

An audit on perception of foreign medical students on the elective training programme, Department of Surgery, Faculty of Medicine, University of Ruhuna

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ABSTRACT

Introduction: An elective clinical appointment abroad is a regular component in many foreign medical undergraduate curriculums. Department of Surgery, Faculty of Medicine, University of Ruhuna has a structured and comprehensive academic programme for them.

Methods: An audit was performed to assess student perception on different aspects of the training via a self-administered feedback form. All the elective students who completed their training during three months from 1st January 2019 were recruited. All data were entered to a database and statistical analysis was performed using SPSS version 25. The chi-square test was used to compare the groups and $p < 0.05$ was taken as statistically significant.

Results: One hundred one (101) students completed the elective student feedback form (non-response rate - 4%). The large majority (77%) were in the 6th or final year of their medical training. 55% were enrolled to spend 8 weeks in surgery. Elective students have shown a high level of satisfaction regarding the elective training provided at our unit. Most satisfactory areas include pre-arrival registration (80%), introduction by the coordinator in surgery (92%) and different clinical activities such as elective ward rounds and clinics of the unit (>75% for every component). On-site registration (34%), guided tour by a departmental representative (54%) and the opportunity to assist in operations (50%) fared less favourably. Plastic surgery (30%), neurosurgery (21%) and paediatric surgery (20%) were preferred by those who opted to do specialty surgical appointments in addition to general surgery. Nearly all (96%) were happy to recommend this training to someone else.

Conclusion: This study has enabled us to appraise the elective student programme for foreign students and for us to make suitable changes. A centre to coordinate elective students and offer of more hands-on surgical activities appears is justified.

Keywords: *Clinical elective appointments, international medical electives, medical training*

Introduction

An elective clinical appointment is a regular component in medical undergraduate curriculums in many western countries (1,2). While the choice of appointments varies depending on the interests

of students and to certain extent on universities, nearly 30 - 40% students select clinical appointments overseas (3 - 5). Some prefer developed countries while others select developing countries.

The Faculty of Medicine, University of Ruhuna located in ancient coastal town of Galle, which attracts a large number of tourists, is a popular choice for elective medical training for medical students from developed countries. A significant proportion of them select the Department of Surgery and surgical specialties. The Faculty of Medicine and the Department of Surgery have a structured and comprehensive academic programme for elective students from overseas. It is important that an elective programme is evaluated periodically incorporating elective students' feedback in order to maintain its effectiveness and quality (6).

The objective of this audit was to assess student satisfaction and their perception on different components of the training via a self-administered feedback form.

Methods

An audit was performed among foreign elective students who were trained at the University Surgical Unit at Teaching Hospital Karapitiya. The objective of this audit was to study the student's satisfaction and perception of effectiveness of different components of the training. The feedback form was developed and a pre-test was performed among 10 surgical elective students who completed their training in December 2018 to evaluate the clarity and the understandability. Following the pre-test, amendments were made to improve the clarity of the feedback form. All the elective students who completed their training during three months starting from 1st January 2019 were recruited. The anonymised, self-administered feedback form was distributed among the students. They were asked to handover the completed forms to the nursing officer in-charge of the ward, at the end of their elective training period. All data were entered to a database and statistical analysis was performed using SPSS version 25. The chi-square test was used to compare the groups and $p < 0.05$ was taken as statistically significant.

This feedback form was developed to be utilised in the routine evaluation of the elective programme for the purpose of assessing and improving services provided by the department of surgery for elective students.

Results

One hundred and five elective students completed their training during the three-month period starting from 1st January 2019. Out of them, 101 students completed the Elective Student Feedback Form (non-response rate nearly 4%). It has to be recognised that medical schools have different course structures and varying durations in their respective study programmes. Characteristics of study participants who completed the programme is summarised in Table 1.

The majority (54.5%) of the students were females and large majority (77.2%) were in the 6th or final year of their medical training. Most (55.4%) of them were enrolled to spend 8 weeks in surgery. Most elective students were from Germany (76.2%).

Table 1: Characteristics of study participants who completed the elective programme of Department of Surgery, Faculty of Medicine, University of Ruhuna (N=101)

Characteristics	Categories	N (%)
Gender	Female	55 (54.5)
	Male	46 (45.5)
Year of Study	1 st Year	4 (4.0)
	2 nd Year	1 (1.0)
	3 rd Year	1 (1.0)
	4 th Year	11 (10.9)
	5 th Year	6 (5.9)
	6 th Year	78 (77.2)
Country of Origin	Germany	77 (76.2)
	Australia	15 (14.9)
	Norway	7 (6.9)
	New Zealand	1 (1.0)
	United Kingdom	1 (1.0)
		2
Duration of Study (Weeks)	4	23 (22.8)
	6	2 (2.0)
	7	1 (1.0)
	8	56 (55.4)
	16	13 (12.9)

Table 2 shows how the students perceive the efficiency of standard procedures taken place before getting them enrolled in their clinical training in surgery.

