MEDICAL EDUCATION

Quality of Dental Education among Students after Graduation: A Perspective Study

Rabia Sannam Khan[1], Sana Khan[2]
[1]Lancaster University, United Kingdom, [2]Institute of Health Professions Education and Research, Khyber Medical University, Peshawar, Pakistan.

ABSTRACT

Background: Dental education is a demanding profession and limited resources and hinders the quality of education. Therefore, evaluation of perceptions of dental graduates in dental schools is significant to improve the dental education. The aim of this study was to gather information regarding student's perception of dental education after their graduation, their level of satisfaction with quality of education received.

Methods: This was a cross sectional descriptive study (n=110) conducted in Frontier Dental and Medical College and Islamic International Dental College. A self-administered questionnaire regarding the student's perception of educational curriculum and programme with their competence and satisfaction was assessed. Students and recent graduates participated in the study. The statistical analysis was achieved by using SPSS 20.0 (USA), and frequency distributions were implemented for each variable. Fisher's exact test was applied to compare the perception of final year students with house officers. The level of significance was set at $p<0.05$.

Results: In the overall verdict judgement in both the colleges, only 25 (23%) of participants were generally satisfied with the quality of their dental education. Additionally, when asked regarding clinical training that if it prepared them to work independently as a dental practitioners, the participant's 27 (25%) of respondents has agreed with the statement and felt ready for working independently.

Conclusion: This study on dental student's perceptions of the undergraduate curriculum lightens on the various aspects of the curriculum to make efforts in improving the undergraduate curriculum and to train the dentists and teaching staff more knowledge and skills.

Keywords: Dental Education; Perception; Education; Dental School; Curriculum.

Corresponding Author:
Dr. Rabia Sannam Khan
Lancaster University,
United Kingdom.
Email: rabia.sannam.khan@gmail.com
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INTRODUCTION

A widespread reform has been seen around the globe[1]. Undergraduate dental education curriculum has been designed to train the future dentists who can have the desired knowledge, skills and attitude outcomes. The skills associated with leadership, communication, clinical management, communication and professionalism[2-4]. Moreover, standards of dental educationhave to be maintained and must guarantee the equality and diversity among students, quality evaluation, student assessment, and patient protection. The educational environment in turn, is influenced by the quality of teaching received by undergraduate students. The educational methods boosts students' confidence, teaches and improves their patient care, impact their professional progress and attitudes what affects their social and personal well-being[5-8].

The Pakistan medical and dental council recommends a 4-year training program for undergraduate dental students. Hence, the curriculum is divided into four parts. Firstly, basic science subjects are being taught, secondly, basic medical and dental subjects are taught, thirdly, clinical medical science, and basic dental subjects

and lastly, is the dentistry subjects of the curriculum have been taught. As dentistry, a demanding profession, its education system struggles in lack of infrastructure, inadequate sources, and improper priorities[9,10].

Amongst others, the major challenge in dental programmes, which is being faced through years, is the importance of production of research in the mission statement of a university, academic staff reward system with their evaluation[9,10]. These challenges caused concerns of seriousness about the quality of dental education in preparing the dental students to cope up with the demanding charge of practice of dentistry. Hence, to maintain and emphasis on the standards the continuous evaluation of dentistry programme by the use of acquired results as a feedback to improve the quality is essential. Even though incorporation of student's opinions in not mandatory but it is indeed one of the most significant source of information in any sort of evaluation. Using graduates' opinions and points of view in terms of evaluation of undergraduate medical programmes had been recognised in several studies. Graduates understanding of quality of education can be used as valuable feedback by the programme directors and curriculum designers to improve quality of programmes as well as assessing the impact of revising the activities[9,10].

Therefore, the rationale of this study was to gather information regarding student's perception of dental education after their graduation, their level of satisfaction with quality of education received. A formal and comprehensive graduation survey was conducted in Frontier Dental and Medical College, (FDMC) and Islamic International Dental College (IIDC), Pakistan. It is expected that the results of this study will give useful information regarding dental curriculum and therefore, will provide advantage to the administrators and curriculum designers in taking better decisions.

METHODS

This was a cross sectional descriptive study carried out in FDMC and IIDC. A self-administered questionnaire regarding the student's perception of educational curriculum and programme with their competence and satisfaction was assessed. The questionnaire was majorly based on the graduation survey that was distributed in the United States by the Association of American Medical Colleges (AAMC). The questionnaire was custom-made in order to fit the dental undergraduate programme. The decision of adopting this questionnaire was largely due to the comprehensiveness and the similar education evaluation could be extracted out. The questionnaire was shown to be reliable and valid. Therefore, Likert-scale-type questions were used to measure student's perceptions along with their demographic's assessment. For the analysis of data, the scores of 'agree' and strongly agree were combined in combination with the scores of disagree and strongly disagree.

