

Electives during medical internship

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ABSTRACT

Objective: The purpose of the study was to find out the reasons for selecting elective rotations during a rotating medical internship.

Methods: One hundred and seventy-eight medical interns in the College of Medicine, King Faisal University, Dammam, Kingdom of Saudi Arabia during the period March 2001 to August 2002 completed a questionnaire for their selection reasons with responses on a scale of 1-5.

Results: The study comprised 60% males and 98.3% Saudis. The most frequently chosen electives are dermatology 28.1%, radiology 20.8%, anesthesia 9.6% and otorhinolaryngology (ear, nose and throat [ENT]) 9%. Significantly, more males (89.2%) chose radiology rotation and more females (75%) chose ENT rotation. The leading reasons to choose an elective rotation are: 1. to gain broad medical training and education,

2. to assist in choice of future specialty, and 3. being relevant to future specialty. The mean score for ENT and dermatology is higher than radiology and anesthesia for the response "to participate in medical practice in different institute", while dermatology is higher than anesthesia for the response "to help getting acceptance for job in the same institute", and radiology is higher than ENT and anesthesia for the response "it has infrequent or no night duties".

Conclusion: The reasons chosen reflect the educational value of the electives and their important role in choosing future career. Dermatology and radiology rotations are most popular electives, with additional though different reasons.

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The medical college curriculum of King Faisal University, similar to other medical schools in the Kingdom of Saudi Arabia (KSA), requires rotating medical internship. It is a 12-month period with 4 main mandatory subjects including internal medicine, surgery, pediatrics and obstetrics and gynecology. There is a month of rotation in the family and community medicine and one month for electives. An intern can choose a specialty of choice for the elective out of several options available. Invariably most of the interns are able to get their first choice out of 3, as they submit their requests at the beginning of internship. An earlier study published from this institute on the subject of electives found that out of 478 medical interns studied retrospectively, the majority chose dermatology (29.7%) and radiology

(19.2%) as their electives.¹ The purpose of the present study was to find out the reasons for selecting elective rotations in our institution during internship.

Methods. This study was conducted in the College of Medicine, King Faisal University, Dammam, KSA. All medical interns finishing their one-year of rotating internship during the period March 2001 to August 2002, were requested to complete a questionnaire regarding their elective rotation prior to processing their clearance papers. The questionnaire included demographic features of interns, their selected elective rotations, and 12 possible reasons for their selection with the response on a scale of one to 5 as follows: strongly

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disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5. It was reviewed by several expert faculty members, and validated by test and re-test. The questionnaire was in English and filled anonymously. It was distributed personally. Statistical analysis was performed using SPSS statistical software. Chi-square, Fisher's exact test, Student t-test and Mann-Whitney test were carried out as appropriate. The scores of the responses were calculated and analyzed. The scores were compared among the 4 leading electives using one-way analysis of variance with post-Hoc multiple comparisons using least square difference (LSD) and Kruskal-Wallis test according to the results of Levene test of homogeneity of variances as appropriate. A mean score for a response above 3 is a positive response.

Results. One hundred seventy-eight out of 179 medical interns completed the questionnaire. There were 107 (60.1%) males, and 71 (39.9%) females, with a mean age of 25.8 (SD \pm 1.6) and 24.6 (SD \pm 0.90) years, being higher in males with a $p < 0.001$. There were 175 (98.3%) Saudis. The frequency of the elective rotations is shown in **Table 1**. The most frequently chosen electives are dermatology 28.1%, radiology 20.8%, anesthesia 9.6% and otorhinolaryngology (ENT) 9%. Significantly, more males (89.2%) chose radiology rotation and more females (75%) chose ENT with p -values of 0.001 and 0.003. **Table 2** shows the scores of responses to the 12 reasons for selection of elective rotations for all subjects and for the 4 most frequently chosen rotations. Score values more than 3 are in favor of the reason. The mean score of each reason was compared among others. The statistically significant findings are: the mean score for ENT and dermatology is higher than radiology and anesthesia for the response "To participate in medical practice in different institute" with a p value 0.045, while dermatology is higher than anesthesia for the response "To help getting acceptance for job in the same institute" with p value 0.040, and radiology is higher than ENT and anesthesia for the response "It has infrequent or no night duties" with p value 0.021.

