Impact of Preclinical Training on Students Clinical Performance: A Cross Sectional Analysis

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ABSTRACT

Background: It is must to ensure a certain standard of knowledge and practical skills among students prior to introducing them to clinic .Over years, Dental council of India has laid down a specific curriculum for students of BDS 2nd year for their pre-clinical work. In today's world where education aims to be student centric it is important to analyze and focus on the needed changes from students perspectives for a better academic environment. The study was conducted keeping this in mind and it was also taken up as a paper presentation in a national conference to address the subject and welcome opinion from academicians in a broader platform. **Aim and objective:** To evaluate the impact of pre-clinical conservative training program on clinical performance of students as per students viewpoint and to identify areas in academic environment which require improvement. **Materials and methods:** 400 students in final year of graduation in different Delhi/ NCR institutes were given a questionnaire after taking the consent for the survey. Ethics clearance was taken from university ethics committee to conduct this survey and written permission from different institutions was also simultaneously taken to conduct the survey in specific time period. Response to each question was categorized and percentage was calculated. **Results:** In this survey most of the students conveyed the need of pre-clinical training as a necessity to help in boosting the level of confidence. Most of the students also conveyed that clinical skills with course content uptaken is adequate to start in clinics . 20% students requested to increase and repeat the no. of demonstrations .Above 60% of the students were found to ascertain the standard of knowledge based questions. **Discussion:** Students opinion should be given importance when deciding to implement an academic program. Regular motivation, understanding the attitude and learning skills of students will help in enriching the curriculum. It is also important to look forward to the need of change which is the need of an hour.

KEY WORDS: PRE-CLINICAL TRAINING PROGRAM, SKILL, ATTITUDE, KNOWLEDGE

INTRODUCTION

The present curriculum used by Dental colleges in India has been approved by Dental Council of India which

counts to 200 hours for pre-clinical training and 25 hours of lectures in second academic year of BDS. This translates to 4hours /week dedicated for preclinical training and generally no separate faculties are hired for this pre-clinical training as per DCI norms though a separate phantom head lab is a mandate for approval of the college by Dental Council of India. Dental education has overall placed little impact in raising overall health of the individual in the world .Also preclinical training in restorative procedures does not directly contribute to lower the mortality rate from preventable diseases which could be a possible reason of lack of interest to raise this concern.

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Despite enhancement of knowledge, advancements in materials and techniques potential suffering of an individual receiving treatment from a non safe dentist student must be minimized. The way to ensure this is to ascertain a standard of knowledge and practical skill along with an attitude for work among the students prior to introducing them to the dental clinics. Students play a vital role for their own education and are major stake holders. It is therefore important to evaluate the academic environment with a participant (student) centered approach. Keeping this in mind the objective of this study was to assess and evaluate the impact of pre-clinical conservative dentistry training on students clinical performance as per students view point and also to identify the areas in academic environment which require improvement.

METHODOLOGY

Dental council of India has laid down a specific quota for individual student's prior taking university examination in second academic year of BDS. This quota includes certain number of exercises on plaster mould, extracted teeth and phantom jaws. The subjects of the study were 400 students pursuing their final year of graduation and interns from four different institutes of Delhi/NCR. Ethics clearance was taken from the university to conduct this survey along with written permission from other colleges. An informed and written consent was also taken from the participants who were willing to take this survey. A questionnaire was devised. Questionnaire had 18 questions out of which some were simply given choices to mark against and some were yes/no questions after which space was given to write their opinion or suggestions. Questions were not grouped under separate headings according to the course characteristics but were thrown together as a whole.

Percentage of each response was tabulated when analyzing closed ended question. Similarly each response was categorized and percentage was calculated for open ended question. Accompanied comments of some closed ended questions were also noted. Answers to questions of relevant single responses were also noted separately. It was a cross sectional study design of single group of students with no control group.

Statistical Analysis: Data was entered in Microsoft excel 2016 for Windows. Data analyses were performed using version 21.0 of the Statistical Package for Social Sciences (IBM Corporation, Armonk, New York, USA). As data was categorical; frequency and percentages of responses for various items in questionnaire were calculated.