The participants were asked to assess the quality of their education system by looking at different components of their educational experience in dental school. Between the December 2020 and March 2020, questionnaires were distributed in two dental schools graduating from the dental school. The questionnaires were sent out to be filled anonymously and were filled by each student only once. The questionnaires were sent with a covering letter from the Dean of dental school that explained the aims of study and regarding their kind participation.

The data was attained from this study was entered into database and analysis was performed. The researcher in order to see the accuracy of data also did the random check. The statistical analysis was achieved by using SPSS 20.0 (SPSS Inc., Chicago, IL, USA), and frequency distributions were implemented for each variable. Fisher's exact test was applied in order to compare the perception of final year students with house officers. The level of significance was set at $p<0.05$.

RESULTS

A total of 150 questionnaires were distributed among the students of two dental schools after their graduation and final year students during their end terms. It took 20 minutes spent by the participants for the completion of questionnaires. About 110 questionnaires were filled and returned back by the students. Therefore, the response rate was 73%. Amongst the respondents, 54%were females and 45% of them were males. The majority of them were between the ages of 25-35 (70%) years old.

The participants evaluated their basic sciences course experience of which the results are summarised in Figure 1. According to the participants, only 15% of respondents answered that basic science content and objectives and examination contents were matched closely. When they were asked whether basic Science content was sufficiently integrated and coordinated, about 55% of them responded negatively. There were 23% of participants who agreed that the content of basic science was well organized. Eight percent were satisfied with the sufficient illustrations of clinical relevance, whereas 5% and 4% responded that basic science course was relevant for preparation of clerkships and Basic Science content objectives were made clear to students, respectively.

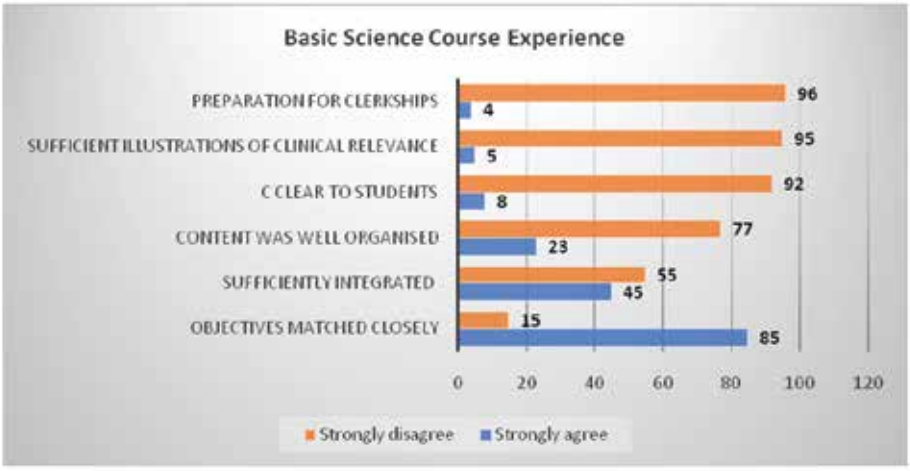

Figure 1: Factors evaluating basic sciences courses scores of strongly agree and strongly disagree.

Participants responded on how well basic science courses prepared them for the clinical work and evaluation of clinical rotations prepared graduates for clinical work by using Likert type scale scoring from 1=Good 2=Very good, 3=Poor, 4= Very poor, 5=Fair and quality of each course was evaluated. The results of both aspects of dentistry courses are summarised in Table 1 and Table 2. Most of the participants responded that oral anatomy 56% and general anatomy 58% was rated as very good in preparing the students for clinical settings while dental materials was the least course that prepared them for future as a basic subject. Whereas the participants when evaluated the clinical experience during their undergraduate it was found out that fifty four percent of them were satisfied by their clinical rotations and overall, only about 1-4% of respondents were unsatisfied with the clinical courses and rotations.

Table 1: Evaluation of basic science courses in terms of preparing students for clinical settings.

Basic Sciences	Good n (%)	Very Good n (%)	Poor n (%)	Very Poor n (%)	Fair n (%)	*p* -Value
Physiology	44(40%)	50(46%)	8(8%)	1(1%)	4(4%)	0.97
General pathology	47(43%)	55(50%)	1(1%)	4(4%)	1 (1.3%)	0.98
Anatomy	49(45%)	63(58%)	4 (4%)	(3%)	0 (0.0%)	0.92
Immunology	30(28%)	55(50%)	15(14%)	4 (4%)	3 (3.9%)	0.97
Microbiology	42(38%)	57(52%)	8(8%)	2(2%)	1 (1.3%)	1.00
Embryology	39(36%)	56(51%)	5(5%)	4 (4%)	1 (1%)	0.95
Histology	31(29%)	51(47%)	11(10%)	1 (1%)	1(1%)	0.86
Dental materials	20(19%)	54(49%)	17(16%)	4 (4%)	6(6%)	0.91
Community dentistry	25(23%)	57 (52%)	12(11%)	6(6%)	5 (5%)	0.95
Biochemistry	42(39%)	44 (40%)	5(5%)	4(4%)	0(0%)	0.86
Oral anatomy	32(29%)	61(56%)	11(10%)	1 (1%)	1 (1%)	0.96
General medicine	21(19%)	54(49%)	15(14%)	4(4%)	6(6%)	0.90
General surgery	25(23%)	58(53%)	12(11%)	4 (4%)	3(3%)	0.92
Pharmacology	42(39%)	52(48%)	5(5%)	4 (4%)	0(0%)	0.93