Fifty-three percent of electives were carried out at the King Fahad University Hospital, Al-Khobar, KSA, while 34.3% in the rest of the province, 9.7% outside the province, and only 1.7% outside the Kingdom (Bahrain and Qatar). Equal percentages of males (41.1%) and females (43.7%) supported undertaking the elective rotation abroad. Forty-three percent prefer the same one-month duration of the elective, while 47.2% suggest making it 2 months, and the rest favors longer periods of electives ranging between 3-5 months. Eighty-seven percent found their electives beneficial. The majority of interns (88.8%) are planning to pursue their postgraduate training.

Discussion. Internship year, also called pre-residency year is perhaps the most important and

exciting experience in the life of medical graduates. In addition to their direct involvement in patient care with graded responsibilities, this year provides an insight in the choice of their future career and specialization. In our institution as well as many other medical schools, it includes mandatory rotations in internal medicine, general surgery, pediatrics and obstetrics and gynecology; and the remaining 2 months are spent in other disciplines. In our institution, it is split as one month in family and community medicine and one month in an elective of their choice. Usually interns offer 3 choices for their electives. Invariably they are able to get their first choice. Rotations were carried out in the teaching hospital as well as in other affiliated hospitals in the region. The practice of going abroad to do electives for wider experience is not available at present for Saudis. The role of electives in medical curriculum is universally accepted. In American institutions, great emphasis is placed on electives in the last year of medical curriculum (fourth year). The so-called pre-residency syndrome is based on student's selection of fourth year courses, including electives.²⁻⁴ These electives not only provide an insight in the subjects of their choice, they can also choose these electives at hospitals where they intend to apply for residencies. The electives therefore, play a significant role in the choice of career and the place of training in the life of medical graduates.⁵⁻⁸ Like our interns, final year students in the United States rate elective year very highly for satisfaction as a learning experience, enjoyment and as a positive influence on future career choice, according to earlier studies.⁵ Other positive effects of the internship year are to foster professional development, general education, personal growth, and to provide a change of pace and relief from routines of medical curriculum. Our study has shown that the most frequently chosen electives are dermatology, radiology, anesthesia and ENT. Dermatology and radiology are considered as soft rotations, with lightest workload and minimum night duties. It was expected that more females would choose these electives. However, in the contrary to this belief; more males choose radiology while more females prefer ENT. A study has shown the usefulness of a dermatology elective program in improving dermatology skills.⁹ Radiology is considered as the third, after surgery and medicine in terms of required breadth of knowledge, skills, training, and, most important, "The glamor" of the specialty.¹⁰ It is also considered to have the lightest workload except psychiatry according to this study. However, another study showed that mandatory radiology clerkship, or perhaps the elective posting did not influence the career choice.¹¹ None of these studies differentiate between males and females since in the west this is hardly an issue. However, in our setting of conservative community the career choices for males and females are very significant. Early marriages and children and family commitment influence work demands and duty hours and therefore, the choice of electives as a prelude

Table 1 - The pattern of elective rotations and gender distribution.

Elective rotation	Frequency n (%)	Male %
Dermatology	50 (28.1)	60
Radiology	37 (20.8)	89.2*
Anesthesia	17 (9.6)	47.1
Ear, nose and throat	16 (9.0)	25*
Psychiatry	9 (5.1)	66.7
Surgery	9 (5.1)	44.4
Emergency medicine	8 (4.5)	50
Ophthalmology	6 (3.4)	66.7
Internal medicine	5 (2.8)	60
Obstetrics and gynecology	5 (2.8)	20
Pediatrics	4 (2.2)	100
Orthopedics	4 (2.2)	75
Neurology	3 (1.7)	0
Clinical pathology	2 (1.1)	100
Urology	1 (0.6)	0
Intensive care unit	1 (0.6)	100
Nephrology	1 (0.6)	0
Total	178 (100)	
*Statistically significant difference between gender, they are more males in radiology and more females in ear, nose and throat with a <i>p</i> value <0.001 and <i>p</i> value 0.003.		

Table 2 - The mean scores (\pm SD) of the reasons for selection of elective rotation.

