



Role of Clinical Electives on Academic Career: A Cross Sectional Study

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Authors' contributions

This work was carried out in collaboration among all authors. Authors SA, AD, RAH and MTS designed the study, drafted the manuscript, managed data collection and literature search. Author FS managed the analyses of the study. Author JAQ supervised the study. All authors read and approved the final manuscript.

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ABSTRACT

Introduction: Clinical Health Electives are an important part of academic curriculum in medical universities throughout the world. Electives are useful in developing personal and professional growth among students. Hence understanding the importance of electives among medical undergraduates on their academic life is important.

Materials and Methods: A cross-sectional based study was conducted among medical undergraduates in Karachi, Pakistan. A total number of 300 students from 3rd, 4th and 5th year of MBBS were taken as a sample. Consent was taken from the participants and questionnaire was filled from everyone. Study population was selected who did at least one clinical elective in their whole academic period.

Results: According to our analysed results, undergraduate students from both private and public sector medical institutes perceived clinical electives as an advantage to themselves. Majority of the students saw their clinical and academic performances to be on a higher level. This shows that

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opting for electives regardless of its type (local or international) have proven to be fruitful for the undergraduates' personal growth and academic career, allowing more scope for understudies to practice and enhance their skills they have only done a limited number of times, which inevitably leads to a steep learning curve.

Conclusion: There was a positive influence of clinical electives observed among the students. Overall the academic and clinical performance of the undergraduates enhanced by opting clinical electives and has positive impact on them.

Keywords: Clinical health electives; medical undergraduates; perspective; cross sectional study.

1. INTRODUCTION

International Health Electives (IHE) are an important part of academic curricula in many medical university and residency programs and have proved to have meaningful effects on knowledge, skills and attitude among undergraduates who took part in them. Electives can play a major part in polishing professional and personal growth of undergraduates in vast areas of expertise [1-3].

Several medical undergraduates and residents of US and Canada choose to take part in clinical electives during their academic time slot. The Association of American Medical Colleges conducted a survey which revealed that more than 38% of undergraduates participated in an IHE from a total of 2,000 participants [4].

The purpose of IHE are that they offer learning assistance in knowledge (e.g. cross - cultural issues, and also delivery of medical care), enhanced skills (e.g. case solving, clinical examination and also overcoming language barriers), and the maintenance of certain attitudes and values (e.g. community work and empathy towards patients), and from all these perks, institutions and health care centers also receive benefits [5-9]. In addition, IHEs are also linked to learning ethics, career selection and positive impact on clinical diagnostic skill set [10,11].

Clinical electives are being implemented in the curricula of universities worldwide. They aim to provide undergraduates opportunities in different work environments, to obtain wider understanding of the connection between culture and medicine, to share experience with other participants and learn from them, and also learn to become better doctors in future [12].

In old times, these clinical electives were not embedded in the academic and learning activities especially in the developing world

hence here in Pakistan, electives are still considered as a brand new phenomenon. Recently, electives are being granted greater emphasis in medical schooling in the course of the world. Medicinal understudies are requesting clinical elective preparing and therefore all therapeutic schools are creating elective projects [13]. Presently, most of the Medical universities are allocating out some devoted time to the students to have some publicity in their respective clinical fields and giving chance to movement abroad encountering an alternate culture and wellbeing framework [14].

It was considered appropriate to explore the basis for the increase in interest among understudies since lately, we have noticed an increased number of medical students opting for clinical electives. We believe that clinical electives have a positive role in the academic career of an undergraduate. Hence, the main objective of the current study is to explore the perception of clinical electives amongst the understudies and to deduce its impact of it in their academic career.

2. METHODS

A cross sectional study was conducted in Karachi, Pakistan in which a questionnaire was constructed, comprising a total of 34 ongoing easy close-ended questions, the objective of the study is to assess the perceptions and attitude towards clinical electives among medical students. The questionnaire was distributed among medical MBBS students from third to final year studying in both private and government sector medical institutions and have done at least one clinical elective in their whole academic career.

