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Traits of an exemplary orthodontic post-graduate course

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Abstract

Although intangible characteristics such as faculty passion and commitment to teaching are important in determining the quality of residency education, determinable characteristics are also important in identifying a “top tier” orthodontic residency program. The goal of this research was to find out what those characteristics were.

Keywords: residency program, excellent, orthodontics

Introduction

There are many institutes running orthodontic post graduate course in India that provide an excellent education to their post graduates. The outcome of this education is a high level of care provided to the patients. However, in all institution, there is room for improvement. Over the past decade, There has also been an increase in the number of orthodontic post graduate institutions in India, and many orthodontic educators feel that current orthodontic post graduate course educational standards are minimal and do not provide an incentive for courses to achieve excellence. Furthermore, assume that this list of quantified features was established by the orthodontic educators themselves. By using this data, we can rank the institutes in terms of the quality of education they will provide. We can evaluate different institutions. Equally important, as institute directors/ head witness their candidates using these features to evaluate the institute, they may be inclined to note areas in their course they can strengthen. Everyone wins. The candidates win by getting access to hard data to make thoughtful institute rankings. Institutes win by having hard data to identify areas where they need to improve. Moreover, the specialty wins because doctors are graduating from stronger programs with stronger educations. Therefore, this survey was done by interviewing through a questionnaire having a list of features describing an excellent program.

Aim of the study

To establish quantified features that orthodontic post graduate tenure considered to be the characteristics of an excellent program.

Objective of the study

- To evaluate the effect of faculty strength, faculty and post-graduate interaction, treatment modalities practiced.
- To evaluate the effect of academic activity, special cases, number of cases allotted and debonded by the post graduate in their tenure.
- To evaluate the responsibility of post graduate to strengthen post graduate courses.

Materials and Method

Survey instrument

A questionnaire was developed based on the attributes that need to be examined to determine an excellent orthodontic post graduate courses.

The questionnaire comprised of 29 items grouped under 3 broad domains: Faculty (5 items), Education (19 items), and Post graduates (5 items). The survey was sent to 30 orthodontic post graduate programs in India. Initially, an email and a phone call were placed to describe the study objectives and participation was sought. After consent was obtained during the phone call, the questionnaire was e-mailed to the participant.

Analytic approach

The survey responses were collected and entered into an Excel datasheet (Microsoft office excel 2007), which was then imported into an SPSS (IBM SPSS Statistics for Windows, Version 21.0) dataset for descriptive statistics which was used to summarize the numerical responses. Dataset for descriptive statistics.