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Table 2: Evaluation of clinical rotations prepared graduates for clinical work.

Clinical Work	Good n (%)	Very Good n (%)	Poor n (%)	Very Poor n (%)	Fair n (%)	*p*-Value
Oral surgery	44(40%)	50(46%)	9(8%)	1(1%)	4(4%)	0.98
Endodontics	45(41%)	52(48%)	1(1%)	4(4%)	1(1%)	0.93
Orthodontics	49(45%)	50(46%)	3(3%)	3(3%)	0(0%)	0.95
Operative dentistry	28(26%)	57(52%)	13(12%)	4(4%)	3 (3%)	0.95
Prosthodontics	38(35%)	57(52%)	9(8%)	1(1%)	1(1%)	0.96
General medicine	36(33%)	59(54%)	4(4%)	3(3%)	1(1%)	0.93

The evaluation of dental education deficiencies with key curriculum domains was assessed. It was seen that the level of strongly agree with opinions of students regarding clinical decision-making and clinical care and was agreed by 40% of students and rest of them disagreed from the curriculum they were taught (Figure 2). Moreover, the evidence-based dentistry was agreed from 15%, and community-oriented dentistry and practice of dentistry was agreed by 17% and 28% of students respectively.

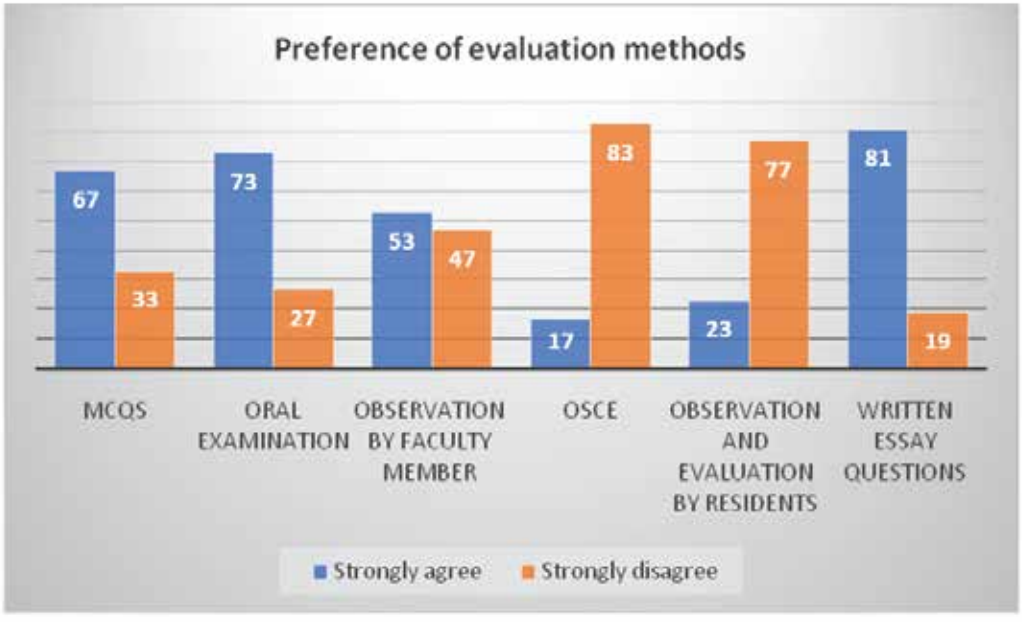

Figure 2: Final preferred evaluation methods.

The overall verdict judgement in both the colleges, only 23% of participants was generally satisfied with the quality of their dental education. Additionally, when asked regarding clinical training that if it prepared them to work independently as a dental practitioner, the participant's 25% of respondents has agreed with the statement and felt ready for working independently. Since the sample size was small, a conservative.