Questionnaire was designed after carrying out a detailed literature search regarding students' perception about electives and their pros and cons. There are 6 sections in our surveys; academic performance, clinical performance,

personal qualities, perception of electives, reason for doing electives and suggestion of doing electives to other students. Academic & clinical performance and personal qualities were measured using 4 point liker-type scale ranging from (1) superior, (2) Good, (3) Satisfactory and (4) Poor. For perception of electives, a 3 point likert scale was used ranging from (1) Agree, (2) Disagree and (3) Can't Say. Reason for doing elective section was done only by simple yes/no. Lastly, suggestion questions were based on open-ended for participants to clearly express their views regarding electives.

Before filling out the questionnaire, all the participants who volunteered in this study were instructed to read and agree to an informed consent form. The questions were constructed in such a way that it did not pose as being offensive to the students while keeping their identities anonymous. It took about three and a half month to complete questionnaires from 5th of September to 21st of November 2019. The total response numbered 308; however incomplete data reduced the number of response to 300.

Descriptive statistics were derived for each section. Percentages and frequencies were used to analyze the demographics data. Significant relationships between selected variables were established using bivariate analyses.

3. RESULTS AND DISCUSSION

Electives are said to help undergraduates become familiar with changes and deal with new and uncertain situations, especially as they allow different study courses to be added between different students. The objectives of undergraduate medical education are not only to deliver knowledge and skill but also to acquire

ethics and attitude towards medicine field [15]. Hence, Elective courses have been labeled as a basis for transferable skills [16].

A large number of participants chose their electives within Pakistan (74.3%) while only 20.4% of them went abroad for international electives. This is largely due to the fact that overseas electives are expensive and puts financial burden on the students. Another reason could be that students find it easier to get into electives locally through claim sources. In a professional aspect, students benefit more from international clinical experience because they tend to encounter everyday clinical cases spread to other lands and get more hands-on experience in a new environment and a new set-up which enhances their knowledge and skills, [17,18] also apart from this, the students get a chance to enhance their clinical competencies and reconnect with the idea of serving the suffering humanity for which every medical student inspires for in the beginning [19].

Opting for clinical electives in abroad is considered tough since it sometimes causes hindrance in academic career. Academic curriculum sometimes get in the way of international clinical electives since there are medical universities who doesn't have a dedicated elective programme. The dates of electives are pre-decided and can occur during academic classes which result in loss of academic for an undergraduate. Therefore students more likely choose local clinical electives in their own time and convenience [1].

When we compared the views for both local and international clinical health electives, we found out that understudies gained a lot through this experience. This is because understudies gain

Table 1. Demographics

Factor	Categories	N (%)
Gender	Male	74 (24.7)
	Female	226 (75.3)
Education sector	Private	98 (32.7)
	Public	202 (67.3)
Number of electives	1-3	253 (84.3)
	More than 3	47 (15.7)
Electives	National	223 (74.3)
	International	61 (20.4)
	Both	16 (5.3)
Type of Electives	Clinical	266 (88.7)
	Research based	34 (11.3)

Table 2. Response of undergraduates to the questions for the improvement in the following items (n=300)

Items	Superior n (%)	Good n (%)	Satisfactory n (%)	Poor n (%)	No response n (%)					
Academic performance										
Knowledge of subject	48	16.0	153	51.0	51	17.0	6	2.0	42	14.0
Ability to utilize knowledge	60	20	139	46.3	49	16.3	10	3.3	42	14.0
Ability to reason	40	13.3	145	48.3	62	20.7	9	3.0	44	14.7
Clinical Performance										
Ability to obtain an accurate history	52	17.3	137	45.7	59	19.7	10	3.3	42	14.0
Ability to perform physical examination	39	13.0	121	40.3	76	25.3	21	7.0	43	14.3
Ability to give a concise presentation	29	9.7	118	39.3	75	25.0	35	11.7	43	14.3
Ability to formulate differential diagnosis	34	11.3	116	38.7	79	26.3	28	9.3	43	14.3
Responsibility	61	20.3	137	45.7	50	16.7	10	3.3	42	14.0
Interest in patients	85	28.3	128	42.7	37	12.3	8	2.7	42	14.0
Personal Qualities										
Willingness to work	78	26.0	139	46.3	31	10.3	6	2.0	46	15.3
Motivation	102	34.0	117	39.0	30	10	7	2.3	44	14.7
Professional appearance	78	26.0	134	44.7	36	12.0	8	2.7	44	14.7
Relationships with patients	63	21.0	141	47.0	44	14.7	8	2.7	44	14.7