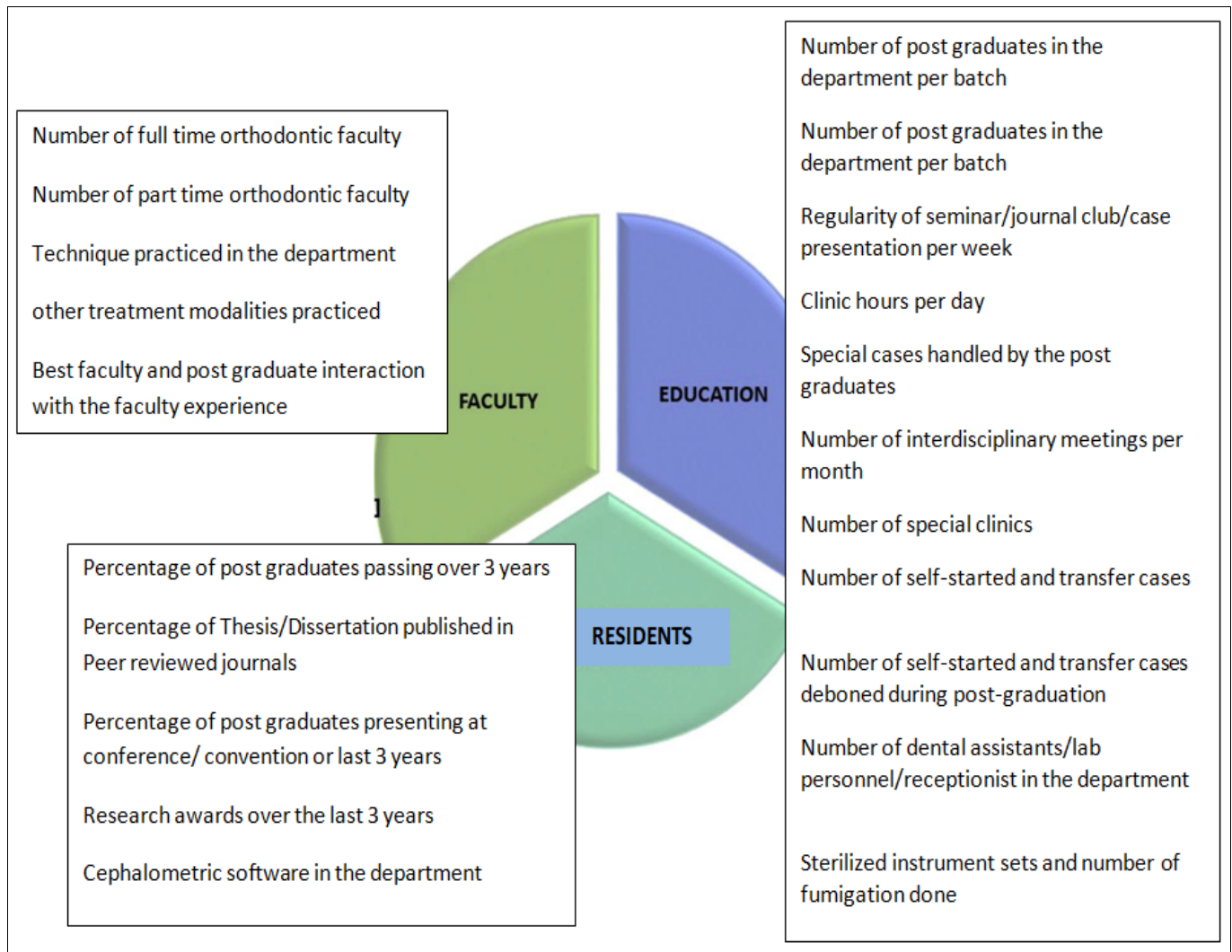


Fig 1: Criteria to define an “exemplary orthodontic” Course

Questionnaire

A. Faculty domain

- Number of full-time orthodontic faculty
a. 5 b. 7 c. 9 d. 11
- Number of part-time orthodontic faculty members
a. 1 b. 2 c. 3 d. 4
- Faculty expertise in appliance
a. Buccal b. Lingual
c. Aligners d. Orthognathic surgery
- Faculty field of interest
a. Cleft b. Skeletal anchorage system
c. Orthognathic surgery d. All
- Best faculty and student interaction with the experience of
a. 0-5 yrs. b. 5-10 yrs.
c. 10-15 yrs. d. above 15 yrs.

B. Education domain

- Number of post graduates in the department
a.3 b. 4 c. 5 d. 6
- Regularity of seminar per week
a. 0 b. 2 c. 3 d. 4
- Regularity of journal club per week
a. 0 b. 2 c. 3 d. 4
- Regularity of clinical case presentation per week
a. 0 b. 2 c. 3 d. 4
- Clinic hours per day
a. 0-2 hrs. b. 3-4 hrs.
c. 5-6 hrs. d.>6 hrs.
- Special cases handled by the post graduates
a. Cleft b. Skeletal anchorage system
c. Orthognathic surgery d. All

- 7. Number of interdisciplinary seminar
a. 0 b. 1 c. 2 d. 3
- 8. Number of special clinic
a. 0 b. 1 c. 2 d. 3
- 9. Number of self-started cases per post graduate
a. 50 b. 60 c. 70 d. 80
- 10. Number of transfer cases per post graduate
a. 10 b. 20 c. 30 d. 40
- 11. Average percentage of self-started patients completed during post-graduation
a. 10 b. 20 c. 30 d. 40
- 12. Average percentage of transfer patients completed during post-graduation
a.0 b. 1 c. 2 d. 3
- 13. Number of dental assistants in the department
a. 0 b. 1 c. 2 d. 3
- 14. Number of laboratory personnel in the department
a. 0 b. 1 c. 2 d. 3
- 15. Number of receptionists and secretaries in the department
a. 0 b. 1 c. 2 d. 3
- 16. Number of sterilized instrument set used by the post graduates
a. 0 b. 1 c. 2 d. 3
- 17. Sterilisation is done by
a. CSSU b. Department sterilising unit
c. Both d. None
- 18. How many times sterilization have been performed during clinic hour
a. 1 b. 2 c. 3 d. None

