

Original Research Article

Assessment of cognitive skills in dermatology during internship

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ABSTRACT

Background: Skin problems constitute a significant percentage of all medical problems, despite which training in recognition and treatment of dermatological disorders during the MBBS course remains abysmal. The situation is compounded due to non-inclusion of dermatology in the final examinations, which results in students having little motivation to learn about this important subject. This study was designed to test whether the present internship training offered in dermatology succeeds in imparting cognitive skills related to common skin problems.

Methods: This was done by means of a pre- and post-test administered before and after their posting. A set of 20 questions were administered to all interns on the first day of their postings as a pre-test and the post-test was given on the last day, after completion of their two week posting.

Results: The results of this preliminary study suggest that there is considerable improvement after their training. There was statistically significant improvement in post-test scores with the p-value being <0.001.

Conclusions: It is possible that use of a pre- and post-test focuses their attention on common entities and thus could be used to improve cognitive skills. To the best of our knowledge a similar study has not been reported from the Indian subcontinent.

Keywords: Cognitive skills, Internship, Dermatology, Training, Skin problems, MBBS

INTRODUCTION

Dermatology, till now, remains a neglected subject during undergraduate training in India. This is despite the fact the prevalence of skin disorders can be very high, especially in children ranging from 21 to 87 percent.¹ Cognitive and psychomotor skills of the interns expected of an MBBS graduate have been laid down by the Medical Council of India (MCI) and by Rajiv Gandhi University of Health Sciences (RGUHS).^{2,3} However, since dermatology is not a mandatory part of the examination system for MBBS students, assessment of these skills is hardly ever done.

This study attempted to assess the cognitive skills in dermatology of interns undergoing a two week posting in

a tertiary hospital in Bangalore, before and after their posting, to find out if they actually are able to learn about practical diagnosis and management of common skin problems. The aim and objective of the present study was to assess the improvement in cognitive skills of interns before and after a 2 week posting in dermatology.

METHODS

A pre and post-test was devised which included common skin conditions expected to be encountered by an MBBS graduate. Visual representations were incorporated into each, and questions framed around these. The topics and questions in the pre-test were validated by all the faculty of the department. Permission for the study was obtained from the institutional ethical review board.

The topics were as follows:

- Morphology of lesions
- Herpes zoster
- Psoriasis
- Impetigo contagiosa
- Koebner's phenomenon
- Varicella
- Scabies
- Tinea
- Pemphigus
- Vitiligo

There were a total of twenty questions and each of the answers was graded as correct (1 mark) partially correct (0.5 marks) and incorrect (0 marks).

Inclusion criteria were all interns choosing dermatology as their elective two weeks posting over a period of one year. Exclusion criteria were interns missing the first two or more days of their posting and interns taking more than two days leave during the posting.

Table 1: Comparison of pre and post-test scores.

	Mean ± SD*	Mean ± SD* (%)	t – value (paired t test)	p-value
Pre-test Score	7.38±3.56	36.90± 17.81	-16.13	< 0.001
Post-test Score	15.17±3.34	75.87±16.70		

* SD – Standard deviation

DISCUSSION

Assessment of cognitive and psychomotor skills in dermatology for MBBS graduates remains a neglected area due to non-inclusion of the subject during the examinations, and consequently an attitude of laissez – faire amongst both students and faculty. This is not desirable as dermatology patients constitute a big chunk of all patients coming to medical outpatient departments and in general practice. Fresh undergraduates find that they are unable to diagnose or treat even the most basic skin problems. To remedy this situation, some form of assessment is required. The format of pre and post-test was thought of in this study, as it was possible to ascertain:

- Their levels of knowledge prior to training
- Improvement in their knowledge seen after two weeks of exposure to dermatology patients and
- Any lacunae in terms of knowledge of common skin ailments.

With this objective in mind, we formulated a pre-test which included the common dermatological conditions which an MBBS graduate might be expected to encounter. The format of the test was predominantly pictorial, which questions being framed around the

The pre-test was administered to all interns on the first day of their postings and the post-test on the last day, after completion of their two week posting. This study was conducted between 1st March, 2011 and 29th February 2012, at the Department of Dermatology, Ramaiah Medical College and Hospitals, Bengaluru.

The results were analysed statistically by mean score, standard deviation, paired t-test and p value, using MS-Excel.

RESULTS

Sixty three interns completed their study during the period. The mean pre-test score was 7.36±3.56 and the mean post-test score was 15.17±3.34. In the paired t test, the t value was found to be -16.13 with a p value of <0.001, which was statistically significant as given in Table 1. In terms of percentage, mean percentage score in pre-test was 36.9±17.81, with an improvement to 75.87±16.70 in post-test.

clinical image of the skin problem, which was projected on to a big screen.

The study found that there was statistically significant improvement after the two week internship posting, with mean post test scores more than doubling. As expected, pre-test scores were poor in most cases. The questions were devised in a way that theoretical aspects were sacrificed at the altar of practicality.

Hence, a significant improvement in post test scores would suggest that those interns would have a working knowledge of common skin problems, enough to manage those routinely. Psychomotor skills were deliberately not assessed, as most of the skills required by MCI would have been assessed during their undergraduate training (e.g. staining procedures), or not required in general practice (e.g. biopsy and electrocautery). It was also felt that attitude (affective) skills, while important, could not be easily incorporated into this format. Subjectively also, most interns felt that the pre and post-test format was useful as it gave them a focus during their two week training period.

Similar studies on medical students/residents have been done in the United States, with good improvement in post-test scores.^{4,5} To the best of our knowledge such assessment of interns has not been done in the Indian sub-continent.

At the end of the one year period, questions were subjected to analysis, and the whole pre and post-test modified to leave out questions which were very easy or very difficult as judged by the average number of correct or incorrect answers. Some additional, important topics were also incorporated such as leprosy and STDs.

CONCLUSION

It is felt that pre and post-test can be used routinely by dermatology departments of medical colleges to improve cognitive skills of fresh graduates, and for their assessment.

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