

BRIEF ARTICLE

Are Dermatology Electives Meeting the Learning Objectives of Rotators?

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ABSTRACT

Introduction: Learners rely on dermatology electives to supplement their education. Our goal is to determine whether electives adequately address the rotators' learning objectives.

Methods: A survey was distributed to medical students and residents on a dermatology elective to assess their specific learning objectives and rotation satisfaction.

Results: The survey had a 50% response rate (n=36). 74.2% of survey respondents were medical students (n=23) and 25.8% were residents (n=8). 57.1% of all rotators were interested improving their morphology/description of skin lesions (n=20). Residents were most interested in exposure to basic dermatological procedures (50%, n=4) whereas medical students were most interested in morphology/ descriptions of skin lesions (81.8%, n=18). Medical students with an interest in dermatology expressed a greater interest in career exploration (n=8) compared to medical student not interested in dermatology (n=4).

Discussion: Most rotators wanted to gain basic exposure to dermatology, however training level and interest played a role in determining the most important learning objective. Residents displayed a greater interest in procedural training while medical students wanted to gain more exposure to basic dermatology skills.

Conclusion: Customizing the dermatology elective to the trainee will allow the greater engagement during the rotation rather than a 'one size fits all' elective.

INTRODUCTION

Patients with dermatological conditions are commonly seen in the hospital wards and outpatient clinics in different medical departments. However, studies show that non-dermatological residents and medical students have a discomfort in managing dermatological issues.^{1,2,3} Due to limited pre-clinical dermatology exposure, many students rely on a rotation to supplement their education.⁴ Learners are entering dermatology electives with specific learning objectives in mind and, to our knowledge, there is no literature addressing if those

learning objectives are being met by dermatology clinical rotations. Our goal is to understand objectives that learners have to allow course directors to tailor electives to specific goals rather than implementing a 'one size fits all' elective.

METHODS

A survey was distributed to students and residents who rotated on the general outpatient dermatology clinic at a single academic medical center over the past three years for whom contact information was available. The survey was administered over

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the course of 1 month in the summer of 2020. The survey consisted of three sections: baseline characteristics, rotators' learning objectives, and whether learning objectives were met. Baseline characteristics included training level and medical specialty. To determine learning objectives, participants were asked to provide short answer descriptions of objectives and then asked to select categories their objectives fall into. The categories are listed in Table 1. Finally, rotators were asked how well the elective fulfilled their objectives.

Descriptive statistics obtained by frequency analysis were presented for participant characteristics and survey items. The study was approved by the Institutional Review Board at Penn State Hershey Medical Center. SAS 9.4 statistical software was used for data analysis.⁵

RESULTS

The survey was sent to 72 rotators and 36 (50.0%) completed the survey (Table 1). There were 23 (74.2%) medical students, eight (25.8%) residents, and five who did not specify. Of the medical students, seven (31.8%) were third year students, 15 (68.2%) were fourth year students, and one did not specify. Common specialties medical students were interested in at the start of their rotation were dermatology (54.6%), family medicine (13.6%), undecided (13.7%), and internal medicine (9.1%). Of the residents, five (62.5%) were PGY2 and

three (37.5%) were PGY3. All residents were family medicine (62.5%) or internal medicine (37.5%) residents.

When responders were asked to select a category for their learning objectives, 57.1% (n=20) of respondents wanted to improve on their morphology/description of skin lesions, 50.0% (n=18) wanted to learn to better manage common dermatological conditions, and 51.4% (n=18) wanted to better identify/diagnose common dermatological conditions. (Table 2)

Residents specifically were interested in the management of common dermatological conditions (n=4, 50.0%) and exposure to basic dermatological procedures (n=4, 50.0%). Medical students both interested and not interested in dermatology had similar learning objectives of learning morphology/description of skin lesions (n=18, 81.8%). Those interested in dermatology expressed a greater interest in career exploration (n=8, 66.7%).

When asked how well the dermatology elective fulfilled learning objectives, 10 reported very well, six reported moderately well, one reported fairly well, one reported poorly, and one reported very poorly.

DISCUSSION

Our study reveals that most rotators enter the dermatology elective with a goal of wanting to improve their morphology/description of skin lesions.

Table 1. Characteristics of survey respondents.

