ORIGINAL ARTICLE

HOUSE SURGEONS PERCEPTIONS REGARDING THE EFFECTIVENESS OF PRECLINICAL FIXED PROSTHODONTICS TRAINING IN BDS COURSE

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ABSTRACT

This questionnaire based study assessed the perceptions of dental house surgeons regarding the effectiveness of preclinical fixed prosthodontics training during BDS course.

A total of 70 house surgeons participated in the study. A validated questionnaire was distributed among them to assess their perceptions regarding the current preclinical fixed prosthodontics module at a dental college in Islamabad. The clinical steps that they perceived as being difficult were fluid control (74%), positional variations of teeth (46%), subgingival cervical finish line preparation (46%), and gingival retraction procedure (46%) and shade selection procedure (29%). The house surgeons felt that the inclusion of problem-based learning, preclinical patient exposure, and better simulation would alleviate the stresses during the transition from preclinical to clinical prosthodontics.

This study highlights the tooth preparation steps found difficult to practice in a transition period between preclinical and clinical phases. These areas should be focused in the designing and modification of preclinical prosthodontics curricula.

Key Words: *Fixed partial denture, Pre-clinical training, transition period.*

INTRODUCTION

Curriculum in dentistry is continually evolved and upgraded to improve the knowledge, skill, attitude and professional values before beginning the career as a practicing dentist.[1] This development and progression is possible only from the feedback from the fresh dental graduates regarding the perception and evaluation of the courses.

Development of fine manual dexterity is as important as knowledge gain in dental education. Psychomotor skill development is usually achieved by incremental training in preclinical courses before declaring the student competent for clinical training.[2] Effective preclinical training is also ethical and extremely important for patient safety.

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Crown preparation procedures are irreversible in nature, once a preparation is done it can never be repaired.[3,4] The literature clearly suggests that the transition period from preclinical to clinical situation is highly stressful and complicated.[5] Stress during the transitional stage is the result of multiple factors such as a large difference between learning environment, applying their knowledge and skills to real patient problems, and the need to adopt different learning strategies as well as meet the performance expectation.[6]

Adequately preparing the House surgeons for smooth clinical transition still poses a great challenge for educators. The preclinical training provides a learner-centered education without clinical responsibilities, sometimes far away from the situation it wants to imitate. It is believed that task-based preclinical training more similar to clinical practice will help the house surgeons to overcome the stress during initial clinical practice.

Hence it was decided to know the individual steps involved in the fixed prosthodontics preclinical training different from clinical settings, in which such procedures will be performed. Identifying poorly correlated tasks makes it easy to address them with appropriate corrective measures. Beneficiary House surgeons feedback is an important tool to identify them and their opinion on alternative improved methods of training is vital in curriculum development.

The purpose of the present study was to determine the fixed prosthodontics skills difficult to perform in a transition period due to poor correlation between preclinical and clinical training.

METHODOLOGY

A cross sectional study was conducted at the Prosthodontics Department of a Dental College in Islamabad. After approval from the Ethical committee. A total of sixty seven House Surgeons (HS) were included in the cross-sectional study; a self-administered anonymous questionnaire was distributed to the students during their clinical training period. Before the questionnaires were distributed, house surgeons were given information about the study, and written informed consent was obtained from all the HS participated in the study.

For the purpose of the study, an 18 item questionnaire was designed. The questionnaire was validated by pilot study in which questionnaire was distributed among senior faculty member at the Dental College. Modifications were made in light of suggestions made. Data were entered and analyzed using SPSS v18.0. The various answer responses of HS were described using frequencies and percentage.

RESULTS

Details of the results can be seen from Table 1-2.

DISCUSSION

Tooth preparation and alteration procedures are an irreversible procedure; hence it will be unprofessional to give permission to those house surgeons to perform clinical procedure on patients without attainment of basic level of proficiency. It is obligatory on the part of instructors to continuously evolve the course to make the students ready to practice safely and effectively on the patients.[7]

It is imperative on the part of the educators to identify the steps students feel difficult/unsure during this period. Feedback from the beneficiary House surgeons in the study regarding learned skills showed a major gap between the preclinical and clinical phases. This feedback is an important tool for the educators to improve the preclinical training.

The clinical steps in fixed partial denture fabrication that the HS felt difficult during transitional period were clinical variation of tooth position (46%), fluid control (74%), sub gingival cervical finish line preparation (46%), and tooth shade selection (29%).