- 19. Fumigation of the department is done
a. Once in week b. twice in week
c. Once in month d. twice in month

C. Residents domain

- 1. Percentage of residents passing written examination over the last 3 years
a. 25% b. 50% c. 75% d. 100%
- 2. Percentage of thesis published in peer-reviewed journals
a. 25% b. 50% c. 75% d. 100%
- 3. Percentage of resident presenting their research at conference/convention over the last 3 years
a. 25% b. 50% c. 75% d. 100%
- 4. Research awards over the last 3 years
a. 0 b. 1 c. 2 d. 3
- 5. Number of radiographic and photographic imaging digital and is cone-beam computed tomography imaging available
a. 0 b. 1 c. 2 d. 3
- 6. Cephalometric software in the department
a. Automated b. Manual c. Both d. None

Result

Attributes that were identified in what constitutes an excellent program included the following: an adequate number of full-time clinical orthodontic faculty with part time faculty with each member providing 1 day per week clinic coverage is a healthy mix of faculty member who monitors every clinical session; and all type of technique and other treatment modalities like cleft, skeletal anchorage system and aligners should be practiced in the department; the interaction between the resident and faculty is also important.

Table 1: Faculty domain

Items	What should an excellent orthodontic program have? (mean numbers) Responses in percentage			
	Number of full-time orthodontic faculty	0-3 16%	5 22%	3-5 55%
Number of part-time orthodontic faculty members	3-5 16%		0-3 87%	
Technique practiced in the department	MBT 38.9%	MBT, Begg's, Edgewise 61.1%		
Other Treatment Modalities Practiced In The Department	Skeletal anchorage system 33.3%		Cleft, SAS, Aligners 61.1%	
Best faculty and student interaction with the faculty experience of	0-5 yrs. 27.8%	5-10 yrs. 33.3%	10-15 yrs. 16.7%	Above 15 yrs. 22.2%

Regularity of seminar, journal club and case presentations should be maintained for better academic exposure with sufficient time in clinics and different treatment modalities should be started by the post graduates with an interdisciplinary seminar and special clinic is necessary for an excellent orthodontic program. Approximately >50 new case

starts per post graduate and it should be deboned by the starting post graduate. Operatory chair per post graduate is important with adequate number of dental assistant; laboratory person; receptionist and secretary in the department, and the most important the sterlisation protocol is performed during clinical hours to bring Excellency.

Table 2: Education domain

Item	What should an excellent orthodontic program have? (mean numbers)			
	Number of post graduates in the department	0 16.7%	6 16.7%	5 66.7%
Regularity of seminar per week	4 16.7%	2 27.8%	3 50%	
Regularity of journal club per week	0-1 22.2%	2 38.9%	3 22.2%	4 16.7%
Regularity of clinical case presentation per week	2 12.5%	3 25%	>4 62.5%	
Clinic hours per day	3-4 hrs. 11.7%	5-6 hrs. 72.2%	>6 hrs. 16.7%	
Special cases handled by the post graduates	SAS 33.3%	Cleft, SAS, orthognathic surgery 66.7%		
Number of interdisciplinary seminar	0 38.9%	1 38.9%	2 11.1%	3 11.1%
Number of special clinic	0 38.9%	1 50.1%		
Number of self-started cases per post graduate	10-30 16.7%	30-50 27.8%	>50 55.6%	
Number of transfer cases per post graduate	20 44.4%		30 44.4%	
Self-started patients completed during residency	20 35.3%	30 23.5%	40 35.3%	
Transfer patients completed during residency	5-10 11.1%	10-15 44.4%	15-20 38.9%	
Number of dental assistants in the department	1 23.5%	2 29.4%	3 47.1%	
Number of laboratory personnel in the department	0 17.6%	1 41.2%	2 41.2%	
Number of receptionists and secretaries in the department	1 27.8%		2 61.1%	
Number of sterilised instrument set used by the post graduates	1 27.8%	2 33.3%	3 38.9%	
Sterilisation is done by	Central sterilizing unit 64.7%		Departmental 35.3%	
How many times sterilization have been performed during clinic hour	1 33.3%	2 44.4%	3 22.2%	
Fumigation of the department is done	Once in week 33.3%		Once in month 66.7%	

Academically, 100% of residents successfully completing written examination and publishing their thesis/ dissertation in peer review journals and also presenting their research at

conference/convention and winning awards in the department would be ideal.

