

Exploring the Students' Perspective: Unveiling Insights into Dermatology Clerkship in undergraduate medical students

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ABSTRACT

Objective: To assess medical students' perspective regarding dermatology clerkship and its implication on medical education and (ii) to observe the effect of clinical rotations on future career choices.

Study Design: Cross-sectional

Place and Duration of Study: Department of Dermatology, Pak Emirates Military Hospital, Rawalpindi from July 2023 till Jan 2024.

Methodology: A total of 150 students of fourth year MBBS class who had completed their dermatology clerkship, were approached with the questionnaire out of which 109 responded. The questionnaire was administered electronically using Google Forms.

Results: Out of 109 total participants, 59(54.1%) were male and 50(45.9%) were female. Ninety seven (89.0%) students reported to having learned basic dermatological problems however when it came to understanding cosmetology only 61(56.0%) students gained benefit. This rotation positively influenced the choice of dermatology as a post graduate specialty for 74(67.9%) participants. Around 68(62.4%) students found this clerkship helpful in terms of preparing for licensing and entrance exams later on. When asked about this clerkship experience to be helpful in their future medical practice 91(83.5%) gave a positive response. The most effective learning tool was reported to be live patient demonstrations stated by 95(87.2%) students.

Conclusion: Most students reported learning basic dermatological problems, but understanding cosmetology was less consistent. Nevertheless, the clerkship influenced many participants to consider dermatology as a postgraduate specialty. The students also found clerkship helpful in licensing exams and the most effective learning tool was live patient demonstrations.

Keywords: Clerkship, Dermatology, Medical Students, Perspectives, Teaching.

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INTRODUCTION

Dermatology practice has seen substantial changes in recent times, resulting in advancements in practice of clinical dermatology as well as aesthetic medicine.¹ Diseases of skin account for almost a fourth of all clinical visits to primary care physician.² A study showed that almost 60% of dermatologic conditions are managed by non-dermatologists.³ Thus clerkships stand as a rite of passage, molding the clinical literacy of future physicians. Top of Form The curriculum of dermatology clerkship is meant to train students to recognize a broad spectrum of dermatological diseases. These clinical encounters incite empathy in students which becomes a guiding principle in their future practice. Few studies from United States showed a decrease in time allocated to dermatology undergraduate education.^{4,5} Another study done by

Davari P *et al.*, showed that perception of medical students regarding clinical dermatology clerkship was mostly positive.⁶

The ever evolving field of dermatology necessitates continuous reassessment of educational strategies to ensure relevance and efficacy of clerkship experience. Hence this study was done to assess the perspectives of medical students regarding their dermatology education and their future career choices. We could not find any such study in our regional population making this the first survey investigating medical students' perceptions of dermatology education.

METHODOLOGY

This study utilized a cross-sectional survey approach to investigate undergraduate medical students' perspectives on their experiences during dermatology clerkships by utilizing a structured questionnaire to gather data. It was conducted at dermatology department, Pak Emirates Military Hospital, Rawalpindi from July 2023 till Jan 2024 after

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approval from hospital ethical review committee (ERB No A/28/ERC/77/24).

Inclusion criteria: comprised only students of 4th year medical college, currently undergoing or having completed a dermatology clerkship within the past academic year.

Exclusion criteria: All those students who had not yet undergone the dermatology clerkship, students who had undergone dermatology rotation but were unwilling to participate in the survey.

Purposive convenience sampling was done and all the students who reported to dermatology department during the above mentioned time period who were fulfilling the inclusion criteria were included in the sample. Sample size was calculated with WHO sample size calculator with confidence interval of 95%, margin of error 5%, population proportion of 50%. **Error! Bookmark not defined.** with population size of 200 students of fourth year MBBS. The estimated sample size came out to be 132. A total of 150 students of fourth year MBBS class, who had completed their dermatology clerkship, were approached with the questionnaire out of which 109 responded amounting to a response rate of 72.6%. Informed consent was obtained from each participant. Participation in the study was voluntary and all participants were assured of the confidentiality and anonymity of their responses and they were free to withdraw from the study at any time without any penalty.

The questionnaire was administered electronically using a secure online survey platform i.e. Google Forms. The survey link was distributed via email to the medical students reporting to dermatology department. Groups of 30 to 40 students report every 3 weeks for dermatology clerkship. All those students were recruited in the study and those already completed their training were distributed the survey link via email. Participants were given a specified timeframe to complete the survey, typically ranging from two to four weeks. The questionnaire was designed based on a thorough review of the literature on medical education, dermatology clerkships, and student perceptions. It was also modified based upon the discussions with medical educators and dermatologists to ensure content validity. Questions were designed to be clear, concise, and mutually exclusive to facilitate accurate responses.

The survey was designed to assess various aspects of the clerkship experience, including

perceptions of the dermatology clerkship (e.g., satisfaction with teaching methods, perceived learning outcomes), challenges encountered during the clerkship (e.g. overcrowded clinics), and future career aspirations related to dermatology, comprising of 14 questions, based on Likert scale items.

