewhat hesitant to recommend these products[4]; opting primarily to have an accurately fitted prosthesis. It must be noted that DAs are contraindicated in patients with allergies to the contents of the adhesive materials such as Zinc, or those who have severe inadequacies in the retention and function of complete dentures, in cases of excessive bone resorption, or in patients who are unable to maintain adequate oral and denture hygiene[4,5]. A number of studies have been reported on patients' knowledge regarding DAs as well as patient preference and comfort towards these materials. However, there has been very little information available on the perceptions and attitude of dental professionals regarding DAs and the knowledge and attitude of dental surgeons regarding DAs remains unclear.[6] This gave us the motive to investigate the dentist concerns and attitudes towards denture adhesive materials.

Since patients depend on their dentist for appropriate patient education and reliable information, it implies that dental graduates moving on from dental schools ought to have sound information and extensive comprehension of the DAs' use[7,8]. In order to clarify the following concerns for future graduates, this study was conducted in order to investigate the awareness and the viewpoint of dental surgeons regarding DAs in the dental schools and hospitals of the Islamabad/Rawalpindi region.

MATERIALS AND METHODS

A questionnaire from a previous study was redesigned for our study. The questionnaire was distributed among 350 dental house surgeons across different hospitals of Islamabad and Rawalpindi. Data was kept anonymous and the participation was voluntary. All practicing house surgeons who had graduated from dental school within the past 1 year were included in the research.

The house officers were given the options to choose between "agree, disagree" for the attitude regarding denture adhesives questions and between "yes or no" answers for their attitude. Data was collected and results were analyzed using SPSS version 16.0 and the Pearson's Chi-square test was incorporated in order to determine the association between our variables. The results were deduced to be statistically significant (P ≤ 0.05).

RESULTS

Hard copies of questionnaires were distributed among the house officers and a follow-up was done virtually over

social media platforms and calls. A response rate of 100% was accomplished.

The attached tables illustrate the components of our questionnaire and the results in the form of percentages.

Majority of house surgeons (97%) had an awareness of DAs through their undergraduate syllabus. There were different ways this knowledge was gained by them; Most (63.5%) recalled DAs from their lectures, some of them did from books (22.4%), followed by visual media (13.1%) and medical seminars/conferences (1%).

Regarding the clinical use of denture adhesives is concerned, 32% of the interns had observed denture adhesives being used in clinical setting while 15% of the subjects had used them on their own using verbal instruction provided by the faculty and/or by reading the manual provided or recalling instruction from their pre-clinical lab exercises or class lectures.

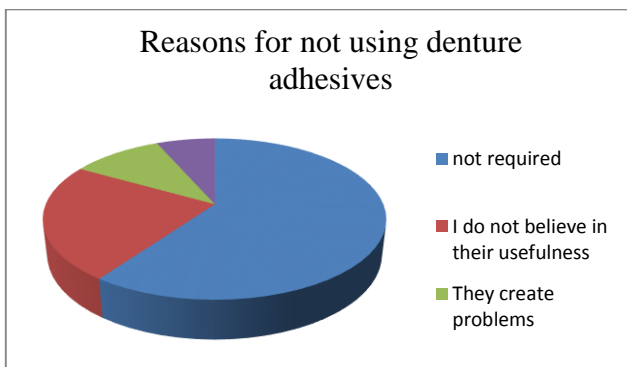
60% of interns reported patient satisfaction following the use of denture adhesives.

Table 1: Knowledge of dental house surgeons regarding denture adhesives

Questions	Yes	No
1. Have you heard about denture adhesives?	97%	3%
2. Do you think that denture adhesive is a good management option to remove minor discrepancies of ill fitting denture?	94%	6%
3. Are you familiar with the use of denture adhesives	86%	14%
4. What is the source of your knowledge regarding denture adhesives?		
a. Undergrad studies	63.5%	
b. Books/ research articles	22.4%	
c. Visual media	13.1%	
d. Continuing educations seminars	1%	
e. Post grad studies	nil	
5. Have you ever seen denture adhesives being used in a clinical setting?	40%	60%
6. Have you ever used denture adhesives?	75%	25%
7. Have you prescribed the use of denture adhesives to you patients?	66%	33%