Most of the students (80.2%) perceived that the pre-arrival registration process was efficiently done (sum of efficient and very efficient categories) while most (66%) felt that the onsite registration on the day of arrival was not that efficient (not efficient and somewhat efficient categories) Students rated the guided tour by a departmental representative - 31.7% perceived it as not efficient while a little more than fifty percent considered it as efficient (sum of efficient and very efficient categories). Induction by the coordinator in surgery was considered as very efficient (92.1%) by the students (Table 2).

Table 3 summarises the effectiveness of the different components in their clinical training in surgery. The large majority (> 75% of each component) of students perceived all processes as being effective or very effective.

The overall satisfaction about major components of their training is presented in Table 4.

Most of the students were satisfied with all the components of the training. The least satisfaction was observed for assisting at operations with 50% rating it as not effective or somewhat effective collectively.

Table 2: Students' perception on the efficiency of standard procedures before enrolling in to clinical training in surgery (N = 101)

Standard procedures	Not efficient	Somewhat efficient	Efficient	Very efficient
	N (%)	N (%)	N (%)	N (%)
Pre-arrival registration process	2 (2.0)	18 (17.8)	67 (66.3)	14 (13.9)
Onsite registration on the day of arrival	24 (23.8)	42 (41.6)	29 (28.7)	6 (5.9)
Guided tour by the departmental representative	32 (31.7)	15 (14.9)	33 (32.7)	21 (20.8)
Induction by the coordinator in Surgery	1 (1.0)	7 (6.9)	30 (29.7)	63 (62.4)

Table 3: Students' perception of the effectiveness of different components in the clinical training in surgery (N = 98)*

General Surgery	Not effective	Somewhat effective	Effective	Very effective
	N (%)	N (%)	N (%)	N (%)
Elective ward rounds	3 (3.1)	13 (13.3)	48 (49.0)	34 (34.7)
Accident & emergency ward rounds	3 (3.1)	15 (15.3)	48 (49.0)	32 (32.7)
Assisting elective operating sessions	2 (2.0)	7 (7.1)	43 (43.9)	46 (46.9)
Assisting emergency operating sessions	3 (3.1)	7 (7.1)	43 (43.9)	45 (45.9)
Attending the endoscopy list	3 (3.1)	14 (14.3)	41 (41.8)	40 (40.8)
Mini-operating theatre sessions	6 (6.1)	11 (11.2)	43 (43.9)	38 (38.8)
Main outpatient clinic	2 (2.0)	14 (14.3)	40 (40.8)	42 (42.9)

*3 missing values.

Table 4: Overall satisfaction of students about the different activities performed at the surgery ward (N = 98)*

General Surgery	Not satisfied	Somewhat satisfied	Satisfied	Highly satisfied
Clinical teaching	3 (3.1)	10 (10.2)	55 (56.1)	30 (30.6)
Observation at operating theatre	2 (2.0)	15 (15.3)	42 (42.9)	39 (39.8)
Assisting at operations	17 (17.3)	32 (32.7)	36 (36.7)	13 (13.3)
Assistance in performing minor procedures with senior supervision in OT	15 (15.3)	20 (20.4)	44 (44.9)	19 (19.4)
Case mix in wards and clinics	1 (1.0)	11 (11.2)	47 (48.0)	39 (39.8)
Support offered by local final year medical students	6 (6.1)	14 (14.3)	32 (32.7)	46 (46.9)
Support given by other staff	0 (0.0)	13 (13.3)	45 (45.9)	40 (40.8)
Level of student satisfaction in general Surgery elective	3 (3.1)	8 (8.2)	54 (55.1)	33 (33.7)

*3 missing values.

Students' perception of effectiveness for different processes in their clinical training or overall satisfaction for different components of training were not found statistically different ($p > 0.05$ for all) with regards to gender, country of origin and the year of training.

Plastic surgery was the most popular specialty appointment in surgery followed by neurosurgery and paediatric surgery (Table 5).

Table 5: Students preference to specialty appointments in surgery

Specialty Appointment	N (%)
Neurosurgery	15 (21.4)
Paediatric surgery	14 (20.0)
Oncological surgery	0 (0.0)
Vascular surgery	9 (12.9)
Gastro-enterological surgery	6 (8.6)
Urological surgery	2 (2.9)
Orthopaedics	1 (1.4)
Otolaryngology	2 (2.9)
Ophthalmology	0 (0.0)
Vitreo-retinal surgery	0 (0.0)
Plastic surgery	21 (30.0)

When asked whether they would recommend this elective for their colleagues or juniors, the majority (96.04%) were happy to do so. However, 2.97% of them indicated that they would not recommend this elective to others while 0.99% did not respond to this query.