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 27.0. Quantitative data including age was presented as Mean± Sd. Data including clinical experience, post graduate specialty choice, and teaching methods was presented as frequency and percentages.

RESULTS

The study comprised of 109 total participants with 59 (54.1%) being male and 50 (45.9%) being female. The mean age of the students was 23.45±0.60 years. The majority (51.4%) of students were 24 years old, with 43.1% being 23 years and 5.5% being 22 years of age.

A vast majority of students, 102(93.6%) reported receiving an introduction to the training program at the start of their clinical rotation. A significant proportion of students 97(89.0%) reported to having learned basic dermatological problems however when it came to understanding cosmetology only 61(56.0%) students gained benefit from the clerkship (Figure-1).

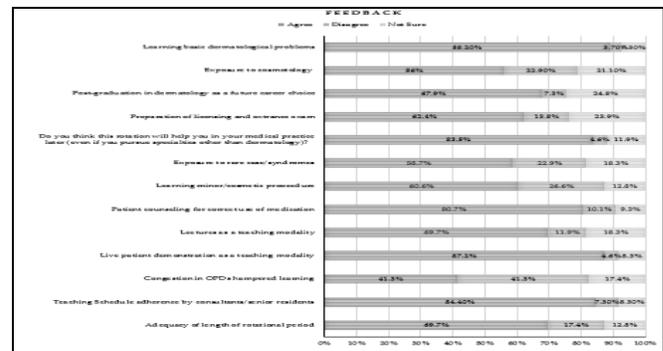


Figure-1: Student responses about dermatology clerkship experience (n=109)

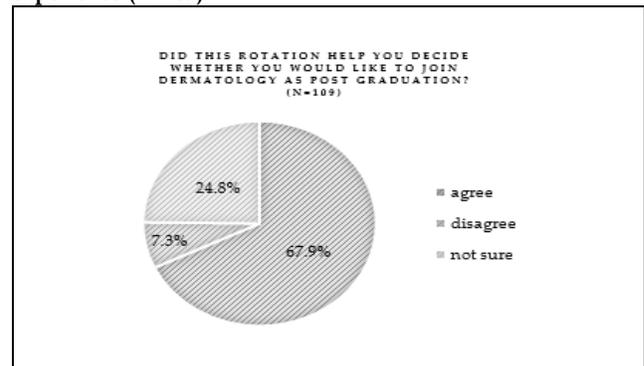


Figure-2: Dermatology as a post-graduation choice (n=109)

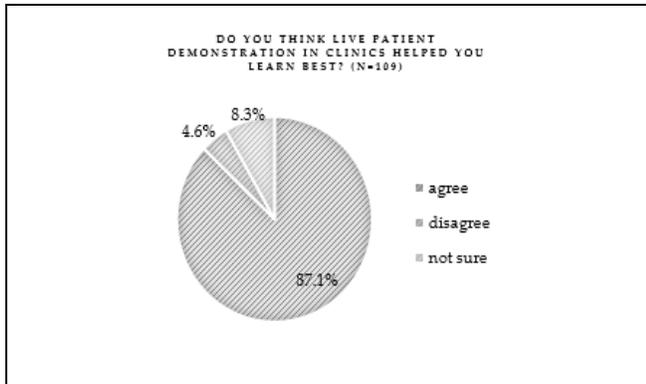


Figure-3: Practical learning methodology (n=109)

This rotation influenced the choice of dermatology as a post graduate specialty for 74(67.9%) participants while 8(7.3%) disagreed and 27(24.8%) were uncertain (figure-2). Around 68(62.4%) students found this clerkship helpful in terms of preparing for licensing and entrance exams later on while 15(13.8%) disagreed and 26(23.9%) were not sure. When asked about this clerkship experience to be helpful in their future medical practice 91(83.5%) participants gave a positive response.

Clinical experience among the students regarding this rotation also varied with 64(58.7%) of them reporting seeing some rare cases or syndromes, 66(60.6%) having learnt the minor surgical/ cosmetic procedures while 88(80.7%) reported that their patient counselling skills improved after this clerkship.

Regarding teaching methods, 76(69.7%) participants felt lectures as a helpful learning tool, while 13(11.9%) disagreed and 20(18.3%) were unsure. A significant majority, 95(87.2%), found live patient demonstrations in OPDs and IPDs to be the most effective, with only 5(4.6%) disagreeing and 9 (8.3%) being unsure (figure-3). Opinions were divided on whether the rush in OPDs thwarted learning: 45(41.3%) disagreed, 45(41.3%) agreed, and 19(17.4%) were unsure. Regarding teaching schedule, 92(84.4%) participants reported that consultants and senior residents adhered to the designated teaching schedule timing and 76(69.7%) participants believed the rotation period length to be adequate.