Table 3: Resident domain

Items	What should an excellent orthodontic program have? (mean numbers)			
	50%	75%	100%	
Percentage of post graduate passing written examination over the last 3 years	50%	75%	100%	
	11.1%	16.7%	66.7%	
Percentage of thesis published in peer-reviewed journals	25%	50%	75%	100%
	22.2%	22.2%	38.9%	16.7%
Percentage of post graduate presenting their research at conference/ convention over the last 3 years	75%	100%		
	11.1%	83.3%		
Research awards over the last 3 years	0	1	2	3
	12.5%	18.8%	31.3%	37.5%
Cephalometric software in the department	Automated	Manual	BOTH	
	11.1%	11.1%	77.8%	

Graphical representation

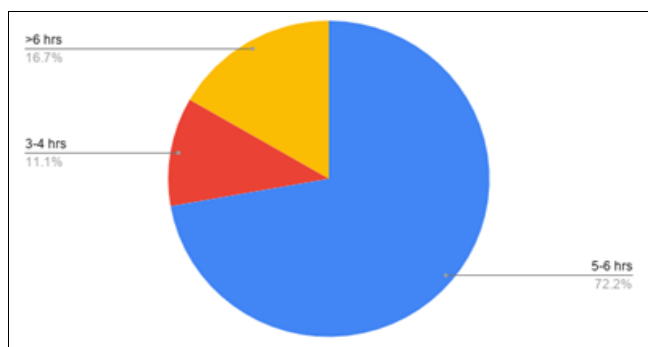


Fig 2: Count of clinic hours per day

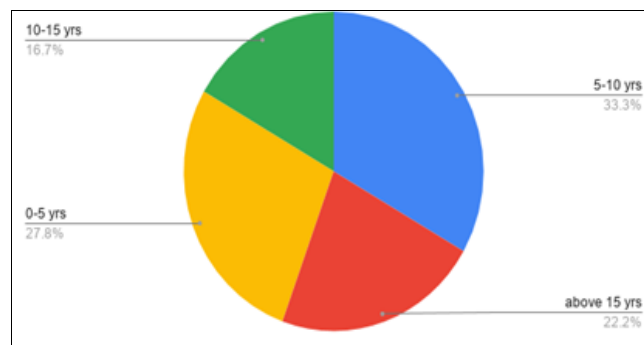


Fig 5: Count of best faculty and student interaction with the faculty experience of