In the present study 74% of the house surgeons found that saliva-fluid control is difficult to master from existing preclinical training which is very close to the study conducted at King Khalid University where 67% of the students faced difficulty in fluid control.[9]

Preparation of the sub gingival cervical finish line needs extreme dexterity from the dentist, to avoid irreversible damage to a periodontium.[9] A total of 14.9%-46% of the respondents felt sub gingival cervical finish line preparation and gingival retraction procedure learnt at preclinical training were difficult to practice on real patient in the initial period. These results are

TABLE 1: DESCRIPTIVE STATISTICS OF HOUSE SURGEONS FEEDBACKS ON THE DIFFICULT SKILLS DURING TRANSITION PERIOD

		Frequency (Percentage)				
Sr. No	**Question**	**1**	**2**	**3**	**4**	**5**
1	Tactile sense difference between natural teeth and ivory teeth	2 (2.9)	7 (10.4)	10 (14.9)	33 (49)	15 (22)
2	Relative size and position of pulp	2 (2.9)	6 (8.9)	16 (23)	32 (47)	11 (16)
3	Clinical Variation :Supra eruption and tilting	2 (2.9)	3 (4.4)	10 (14.9)	21 (31)	31 (46)
4	Fluid control	0 (0)	0 (0)	5 (7.4)	15 (22)	50 (74)
5	Sub gingival margin /gingival retraction	2 (2.9)	7 (10.4)	10 (14.9)	31 (46)	11 (16)
6	Occlusal evaluation and correction	1 (1.4)	23 (34)	10 (14.9)	21 (31)	16 (23)
8	Self-evaluation of preparation	1 (1.4)	12 (17.9)	13 (19.4)	24 (35)	17 (25)
9	Handling selection of various cements	1 (1.4)	11 (16.4)	06 (8.9)	33 (49)	16 (23)
10	Positioning of patients	4 (5.9)	12 (17.9)	10 (14.9)	21 (31)	20 (29)
11	Retraction and protection of surrounding soft tissues	1 (1.4)	09 (13.4)	10 (14.9)	25 (37.3)	30 (44)
12	Tooth shade selection procedures	10 (14.9)	10 (14.9)	15 (22)	15 (22)	20 (29)
13	Preparation of cervical margins	4 (5.9)	03 (4.4)	09 (13.4)	33 (49.2)	18 (26.8)

TABLE 2: STUDENT FEEDBACK REGARDING IMPROVEMENT OF CLINICAL PROCEDURES

Sr. No	**Question**	**1**	**2**	**3**	**4**	**5**
1	Involving problem based learning	1(1.4)	0 (0)	4 (5.9)	25(37)	37(55.2)
2	Live video demonstration	1(1.4)	1(1.4)	1(1.4)	23(34)	41(61)
3	Preclinical patient exposure	0(0)	0(0)	5(7.4)	20(29)	42(62)
4	Including peer evaluation	0(0)	1(1.4)	9(13.4)	29(43)	28(41)
5	Better simulation methods	0(0)	1(1.4)	4(5.9)	26(38)	36(53)

quite contrast to the result shown by Satheesh et al which are in the range of 51-61%.[9]

In this study 22%-29% of the students felt shade selection training need to be improved for easy clinical transition. However, in a study conducted at King Khalid University the results were quite different which ranged from 41%-50%.[9] The best of the restorations fail due to the color mismatch between restoration and adjacent teeth.

In their opinion on the steps needed to improve the preclinical training, 55.2% of the HS strongly felt PBL should be adopted for the preclinical training.[11,12] PBL inculcates the ethics of team work and encourages self-directed learning. It will help the student to gain required psychomotor skill in addition to skill of critical thinking and decision making, which are important for clinical practice.

Sixty-two percent of the house surgeons were of the opinion that preclinical patient exposure will be helpful. Many medical educationists have suggested this procedure will alleviate the stress and prepare the student well during early clinical practice.[13,14,15] Conventional preclinical training encourages the student to only memorize the steps. They fail to apply the concepts learnt in preclinical training in clinical practice. Preclinical patient exposure helps the student to understand the clinical reasoning and encourage them to pursue the training in the right spirit.

The objective of simulators is to create the clinic-like setting. The overwhelming majority (52%) also suggests the improvement in simulation methods. The majority of contemporary manikins can be positioned similar to a patient with average mouth opening and mandibular movements. The study showed 43.2% of the respondents strongly suggested the importance of self-peer evaluation similar to studies conducted by Rees C and Musolino GM.[16,17] It will help the HS to develop the critical thinking and will enable them to identify the tooth preparation limitations. The ability to identify these mistakes in tooth preparation is important to overcome or avoid them in the future.

Preclinical training is the most challenging for the educationist. It is imperative to evaluate the effectiveness of the training regularly. The feedback will help in needed development and implementation of different curricula innovations.

CONCLUSION

Managing the transition for students from preclinical learning to providing patient care in the clinic is an important issue for oral health care educators. The participant's response on the difficult steps during the transition stage to clinical phase indicated the demand for further development of curriculum. The negative experiences felt by the house surgeons during the transition period were clinical variations in tooth position, fluid control, gingival retraction, and shade selection.

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