Viewpoint

Undergraduate dermatology teaching in India: Need for change

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Dermatology has become well entrenched in the undergraduate medical curriculum in India. However the effectiveness of the undergraduate dermatology curriculum is questionable. There are various problems in this context that need to be identified and addressed.

Dermatology has slowly but certainly emerged as one of the most exciting medical specialties in India. Post-graduate teaching in dermatology has advanced by leaps and bounds since its humble inception in the form of a diploma course in the 1940s (Bombay university).[1] Unfortunately, undergraduate dermatology training is still lagging behind, compared to many other broad specialties.

The Medical Council of India (MCI) spells out the basic objectives of the undergraduate dermatology curriculum under the headings of "Knowledge" and "Skills."[2] Salient points under the heading of "Knowledge" include the following:

1. Demonstrate sound knowledge of common diseases, their clinical manifestations, including emergent situations, and of investigative procedures to confirm their diagnosis.
2. Demonstrate comprehensive knowledge of various modes of therapy used in treatment of skin diseases.
3. Describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications, and contra-indications and interactions.
4. Describe commonly used modes of management including the medical and surgical procedures available for the treatment of various diseases and to offer a comprehensive plan of management for a given disorder.

The points listed under "Skills" include:
The student should be able to do the following:

1. Interview the patient, elicit relevant and correct information, and describe the history in a chronological order.
2. Conduct clinical examination, elicit and interpret physical findings, and diagnose common disorders and emergencies.
3. Perform simple, routine investigative and office procedures required for making the bed-side diagnosis, especially the examination of scrapings for fungus, preparation of slit skin smears, and staining for AFB (acid-fast-bacilli) for leprosy patients and for STD (sexually transmitted disease) cases.
4. Take a skin biopsy for diagnostic purposes.
5. Manage common diseases, recognizing the need for referral for specialized care, in the case of inappropriateness of therapeutic response.

It is our opinion that not only most of our undergraduate students, but also many of our interns will fall somewhat short of expectations based on these objectives. We recently did a small survey covering seven dermatology departments in medical colleges in our state regarding the undergraduate dermatology teaching. The important results from the survey were: only three colleges actually said that they have an official assessment exam for dermatology which carries some weightage for the final university marks. This was however not uniform. Of the "newer" teaching/assessment methods, only OSCE was being used (that too only in three colleges). On a 5-point Likert scale (Strongly agree, agree, undecided, disagree, strongly disagree), three of the respondents agreed that the learning objectives of the MCI with regard to dermatology were being fulfilled, two were undecided and two disagreed. None of the respondents "strongly

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agreed" to the statement. Teaching time for dermatology varied from 4 weeks in some departments to 6 weeks in some; however, all except one respondent felt that the teaching time was sufficient.

Dermatology is probably a specialty in which undergraduate exposure is insufficient probably outside India too. Davies *et al*. conducted a study in UK among 30 medical schools, which aimed to carry out an audit of the content of the core curriculum in each UK medical school against the recommendations for a core undergraduate dermatology curriculum (the criteria) published by the British Association of Dermatologists, to identify areas of good practice and to gather evidence for developing the learning and teaching of dermatology. Their data suggest that some students have little exposure to dermatology, but dermatology teaching takes place in secondary care in all medical schools. Knowledge-based assessments were used by 27 out of the 30 medical schools. Essential clinical skills such as taking a dermatological history and examining the skin were included in the curricula of most, but not all, medical schools.[3] Another study by McCleskey *et al*. surveyed 109 medical schools in the United States and concluded that "Dermatology educators expect medical students to learn to diagnose or treat common skin diseases, but little time is designated for this in most medical schools. The aggregate opinions of dermatology educators may be used to prioritize future curricula."[4]

So what are the problems in the undergraduate dermatology teaching? And how do we tackle them?

1. **Time—**One of the main issues is that of time. The MCI recommends a period of 6 weeks of training in dermatology. Many institutions do not follow this recommendation strictly and in many of the institutions that do follow this, the attitude of the students toward dermatology clinical postings more often than not tends to be lackadaisical. Even post-graduate students take months to get used to identifying, differentiating, and correlating dermatological lesions. It is therefore understandably difficult for undergraduates to realistically achieve any of the objectives mentioned by the MCI in a span of 6 weeks.