DISCUSSION

The demand for dermatologists has been increasing due to rising prevalence of skin diseases and the growing importance placed on dermatological care,⁷ not just worldwide but also in Pakistan. Despite this demand, there is limited research regarding

incorporation of dermatology curriculum in the medical school curricula. This article provides valuable insights into the factors influencing students' interest in dermatology and delves into the implications regarding medical students' perceptions of their clerkship experience in dermatology.

To improve dermatology education and students perception of the specialty, Blakely *et al.*, demonstrated a positive impact of dermatology pre clerkship time on student's comprehension of the subject.⁸ Family physicians as well as specialists in many other fields of medicine are routinely met with dermatologic manifestations.⁹The majority of our students felt that their current curricula did train them adequately regarding clinical dermatology and they felt confident in diagnosing and treating their patients when encountered in their clinical practice. These findings were in contrast to a 2009 study.¹⁰ that stated that less than 40% of the surveyed community based primary care physicians in California felt confident to diagnose and treat skin disorders based on their medical school curriculum. Another study among internal medicine residents in Canada found that greater than 80% were uncomfortable or very uncomfortable in diagnosing and treating dermatological issues.¹¹ A 2018 study from Canadian medical school directors' survey,¹² showed that only 29% of them thought that dermatology education provided at their medical school was adequate. These contrasting findings could be because of variations in curriculum, exposure or teaching methods or the availability of skilled faculty. A study done in Australia in 2016 stated that out of 17 responding medical schools in Australia, only 4 have mandatory clinical rotations in dermatology,¹³ hinting towards an inconsistent dermatology education across various regions.

The influence of clinical rotations on future career choices has been studied in different specialties. Marshall *et al.*,¹⁴ conducted a systematic review and found that surgical rotations had a positive impact on students' consideration of surgery as a future career. Al Zubi M *et al.*,also found in his study that dermatology was the 2nd most popular specialty choice in students owing to interest and potential creativity in a specialty.¹⁵ Another study done in KSAError! Bookmark not defined. showed that dermatology rotations significantly influenced medical students' interest in pursuing dermatology as a career. Another study done by Alajmi R in Jeddah

highlighted that the appeal of being a dermatologist and influencing patients' lives is a significant factor in choosing dermatology as a future specialty.¹⁶ Our study also had a 67.9% positive impact on students in helping them choose dermatology as their future specialty. These findings highlight the value of clinical experiences, specialty appeal and positive interactions with practitioners consistently influence career decisions while individual preferences may contribute to contrasting findings.

Besides supporting specialty choice, clinical clerkships also play a critical role in preparing students for residency application.¹⁷ Similar positive perceptions regarding our study's relevance to licensing and entrance exams was noticed since licensing exams often assess clinical knowledge and application.

Majority of students in our study favored inclusion of case based learning methods or problem based approaches and found the lectures comparatively less helpful. These same findings were also highlighted in the study done by Liu C *et al.*,^{Error! Bookmark not defined.} since dermatology teaching is highly visual and cases have varied presentations as well.¹⁸ Critical aspects such as impact of OPD congestion on learning, the effectiveness of teaching by consultants/senior residents, and the perceived adequacy of the rotation's duration were also evaluated and identified as areas of improvement. Addressing these challenges could enhance the quality of the educational experience and optimize learning outcomes for students.

Our study demonstrated that 89.0% of students felt confident in diagnosing as well as treating common skin diseases. However we did not take into account the individual disease conditions where students specifically reported difficulty in diagnosing. A study done by Liu R **Error! Bookmark not defined.** states that on average students had the lowest confidence levels with diagnosing skin carcinomas while they felt confident with diagnosing inflammatory skin conditions and infections since carcinomas require specialized expertise like dermoscopy which might be beyond the undergraduate students' competence.

LIMITATION OF STUDY

Our study has a number of limitations. The study used a convenient, non-probability sampling technique which may introduce selection bias and limit the generalizability of findings to the broader population of medical students in

Pakistan since we surveyed a small number of medical students at one medical institute only. Hence our study may not be applicable to other regions and countries with different healthcare systems and cultures. Since it was a self-reported data gathered through an online questionnaire hence it may be subject to response biases and inaccuracies. Qualitative and explanatory answers were not gathered as to why they preferred certain learning methods. Future research could employ a more diverse and representative sample, employ longitudinal designs, and consider multi-center studies to enhance the generalizability and depth of understanding of the factors influencing medical students' interest in dermatology.

CONCLUSION

Our study contributes to the existing literature regarding dermatology clerkship teaching methods. While most students reported learning basic dermatological problems, understanding cosmetology was less consistent. Nevertheless, the clerkship influenced many participants to consider dermatology as a postgraduate specialty. The students also found clerkship helpful in licensing exams and the most effective learning tool was live patient demonstrations. Overall, dermatology clerkships contribute significantly to medical education and future career choices in the field.

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Authors' Contribution

The Following authors have made substantial contributions to the manuscript as under:

SM & AA: Study design, drafting the manuscript, data interpretation, critical review, approval of the final version to be published.

HE & AA: Data acquisition, data analysis, approval of the final version to be published.

MT & SS: Critical review, concept, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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