Reasons for selection of elective rotation	All electives	Dermatology	Radiology	Anesthesia	Ear, nose and throat
To gain broad medical training and education	4.3 \pm 0.9	4.3 \pm 0.7	4.0 \pm 1.3	4.4 \pm 0.9	4.2 \pm 0.7
To assist in choice of future specialty	4.2 \pm 1.1	4.2 \pm 0.8	3.7 \pm 1.4	3.7 \pm 1.3	4.6 \pm 0.6
It is relevant to my future specialty	4.1 \pm 1.1	4.2 \pm 1.1	3.9 \pm 1.1	3.4 \pm 1.2	4.2 \pm 0.7
To participate in medical practice in different institute	3.9 \pm 1.0	4.1 \pm 0.8*	3.5 \pm 1.3	3.6 \pm 1.0	4.2 \pm 0.7*
To overcome personal academic deficiencies	3.9 \pm 1.1	4.0 \pm 0.9	3.6 \pm 1.3	3.8 \pm 1.1	3.6 \pm 1.2
To overcome deficiencies in undergraduate curriculum	3.8 \pm 1.1	3.8 \pm 1.0	3.6 \pm 1.3	3.9 \pm 1.2	3.8 \pm 1.2
To help in gaining acceptance for job in the same institute	3.5 \pm 1.2	3.9 \pm 1.1†	3.4 \pm 1.4	2.9 \pm 1.4	3.3 \pm 1.1
To provide a change of pace and relief from other mandatory rotations	3.1 \pm 1.4	3.4 \pm 1.5	3.3 \pm 1.5	3.2 \pm 1.5	2.6 \pm 1.4
It has infrequent or no night duties	2.9 \pm 1.4	3.2 \pm 1.4	3.7 \pm 1.2‡	2.9 \pm 1.2	2.6 \pm 1.1
It is a light duty rotation	2.7 \pm 1.3	2.9 \pm 1.4	3.2 \pm 1.4	2.9 \pm 1.1	2.2 \pm 0.8
The department offers high end of rotation evaluation grades	2.5 \pm 1.4	2.6 \pm 1.4	2.5 \pm 1.5	2.6 \pm 1.1	2.1 \pm 1.0
There was no other option available	2.0 \pm 1.2	2.0 \pm 1.1	2.2 \pm 1.4	1.5 \pm 0.9	1.7 \pm 0.7
*significantly higher than radiology and anesthesia (<i>p</i> value 0.045) , †significantly higher than anesthesia (<i>p</i> value 0.040) ‡significantly higher than anesthesia and ear, nose and throat (<i>p</i> value 0.021)					

to the choice of career. Why interns choose a particular elective is also an interesting subject. Our questionnaire included 12 possible reasons. Statistical analysis has revealed significant and interesting facts. The leading 3 reasons reflect the educational value of the electives and their important role in choosing future career. These include gaining broad medical training and education, assistance in choice of future specialty, and its relevance to future specialty. Radiology and anesthesia are subjects that are relevant to several specialties and did not score high for reasons of assisting in choice of specialty. The grades of each rotation during internship are quoted on their final certificate. This is important information for future specialty training. Interns did not seek or avoid departments for reasons of grading reputation. Dermatology is chosen more frequently to assist in getting acceptance for job in the same institution and not due to this soft posting. This is a locally relevant phenomenon based on availability of jobs and training positions. Radiology however, is a preferred elective because of being a light rotation with infrequent duties. It is not fair to compare our results with other authors, since local factors play a significant role in selection process. However, our results are consistent with others as far as the importance of electives in internship or pre-residency year is concerned. Nearly 90% of our responses said that the electives have been beneficial and that they intend to pursue postgraduate studies. Nearly half of the responders want a longer period for electives and want to undertake them in other institutions, preferably abroad. In our setup with local and cultural factors being extremely important, this significant response must be considered while reviewing the programs. One significant findings of our study is that interns prefer to do electives, especially dermatology and ENT in other institutions to be able to participate in medical practice in other institutions. According to one report, electives are provided as a 3-month block during internship training year. Going overseas for electives are popular abroad, but according to this study, a quarter of interns did not go abroad.¹² Experts stated that an elective, when completed abroad sometimes offers the opportunity to experience health care in a different cultural and organizational setting.⁷

There was a positive response regarding personal academic and undergraduate curriculum deficiencies for all electives chosen. The mean score values are intermediate and there was no statistically significant difference among the 4 leading electives. A study performed in one institution over a one year period would not be sufficient and more detailed and specific assessment is warranted. Ours is an evolving institution, merely 25 years. The educational scene as well as the cultural conservatism is undergoing a phase of change in

a young generation. Motivation of students towards wider career choices and exposure worldwide for varied experiences can be extremely important in the progress of the profession and community. It is in this context that electives can offer this choice for medical graduates. This has been amply highlighted in our study.

This study was conducted to find out interns' choices for electives, their importance and the reasons for their selections. Significant results have emerged between the choices of males and females. Like students in the west in pre-residency years our students too, are aware of the significance of electives. Like them, dermatology and radiology continue to be popular electives, although for additional different reasons. Since local factors and social conditions are different, our results cannot be compared with studies from the west. However, they are very important in the local context. We hope that more and more studies will be conducted to ascertain the changing patterns in an evolving education conscious community.

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