Table 2 - Attitudes of dental house surgeons/ interns towards denture adhesives

Attitude related questions	Agree	Disagree
1. If you have never recommended denture adhesives, the reason was?		
a. I am not completely familiar with their use	3%	97%
b. I do not believe in their usefulness	9%	91%
c. I believe they create problems	2%	98%
d. They aren't required in good fitting dentures	86%	14%
2. What type of denture adhesives do you prefer?		
a. Cream/ gel based	100	N/A
b. Powder/ liquid	N/A	N/A
c. Pads	N/A	N/A
3. Do you explain or use media for the application and removal of denture adhesives to your patient?	67%	33%
4. Do you recommend denture adhesives in the following condition		
a. Mild discrepancy in ill fitting denture	90%	10%
b. As a routine prescription to pts who have received a new set of dentures	10%	90%
c. To gain retention at trial phase of dentures	5%	95%
5. Do you think there is increased satisfaction of denture wearers by the use of denture adhesives?	96%	4%
6. Patient complaints with the use of denture adhesives are related to		
a. Expense (high cost)	40%	60%
b. Not as effective	72%	28%
c. Unpleasant taste	1%	99%
d. Not easily removable	54%	46%



DISCUSSION

Retention of removable prosthesis is one of the essential requirements and determines the quality of the life for denture wearers.^[17] Several factors contribute to the retention and stability of complete dentures; including adhesion, cohesion, capillary action and atmospheric pressure. ^[6,17]Adhesives have been viewed as a valuable adjunct to these factors and an assistance to upgrade denture retention, stability and comfort. Many dentists view the use of denture adhesives to be a reflection of errors in clinical impression making or border molding ^[12] which might be why they do not really endorse the use of denture adhesives as frequently. It should be established that

denture adhesives are not a substitute to the clinical border molding and impression steps, they are just an aid to it.

The factor of knowledge concerning DAs is a vital component of undergraduate study in the curriculum of Prosthodontics and dental materials within the dental colleges of Pakistan. The study also revealed that class lectures on the aforementioned subjects were their main source of knowledge about DAs. Secondly it was revealed that most faculty members give the dental students the clinical exposure to DAs due to which an aggregate of about 62% of interns said that they had seen denture adhesives being used before. Nevertheless, only half of these interns had effectively prescribed DAs. This fact should be taken into consideration when performing further research on the reasons behind not using DAs.

The participants of this research were relatively strongly opinionated whether patient education about the use of DAs is an essential part of the quality of denture wearing experience for patients with well-fitting dentures (60%) and ill-fitting dentures (40%). This difference of opinion can be understood by the fact that dental interns were of the thinking that educating the patient with ill-fitted dentures will invite noncompliance overtime when usage of DAs will not improve the fitting of the denture.

CONCLUSION

According to our results, it was concluded that the current curriculum regarding denture adhesives in the subjects of Prosthodontics and Dental Materials as set by PMDC was

sufficient for undergraduate studies in dental schools of Pakistan. Adequate knowledge and a generally correct attitude of the participants towards denture adhesives was observed.

There was a common ground established regarding the fact that denture adhesives increase the overall patient satisfaction with dentures. It was also concluded that DAs can be a useful add-on for dental surgeons in the process of denture fabrication and patient counseling. Dentists should make it a habit to educate their patients about denture adhesives and their proper use.

Participants agreed that DA's are useful for stabilizing trial bases during the early stages of denture fabrication (62.3%), enhancing retention during the period immediately after insertion (75.4%). Denture adhesives can be recommended to first time denture wearers or those with significant bone loss to increase their confidence with complete dentures provided the dentures are adequately fabricated with maximum usage of natural anatomical landmarks for gaining retention and support.

Additional research can be performed that examines and compares the perceptions of dental students/interns to the faculty member which will overcome the limitations of this study. Furthermore, comparing the viewpoints of patients regarding DAs and relating it to dental clinician feedback is beneficial in evaluating the gap in patient education and also strengthening the study by examining patients' usage, compliance and viewpoint regarding denture adhesives.

Different commercially available adhesive products in local and international market		
Cream/gel/paste form	Pads/ strips	Powder
		

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