Characteristics	Total Number of respondents n/36 (%)
Year of training	
3 rd year medical student	n= 7, 19.4%
4 th year medical student	n=15, 41.7%
PGY-2	n=5, 13.9%
PGY-3	n= 3, 8.3%
Did not specify*	n= 6, 16.7%
Specialty Interest at Start of Rotation	
Medical Student Interest: Dermatology	n= 12, 33%
Medical Student Interest: Family Medicine	n=2, 5.6%
Medical Student Interest: Undecided/ Blank	n=4, 11.1%
Medical Student Interest: Internal Medicine/ Pediatrics	n=3, 8.3%
Medical Student Interest: Anesthesiology	n=1, 2.8%
Residency: Internal Medicine	n=3, 8.3%
Residency: family Medicine	n=5, 13.9%

*1 medical student, 4 residents

Table 2. Learning objectives of rotators during their general dermatology clinical rotation: Number and percentage of specific learning objectives that all rotators, residents, medical students interested in applying into dermatology, and medical students not interested in applying into dermatology were interested in at the beginning of their clinical rotation.

Learning Objective	All Rotators (n= 35 or 36*)		Residents (n=8)		Medical Students Interested in Dermatology at the start of their rotation (n= 12)		Medical Students Not Interested in Applying into Dermatology at the start of their rotation (n=10)	
	n	%	n	%	n	%	n	%
Morphology/Description of Skin Lesion	20	57.1	2	25	10	83.3	8	80.0
Identification/Diagnosis of Common Dermatological Conditions	18	51.4	3	37.5	7	58.3	8	80.0
Management of Common Dermatological Conditions	18	50.0	4	50	7	58.3	7	70.0
Exposure to Basic Dermatological Procedures	13	36.1	4	50	3	25.0	6	60.0
Career Exploration	12	33.3	0	0	8	66.7	4	40.0
Identification/Diagnosis of Complex Dermatological Conditions	9	25.0	3	37.5	4	33.3	2	20.0
Management of Complex Dermatological Conditions	5	13.9	2	25	2	16.7	1	10.0
Exposure to Intermediate and Complex Dermatological Procedures	4	11.1	2	25	1	8.3	1	10.0
Exposure to Basic Dermatopathology	4	11.1	2	25	1	8.3	1	10.0
Exposure to Mohs Surgery	3	8.3	0	0	1	8.3	2	20.0
Exposure to Advanced Dermatopathology	0	0.0	0	0	0	0.0	1	10.0

*Answer was left blank by one rotator.

Regarding specific goals of learners, residents expressed a greater interest in procedural dermatology while students were focused on learning the basics of description, diagnosis, and management of common dermatological conditions. Unsurprisingly, students interested in pursuing a career in dermatology had a specific objective of career exploration.

A majority felt that the dermatology elective fulfilled their learning objectives. Our data correlates to studies that report the leading reason trainees choose a particular elective is to improve their medical education⁴ and that dermatology elective improves knowledge for the medical student and resident.⁶

There are several ways we propose modifying the dermatology elective to enhance the learning experience of rotators. The American Academy of Dermatology (AAD) provides online modules to supplement rotators knowledge in their elective. The AAD basic dermatology curriculum has been a part of the rotation for greater than 5 years. However, it is not required and rather is used as a supplementary learning resource in the course handbook. It is not formally taught by faculty or residents but is offered as a self-guided lecture series. Therefore, the use of this resource by medical students and residents is unknown. Creating strategies to further incorporate the curriculum in clerkships can potentially improve the basic learning objectives that both medical students and residents have suggested above. Future studies can also examine the usability and helpfulness of the resource for rotators.

Other strategies our program has considered is creating a formalized mentorship for medical students

interested in dermatology with a faculty member to facilitate networking with the department, residency application guidance, and possible research projects that would help with the career exploration learning objective that those students had. Finally, because fewer learners, especially from certain groups, had an interest in some subspecialty dermatology exposure, we could consider modifying some of our schedules to allow for more general dermatology exposure.

Study limitations included distributing surveys in only one academic institution, which may limit generalizability to other institutions with different training. This study may be prone to selection bias, as those having positive experiences with their rotation may feel more inclined to participate in the survey. In addition, the surveys were distributed well after the completion of the rotation for some learners, which may lead to recall bias and explain the low response rate. Moreover, not all of our questions were required which contributes to a lower response rate in some questions.

CONCLUSION

This study shows that training level and interest plays a role in learning objectives of students in their dermatology clinical elective. However, there may be gaps in the rotation offered by many programs that have a 'one size fits all' dermatology elective for all their rotators. Developing an elective targeting a rotator's specific learning objectives will allow for more engaged learners and will optimize success of clinical rotations.

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