Table 3. Students perception on electives

Questions	Yes n (%)	No n (%)	Don't Know n (%)			
Electives are useful?	260	86.6	17	5.7	23	7.7
Will you recommend juniors for electives?	257	85.6	27	9.0	16	5.3
Should students opt for electives every year?	224	74.7	76	25.3	0	0

Table 4. Reasons for doing electives

Items	Yes n (%)	No n (%)		
Improving CV	250	83.3	50	16.7
Peer pressure	76	25.3	224	74.7
Family Pressure	42	14.0	258	86.0
Personal Growth	259	86.3	41	13.7

exposure and experience, and expanding horizons through communicating with other undergraduates and health care workers locally and internationally. They also experience work in new health organisations. They gain contact with a new population, with new pathologies and new range of diseases. They find better ways in approaching a disease and prescribing drugs. They take interest in a framework that makes them think differently, challenging themselves on every point regarding patients' approach to treatment modalities [20].

According to our analysed results, undergraduate students from both private and public sector medical institutes perceived clinical electives as an advantage to themselves. Majority of the students saw their clinical and academic performances to be on a higher level. This shows that opting for electives regardless of its type (local or international) have proven to be fruitful for the undergraduates' personal growth and academic career, allowing more scope for understudies to practice and enhance their skills they have only done a limited number of times,

which inevitably leads to a steep learning curve [21,22].

In our study, majority of the undergraduate students (86.6%) said that electives are useful and 85.6% of students recommend their juniors to opt for clinical electives in future. This shows that clinical electives, regardless of their type, are important for a medical student's academic career and play a vital role in shaping and polishing their skill set that would make a drastic improvement of their work in their respective fields.

According to our results, 83.3% and 86.6% of undergraduates chose to do electives to improve their Curriculum Vitae (CV) and for personal growth, respectively. CV plays an important role in presenting the students' achievement and honors they've obtained. Clinical electives help to demonstrate your work in an enticing format [23]. Personal growth can be seen as skills that are built during the electives and are mostly based on experience, e.g. good presentation or time management skills. This may also be gained by means of schooling by completing special courses or trainings [24].

4. LIMITATION

The main limitation of this study is the small sample. It did not take into account students' personal demographics other than gender. This quantitative and qualitative study involved was purely based on closed-ended question in the survey and could have been better improved with the advanced modality of interviewing the students. We could have taken data from more medical universities in Karachi.

5. CONCLUSION

Clinical electives play a significant role in the education of medical students by growing academic awareness in areas beyond the standard curriculum, introducing valuable skills to medical students, improving student well-being and allowing ultimate career choices. The authors firmly believe that electives have a quantifiable, beneficial effect on the comprehension of medical subjects among students, and can therefore be a valuable addition to the formal curriculum. This should also be a priority for other national medical institutes to train their students on elective programs. However, there are many hindrances faced by a medical undergrad if they opt for electives during their academic years. Therefore,

the authors suggest mandatory electives within our existing healthcare system and giving students a designated amount of break from academics to opt for clinical electives with respect to their own personal choices. Undergraduates doing electives under competent supervision and guidance will get to see medical care at grassroots level and will get a chance to polish their core clinical expertise.

CONSENT

Before filling out the questionnaire, all the participants who volunteered in this study were instructed to read and agree to an informed and written consent form.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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