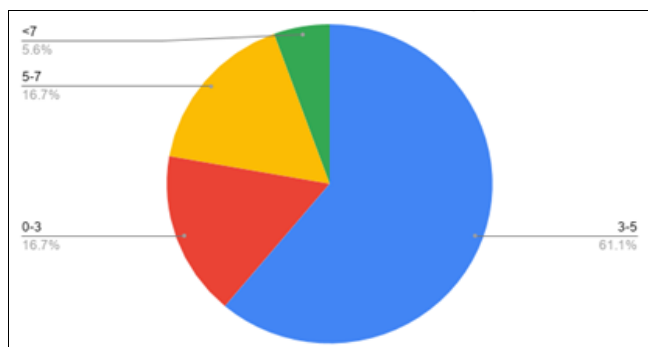


Fig 3: Count of number of full time orthodontic faculty

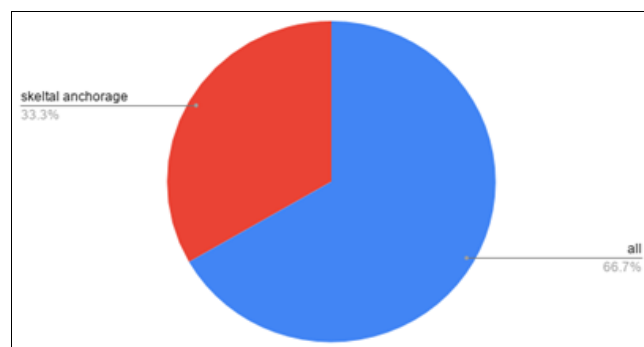


Fig 6: Count of special cases handled by the post graduates

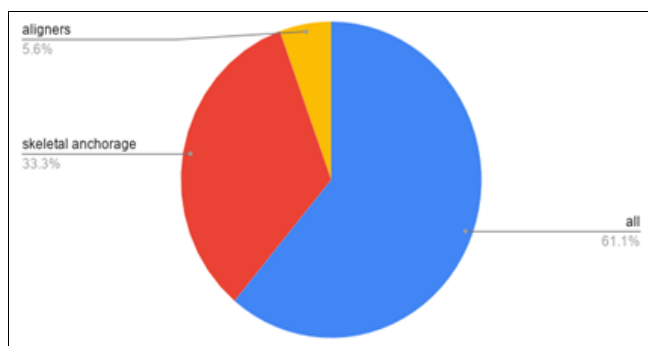


Fig 4: Count of other treatment modalities practiced in the department

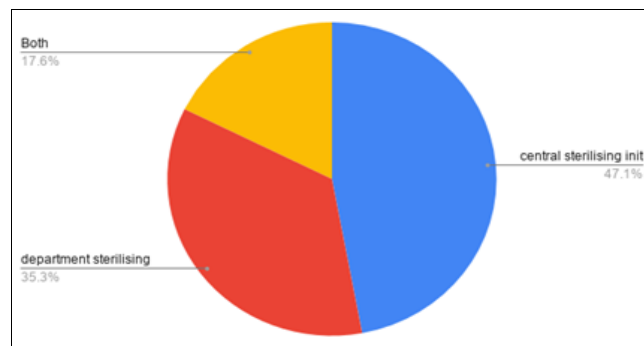


Fig 7: Count of Sterilisation is done by

Discussion

The future of orthodontic care of our patients lies in the hands of our orthodontic post graduates, and the future of our post graduates lies in the hands of our educators. However, our study had an exceptionally good response rate of 63%, which indicates that the orthodontic educators evinced a high interest in the present study. This response rate suggests that the present study findings are representative of the majority of orthodontic post graduate programs. The study identifies a mix of features that are perceived by the responding program post graduates to represent an excellent orthodontic program. We did not attempt to prove any "causality" because our study design is not suited to establish a "cause and effect relationship." This study did not seek opinions of full-time faculty members or part-time faculty members in an orthodontic post graduate program. Only the program post graduates were contacted to participate in the study. There could be differences in perceptions of what constitutes an excellent orthodontic program between the post graduates and faculty members (full-time and part-time). Our survey did not examine unquantifiable variables such as "what contributes to the intellectual life of a post graduate?" Although unquantifiable features such as faculty passion and dedication to teaching play a vital role in defining the quality of post graduate education, our results indicate that determinable features also exist that are fundamental to the definition of an ideal excellent orthodontic program. The present study identifies such features which fell into 3 broad domains: faculty, education, and post graduates. Although it would be unrealistic or difficult to expect all orthodontic post graduate programs to exhibit all the characteristics identified in the present study, every program in the country, and worldwide, should be striving toward achieving excellence and setting new benchmarks for the same. There are certainly some features that most programs can strive to achieve or surpass. A survey conducted by Bruner and colleagues examined the residents' perspective of graduate orthodontic education and showed that 71% of residents wanted to publish their research in a peer-reviewed journal. In contrast, there are probably some features that are difficult or impossible to accomplish for some programs. Despite the above limitations, the present study adds much to the orthodontic post-graduation education literature. Previous studies on orthodontic post-graduation education have explored demographic characteristics of orthodontic faculty members, orthodontic residents, career plans of residents, techniques and treatment philosophies taught and followed in various orthodontic programs, resident evaluation of programs, and crisis in orthodontic education. To our knowledge, there is no empirical evidence to date on what features and factors are associated with an excellent orthodontic post-graduation program. This study presents a descriptive overview of such findings for the first time.

Conclusions

Out of the 30 institutes contacted, the present study identified certain features within 3 broad domains (faculty, education, and post graduate) that educators affiliated to these orthodontic post graduate institutions. These features are as follows:

1. An adequate number of full-time and part time clinical orthodontic faculties with each member providing 1 day per week clinic coverage is the healthy mix of faculty member who monitors every clinical session; the interaction between the post graduate and the faculty is also important.

2. Exposure to a wide range of treatment modalities and appliances.
3. Patients with craniofacial anomalies and orthognathic surgery patients treated by each post graduate.
4. Operatory chair per post graduate is important with adequate dental assistant; laboratory person; receptionist and secretary in the department.
5. Better Academic performance with publications and awards

There are many institutions in which the post graduates lack all these features and the institutes having all these features play a contributing factor in excellency of orthodontic post graduate courses.

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