ORIGINAL ARTICLE

Effectiveness of Case Based Learning in Orthodontics for BDS Students

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ABSTRACT

The objective was to determine the effect of incorporating case based learning format in orthodontics for BDS students. Study was conducted on 30 BDS final year students of Dental section, Faisalabad Medical University. Students were provided with orthodontic case details and relevant diagnostic records. A diagnostic worksheet was also provided to develop orthodontic diagnosis, problem list and treatment plan. Following this discussion sessions were held and the end of which questionnaire was provided to students to evaluate the efficacy of case based learning format. It was concluded that incorporating the case based learning format in the orthodontics for BDS students could increase and develop the student's knowledge and skill in orthodontic case planning.

Keywords: Case based learning; Orthodontic; Medical education.

INTRODUCTION

Traditional lectures are common in BDS undergraduate teaching in which students are usually passive instead of being interactive while different sessions of dental learning. As per latest guidelines teaching should be student centric instead of teacher centric because of the fact that student centric teaching allows active interactions and resultant learner's development of skill and knowledge[1,2,3,4].

Case based learning (CBL) is one the unique system of education in which students received basic level knowledge from different sources and applied it to live patients[5,6]. Case based learning allows students to apply textbook knowledge to provided orthodontic clinical cases for development of diagnosis, problem list and treatment planning. The main disadvantage of case based learning is need of time and infrastructure.[7] Incorporation of case based learning format in BDS orthodontics can be used as a tool to develop skills of BDS students for development of orthodontic diagnosis, problem list and treatment planning[8].

There are very few Pakistani studies on application of case based learning format in BDS orthodontics. Therefore the aim of present study was to determine the effect of incorporating case based learning format in orthodontics for BDS students. This study was designed with goal to shift from teacher centric learning to student centric learning i.e., shifting from traditional passive lectures to interactive case based learning sessions. This will help BDS students in more comprehensive development of diagnosis, problem list and treatment planning of orthodontic cases at undergraduate level.

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MATERIAL AND METHODS

Study was conducted on 30 BDS final year students of Dental section, Faisalabad Medical University. Duration of this study was January 2018 to May 2018. The sample size was based on the final year BDS students that got promoted from 3rd year. Dental students of BDS final year which are new to orthodontic department were included in the study. Dental interns / dental surgeons and dental students of BDS first to third year were excluded from the study. Students were provided with orthodontic case details and relevant diagnostic records. A diagnostic worksheet was also provided to design orthodontic diagnosis and treatment plan. Following this discussion sessions were held and the end of which questionnaire was provided to students to evaluate the case based learning format. Questionnaire consisted of 5 questions:

1. Case based learning made me more attentive while session ?
2. Case based learning made the session more interesting ?
3. Case based learning made my learning more efficient after session ?
4. Case based learning made me do more interactions while session ?
5. Case based learning motivated me to do more case study before session ?

Data collected was analyzed by using software SPSS version 20.0. Results to responses were presented in form of frequency and percentages. The overall response was presented in form of mean and standard deviation.

RESULTS

Response rate was 100%. Results showed that case based learning format was well received. Dental students perceived case based learning to stimulate their attentiveness, interest, interactivity, motivation for additional case study and learning efficacy (Table I).

Table I: Perception of students after CBL session

Parameter	Strongly disagree	Disagree	Agree	Strongly agree	Total	Mean	SD
Attentiveness	0	2(6.66%)	18(60%)	10(33.33%)	30(100%)	2.56	0.23
Interest	0	4(13.33%)	17(56.66%)	9(30)	30(100%)	2.99	0.35
Learning efficacy	0	2(6.66%)	20(66.66%)	8(26.66%)	30(100%)	2.87	0.61
Communication	0	2(6.66%)	17(56.66%)	11(36.66%)	16(100%)	2.81	0.23
Motivation	0	4(13.33%)	16(53.33%)	10(33.33%)	16(100%)	2.21	0.33

DISCUSSION

Traditional passive lectures are common in dental teaching but in but in higher education there is increase trend toward student centric teaching.[9-11] There are very few Pakistani studies on application of case based learning format in BDS orthodontics.

The aim of present study was to determine the effect of incorporating case based learning format in orthodontics for BDS students. This study was designed with goal to shift from teacher centric learning to student centric learning i.e. shifting from traditional passive lectures to interactive case based learning sessions. The sample size was based on based on the final year BDS students that got promoted from 3rd year.

Study was conducted on 30 BDS final year students. Students were provided with orthodontic case details and relevant diagnostic records. A diagnostic worksheet was also provided to design orthodontic diagnosis and treatment plan. Following this discussion sessions were held and the end of which questionnaire was provided to students to evaluate the case based learning format.

Results showed that case based learning format was well received as dental students perceived case based learning to stimulate their attentiveness, interest, interactivity with fellow students, motivation for additional case study and learning efficacy. Thus it was found that incorporating of case based learning format in the orthodontics for BDS students could increase and develop the undergraduate dental student's knowledge and skill in orthodontic case planning.

Results of present article are in accordance with the findings of certain other researches[12-14] where perception of dental students was positive regarding problem based learning sessions. McKenzie[12] showed that problem based learning was perceived to be influential on students' knowledge, skills and communication. Kumar[13] showed that perception of 71% of final year BDS students was positive regarding problem based learning sessions on oral and maxillofacial radiology.

Further large scale studies are suggested to find out the effect of incorporating case based learning format in orthodontics for BDS students.

CONCLUSION

The incorporating of case based learning format in the orthodontics for BDS students could increase and develop the undergraduate dental student's knowledge and skill in orthodontic case planning.

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