DISCUSSION

This study investigated the knowledge, attitude and practice of the quality of dental education among students after graduation. As of now, the span of undergrad dental preparing in Pakistan is four years, including one year of necessary temporary job[11]. The students have rotations through different dental specialities after the finishing their coursework and assessments given during the initial four years of the program. During the initial two years of the program, understudies join up with a core curriculum that incorporates human life systems, human physiology, organic chemistry, pathology, microbiology, pharmacology, and dental life structures. In the third and fourth years, aside from classes comparing to courses in the main subjects that incorporate general medication, general medical procedure, and every dental specialty, students additionally complete rotations in different clinical divisions[12]. They will usually invest a fixed time of energy at every revolution (generally one month) to sharpen their clinical abilities prior to continuing on to different departments. Toward the finish of every year of the program, the clinical abilities and theoretical information of every student are assessed through viable patient-based tests, oral tests, and written tests[13].

Therefore, the aims of undergrad dental schooling have been depicted as improving and advancing the oral medical care status of the populace. The significance of planning graduates to keep up with and additionally foster their skills over their lifetime of expert practice is perceived. To accomplish these objectives, undergrad dental training needs to guarantee that new dental alumni are equipped to be protected autonomous experts, and resolved to keep on fostering their expert information, comprehension, and abilities. In Europe, late improvements have centred around the substance of undergrad students focused teaching. Undergrad dental training is developing from a discipline-centred and generally, instructor focused way to deal with a competency-based education CBE. In the present condition, undergrad dental schooling alludes to an educational plan and related designs and cycles. Regardless of the broad turn of events, 'what is undergrad dental schooling?' has not yet been completely investigated[14].

As, mentioned earlier, the perception of students of their education has received little or no attention. Although many studies had been carried out in dental education the aspect of dental graduates had been considered at a very low level. The limited research opportunities in the dental education system concerning graduate perspectives on the quality of education have to be pondered significantly by the government authorities. In the studies carried out by Sofola and Jeboda. They assessed the apparent sources of stress in Nigerian dental students. In their study, they reported that the most significant stresses were not having the well-supported system of dental education. It included availability of materials for clinical training and study materials. The findings from the current study further support this fact. The overall verdict judgement in both the colleges, only 23% of participants was generally satisfied with the quality of their dental education. Additionally, when asked regarding clinical training that if it prepared them to work independently as a dental practitioner, the participant's 25% of respondents has agreed with the statement and felt ready for working independently[15]. The data obtained from our study encourages us to investigate the current problems of undergraduate dental problems and embarking on a process of curriculum revision and renewal.

Furthermore, the data collected has its own limitations that must be considered. The major fact is that the participant has responded to the basic science and clinical educational experiences that were completed by them several years ago. This might influence their responses. In addition to it, the student's perception solely does not completely evaluate the training and quality, of education. The reason might be the confounding variables, such as biasness of students for specific subjects and their exposure to that specific subject. Therefore, the point of view of faculty on quality of education and training is significant to take into account[5,10]. Nevertheless, our study was limited to students we did not include the opinions of faculties. In this pilot study, we included final year students and recent dental graduates, who show the number of individuals, were limited. However, a large number of individuals representing the nation would include all the dental schools from the country, which will give a broader view and consensual opinion on the training and quality of education[12]. Scarcity of research studies in this area; we limited our comparison to international studies, as finding out local study literature was difficult. It is recommended that government should address the deficiencies in the infrastructure of dental education. Taking into consideration the limited resources available, the authorities of university must ensure the number of students should not exceed than the allocated quota by the rules of medical and dental council[13]. There is a need for further studies to identify factors from faculty perceptions in improving the dental education.

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Additionally, this study may assist dental educators with having better comprehension of the educational setting to work on the nature of educating and learning inside an undergrad dental educational plan. To gain by the work reported in this paper, future exploration should focus in on the exceptional attributes that make undergrad dental education not the same as other health education, and the roles and commitments of stakeholders (for example students, dental educators) within the undergrad dental education. It is expected that this study will give an establishment and motivation to the further advancement of the dental profession.

CONCLUSION

This study on dental student's perceptions of the undergraduate curriculum in Frontier Dental and Medical College and Islamic International Dental College lightens the various aspects of curriculum in order to make efforts in improving the undergraduate curriculum and to train the dentists and teaching staff more knowledge and skills. The results depicted that overall; the dental students were not highly satisfied with the quality of education in their undergraduate training. This study highlights the challenges faced by dental students and it is hoped that the perceptions and opinions will bring necessary changes.

ACKNOWLEDGMENTS

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CONFLICT OF INTEREST

The authors declare that they have no competing interests.

ETHICS APPROVAL

The ethical approval was taken from Frontier Dental and Medical College, (FDMC) and Islamic International Dental College (IIDC), Pakistan.

PARTICIPANT CONSENT

Consents were obtained from the participants of the study.

AUTHOR'S CONTRIBUTION

RSK and SK extracted the research idea from the supporting papers, created the questionnaire and performed the data collection for writing the manuscript.

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