   However it is fairly certain that the MCI is very unlikely to increase the actual clinical posting period to more than 6 weeks. In this scenario the things we can do are:

   - Ensure that at least these 6 weeks are implemented strictly.
   - Ensure that this period is not broken down to more than two blocks (Some colleges have a system of two weeks of dermatology posting each in the 4th, 6th, and 8th semesters).
   - It would also make sense to avoid the dermatology posting in the 4th semester and instead opt for only the 6th and 8th semester. (After the students have had some exposure to general clinical case taking and examination procedures)

2. **Teaching methods—**Use of innovative teaching methods is essential. The lack of time or sufficient trained faculty can be at least partly compensated by the incorporation of innovative teaching tools and methods. This could include problem-based learning sessions and also the extensive use of digital media. Problem-based learning (PBL) is especially useful so that the students can get an early and comprehensive idea of basic skin diseases. PBLs, of course, require the dedicated efforts of teachers to frame modules as well as to act as good facilitators, however proper implementation can definitely go a long way in stimulating student interest in dermatology.[5-7]

3. **Assessment**—The second major problem in a majority of under-graduate dermatology programs in India is either an absence of or inadequate assessment system. Most colleges do not conduct any formal assessment in dermatology. The need to correct this and to incorporate performance-based assessment methods like Objective Structured Clinical Examinations (OSCEs) is long overdue. Assessment is the heart of learning and is the basic driving force behind learning. It is also essential that this includes assessing not only knowledge but also skills (performance based assessment). As per the Miller's pyramid in medical education the assessment should progress from the base of the pyramid "Knows" (fact gathering) to "Knows how" (interpretation and application) to "Shows how" (demonstration of learning), and finally to the top of the educational pyramid "Does" (performance integrated into practice).[8] Performance-based assessment methods is essential to ensure that we are not only assessing the lower levels of the pyramid.

While the short duration of dermatology postings

may make it unfeasible to include some form of formative assessment/continuous assessment, we can definitely start a properly planned summative assessment system. Moreover, it should be ensured that the marks of the assessment carry weightage in the final marks of the student. (For example, a certain percentage of the final marks of Internal Medicine could be allotted to dermatology; this would ensure that students take the subject seriously and in right earnest).

4. **Inclusion of cosmetic dermatology and dermato-surgery in the curriculum**—For the continuous development of dermatology in India, the best students should be inspired to opt for dermatology as a specialty. This can be achieved only if they are given an adequate exposure to the concepts involved in all aspects of dermatology (and venereology). For good or for bad, one of the most attractive components for students who opt for dermatology as a specialty is cosmetic dermatology. Hence it is important that cosmetic dermatology and dermato-surgery is also given significant coverage during the undergraduate teaching process. However it goes without saying that the idea should only be to give students some exposure to cosmetic dermatology and not take stress away from basic clinical dermatology which should remain the priority while formulating the learning objectives.

5. **Make dermatology a compulsory rotation in internship**—It is surprising that in a country in which skin disease form a very important part of the community disease burden, dermatology is only an elective posting during internship. This issue has been raised previously and probably should continue to be pursued strongly to ensure that all interns have compulsory rotations in dermatology.

It goes without saying that any problem in undergraduate dermatology teaching needs to be taken in the context of medical education in India as a whole. Faculty development programs have not been a priority in Indian medical education. The earliest formal program was initiated in 1974, with the establishment of the National Teachers Training Centers (NTTCs) in four of the country's premier institutions. The objectives of the NTTCs were to promote the training of medical teachers in educational science and technology, promote development and application of systematic educational process, and conduct educational research. NTTCs alone could train approximately 3,000 teachers over 20 years at four centers. The other medical faculty development programs includes programs like the FAIMER (Foundation for Advancement in Medical Education and Research) program which has three regional centers in India at present. However given the total number of medical institutions in India (over 250), these programs have been obviously insufficient to meet the faculty development needs of the country.[9]

To conclude, those who are into undergraduate dermatology teaching need to ensure that dermatology continues to grow as a major specialty, by adapting to the needs of the ideal curriculum objectives as well as newer concepts of medical education. This will also go a long way in attracting the best students to the field of dermatology.

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REFERENCES

1. Thappa DM, Kumari R. Emergence of dermatology in India. Indian J Dermatol Venereol Leprol 2009;75:86-92.
2. Medical Council of India. Salient Features of Regulations on Graduate Medical Education, 1997. Published In Part iii, Section 4 of the Gazette of India Dated 17th May 1997. Available from: http://www.mciindia.org/know/rules/rules_mbbs.htm. [last accessed on 2010 Mar 1].
3. Davies E, Burge S. Audit of dermatological content of U.K. undergraduate curricula. Br J Dermatol 2009;160:999-1005.
4. McCleskey PE, Gilson RT, DeVillez RL. Medical Student Core Curriculum in Dermatology Survey. J Am Acad Dermatol 2009;61:30-5.
5. Stratman E, Dyer J. Problem-based learning: An approach to dermatology resident education. Arch Dermatol 2002;138: 1299-302.
6. Burge S. British Association of University Teachers of Dermatology. Teaching dermatology to medical students: a survey of current practice in the U.K. Br J Dermatol 2002;146:295-303.
7. Kaliyadan F, Manoj J, Dharmaratnam AD, Sreekanth G. Self-learning digital modules in Dermatology: A pilot study. J Eur Acad Dermatol Venereol 2010;24:655-60.
8. Miller GE. The assessment of clinical skills/competence/performance. Acad Med 1990;65:63-7.
9. Bansal P, Supe A. Training of medical teachers in India: need for change. Indian J Med Sci 2007;61:478-84.