Discussion

Most medical schools offer international medical electives (IME) but evaluation of outcomes have been less than satisfactory (1, 2). Recent surveys have shown that approximately 30% of United States and Canadian students and 40% of British students are engaged in IMEs (3, 5) while 40% of British medical students select developing countries for their electives (7). However, it is not uncommon that student unpreparedness or insufficient host arrangements make IMEs denigrate in to mere "medical tourism" (5).

Socio-demographic factors of study participants

Majority of elective students (77.2%) were in their 6th or final year of study which is the norm for IEAs (1). Germany has given the heaviest contribution (76.2%). The undergraduate tenure in Germany may be offering less of a clinical exposure and hands-on training when compared with countries such as the UK. About 55% stayed for

8 weeks and 22.8% for 4 weeks, which are equal to final year and pre-final year surgical training periods, respectively. Furthermore, this is longer than more common four-week duration of the usual international elective appointment duration (1). Students who did longer electives were able to achieve more clinical and social benefits and were not affected much by deficiencies in pre-elective preparation (6).

Students' perception of the efficiency of different processes prior to clinical training in surgery

Efficiency of pre-arrival registration process was rated high by the large majority (80%). This is a 'online' process handled by a senior academic member with contributions from the Faculty Board, Department Heads and a few dedicated non-academics under the supervision of the Dean of the Faculty. However, the majority (65.4%) rated the efficiency of the onsite registration on the day of arrival as not very effective. A large number of elective students report to the Dean's office every Monday, which is usually the busiest day of the week. Paperwork involved are overwhelming and in excess of the capacity of the understaffed office. It may be logical to establish an elective student coordinating centre with more dedicated staff. A slim majority (53.5%) were happy about the guided tour by a department representative who is usually a demonstrator or a senior member allocated for the task. Induction by the coordinator in surgery who is a lecturer or a senior academic has satisfied vast majority of students who rated the encounter as effective or very effective (92.1%).

Students' perception of the efficiency of different processes in the clinical training in surgery

Student contribution during the elective varies from passive observation to degrees of active involvement in multiple aspects of care (8).

During their stay, elective students follow same routine as local medical students although arrangements are made to cater for their individual preferences such as attending rounds in emergency medicine or other surgical operating lists at times. Along with their local colleagues, elective students are encouraged to have hands-on experience in

minor surgical procedures as well as to assist in major procedures under close supervision.

They participate in elective and emergency ward rounds and operating theatre sessions. They also join endoscopy lists and main clinics. The large majority (over 75% for each process) of students perceived all the processes as being effective or very effective. This is compatible with well recognised key priorities from the elective student perspective namely enhancing clinical skills and in the understanding of different healthcare systems (1). Working with a relatively less dependence on investigations in the developing countries enhances clinical skills (1).

Overall satisfaction of students about the different activities performed at the surgery ward

The vast majority were satisfied with clinical teaching, the case mix and observation at operations. Building knowledge of tropical medicine is a key objective in IME but this depends on the case mix and case load (5). A higher degree of satisfaction was observed in opportunities for being part of minor procedures with senior supervision in the operating theatres. This was done within legal and ethical boundaries to avoid overstepping which has been a concern among international electives (9).

Assisting at operations scored less, which is not surprising due to the fact that the operating theatre-sessions are attended by postgraduate surgical trainees and local medical students as well. The situation is bound to improve in the future, when university surgical unit will receive 20 sessions per week in the near future instead of current five.

Support given by final year medical students and healthcare staff were highly rated with over 80% responding satisfied or highly satisfied. It is a credit to local hospitality, which reflects well internationally. An increase in cultural awareness dominates among pre-elective educational objectives (1).

There were no statistically significant differences observed in students' perception of effectiveness of different processes in their clinical training or overall satisfaction for different components of training with gender, country of origin or the year of training.

Students' preference to specialty appointment in surgery

Electives typically last between 1 - 3 months and some students select more than one clinical discipline (8). Seventy students followed specialty surgical appointments. Plastic surgery led the table with 30%. Neurosurgery was preferred by 21.4% followed by paediatric surgery (20%). These specialty preferences are not uncommon in international electives (1).

Recommendation to colleagues and juniors

The large Majority (96.04%) were happy to recommend this appointment to their colleagues. In our study, we should have focused more on the 2.97% of the responders who did not want to recommend, seeking for the reasons for not recommending.

Conclusions

Elective students from developed countries mainly from Germany have shown a high level of satisfaction regarding the elective training provided at the University Surgical Unit at Teaching Hospital Karapitiya. The highly satisfied areas include pre-arrival registration, introduction by coordinator in surgery and different clinical activities of the unit. On-site registration, guided tour by a departmental representative and the opportunity to assist in operations fared less well in ratings.

Plastic surgery, neurosurgery and paediatric surgery were preferred by those who opted to do specialty surgical appointments in addition to general surgery. Nearly all were happy to recommend this training to someone else.

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