RESULTS

In the above survey most of the students conveyed the need of pre clinical training as a necessity. This is to help them in boosting the level of confidence and provide adequate clinical skills along with course content to start in clinic. 20% students requested to repeat and increase the number of demonstrations. Above 60% of

the students were found at par meeting the standard of knowledge based questions.

Graph 1: Responses Of Participants For Pre-Clinical Exercises When Working On Typhodont Jaws. (Q 1)

Graph 2: Responses Of Participants For Question Whether Work Performed During Pre-Clinical Training Really Helped Them In Clinical Practice. (Q 2)

Graph 3: Responses Of Participants For Various Questions Related To Pre-Clinical Training In Conservative Dentistry. (Q 3 To Q 9)

Graph 4: Suggestions By Study Subjects To Improve Pre-Clinical Training Program. (Q 10)

Graph 4a: Suggestions By Study Subjects To Improve Pre-Clinical Training Program. (Q 10)

Graph 5: Responses Of Participants For G.V. Black's Classification For Various Types Of Caries (Q 11 And Q 14)

Graph 6: Responses Of Participants For Recommendation Regarding Pulp Capping Procedure When Width Of Cavity Increased To More Than 1/3 Of Intercuspal Distance. (Q 12)

Graph 7: Responses Of Participants For The Best Mean Of Pulp Protection When Depth Of Cavity Preparation Is Approximately 2.5 Mm. (Q 13)

Graph 8: Responses Of Participants For Choice Of Raw Material For Caries On Gingival 1/3rd On The Buccal Aspect Of Maxillary 1st Molar. (Q 15)

Graph 9: Responses Of Participants For Their Next Proceeding When Hemorrhagic Point Is Seen On The Floor Of Cavity While Removing Caries (Q 16)

Graph 10: Responses of Participants For Alloy And Hg Ratio During Manipulation Of Amalgam. (Q 17)

DISCUSSION

Students should be given importance when deciding to implement academic programme. BDS IV students about to take their exams were taken rather than 2nd year students undergoing preclinical training program. This was done keeping in mind the usefulness of training received according to their learning need at their level. Moreover, the amount of stress undergoing to accomplish preclinical work quota could have refrained the students to give the exact feed back. Differences in opinion exist between clinical staff which supervises, and students being supervised in regards to their clinical learning

period. Thus the perception of supervising faculty cannot be reliable in ascertaining the students viewpoint.

One of the important tool is motivation among students. Positive motivation, emphasis on learning, better understanding with improved skills and knowledge Initial motivation of students to choose dentistry comes from expectation regarding their profession rather than academic courses they go through. In the current survey 52 % students were found motivated as they found preclinical exercise difficult but interesting Stress in dental students can lead to adverse symptoms hindering their ability to cope with their burden of studies. DCI has recommended 225 hrs of preclinical lab to accomplish the required quota by any student. One of the characteristics of good academic environment is having enough time to complete academic goals. 65% students agreed that this was sufficient time to complete the work.

In the survey 96% students claimed better work organization and 94% claimed better patient handling and care by boosting their level of confidence. An approach to introduce students in the dental clinic as assistants and observers during pre clinical years, can further help in gaining acquaintance with change of working environment from 'dummy' typhodonts to 'live' patients. Above 60% of the students were found to ascertain standard of knowledge based questions. Self assessment is well-established in literature as contributing to active learning. Hence students were given knowledge based questions to know the outcome of teaching, learning methods. Students who learn recognition skills can visualise successful performance prior to beginning which might improve the quality of production.

In the survey 20% of students requested for repeat and increase in number of demonstrations. This can be attributed to the fact that the faculty to student ratio for teaching suturing skills should be increased. This is

to help cope with increasing demands to make students learn according to competency-based curriculum.

CONCLUSION

Students showed genuine interest in having the preclinical training program for preparing them before entering in clinics. Integration of use of teaching aids as videos and incorporation of advances in simulating technologies should be emphasized. Recognition skills in which student learns to visualize an appropriate end result should be formally taught and emphasized prior to any skill performance.

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