

Assessing the Level of Knowledge of Emergency Department Physicians in Recognition of Common Skin Lesions

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Abstract

Background: Dermatological conditions are a frequent reason for consultation at the emergency department (ED). The advent of Teledermatology has reduced inaccurate diagnoses and unnecessary hospitalisations. We aim to assess the level of knowledge of ED physicians in recognition of common skin lesions. This can further suggest improvements in continuous medical education as well as the medical school dermatology curriculum and evaluate the educational and service value of Teledermatology.

Methods and findings: ED Physicians in a tertiary hospital in Singapore were surveyed with a 15-slides questionnaire based on identification of common dermatological and life-threatening conditions in the local population. The final summative score out of a maximum total of 15 showed average scores of medical officers, registrars and consultants to be 9.9 (66%), 7.3 (48%) and 11 (73%) respectively. Correlation analyses performed for years of practice and scores showed a value of -0.341.

Conclusions: A negative correlation between years of medical practice and questionnaire scores prompts further opportunities for continued medical education and multidisciplinary exchange of knowledge.

Keywords: Medical education, Dermatology, Emergency department

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Introduction

Dermatological conditions are a frequent reason for consultation at the emergency department (ED), with a prevalence of 1% in Singapore to 3.2% across Ontario, Canada [1,2]. In a 2009 study in Singapore, among 4061 patients presenting with a skin condition of 157,527 total patients, the commonest diagnoses were herpes zoster infection (20.8%) and eczema or dermatitis (11.6%) [3]. There is significant dermatologic diagnostic performances between primary care physicians and dermatologists with 93% correct diagnoses for dermatologists as compared to 50% for non-dermatologists [4]. Despite educators expecting medical students to learn to diagnose or treat common skin diseases, little time is designated for this in most medical schools [5]. The advent of Teledermatology in the Emergency Service has allowed patients to obtain specialist advice remotely while reducing hospitalisations, outpatient clinic demands and inaccurate diagnoses. We aim to assess the level of knowledge of ED physicians in recognition of common skin lesions. This can further suggest improvements in continuous medical education as well as the medical school

dermatology curriculum and evaluate the educational and service value of Teledermatology.

Methods

ED Physicians in a tertiary hospital in Singapore were surveyed with a 15-slides questionnaire based on identification of common dermatological and life-threatening conditions in the local population. Gender, years and level of practice as well as their scores were tabulated. Initial descriptive analysis of individual items was recorded and correlation analyses performed (**Figure 1**). Consent was obtained prior to administration of the questionnaire and all respondents' information was de-identified to maintain confidentiality.

Results

48 doctors from the ED were surveyed; 24 medical officers, 12 registrars and 12 consultants. There were a total of 26 females (54%) and 22 males (46%) who participated in the study. The number of picture slides correctly identified was expressed as the

final summative score out of a maximum total of 15 (1 point for each correctly identified slide). The average scores for the medical officers, registrars and consultants were 9.9 (66%), 7.3 (48%) and 11 (73%) respectively (**Table 1**). Average years of practice were 3.3 years for medical officers, 9.5 years for registrars and 9.8 years for consultants. Correlation analyses performed for years

of practice and scores showed a value of -0.341. There was a 95% response rate for the questionnaire. Standard error comparing of years of practice with sample number was 0.64, standard error of questionnaire scores with sample number was 0.41 and that of years of practice with questionnaire scores was 4.0.

Level	Number (%)	Average years of practice	Average scores (%)
Consultants	12 (25%)	10	11 (73%)
Registrars	12 (25%)	9	7.3 (48%)
Medical Officers	24 (50%)	3	9.9 (66%)

Table 1 showing average questionnaire scores and years of practice among emergency department physicians surveyed.

Discussion

Recognition of common dermatological conditions is essential for proper diagnosis and management. Knowledge gaps in the ED can be bridged with Tele dermatology which highlights its potential educational efficacy. Although limited by sample size, a negative correlation between years of medical practice and questionnaire scores prompts further opportunities for continued medical education and multidisciplinary exchange of knowledge.

Questionnaire

Age:

Sex:

Years of Practice:

Level of training: Medical officer / Registrar / Consultant

Answers

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.

Total score:

Figure 1a Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1b Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1c Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1d Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1e Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1f Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.

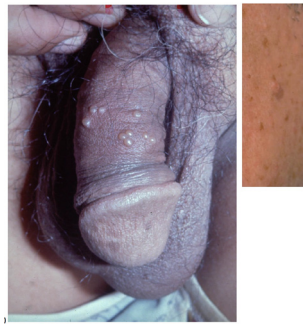


Figure 1j Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1g Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1k Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1h Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1l Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1i Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1m Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.



Figure 1n Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.

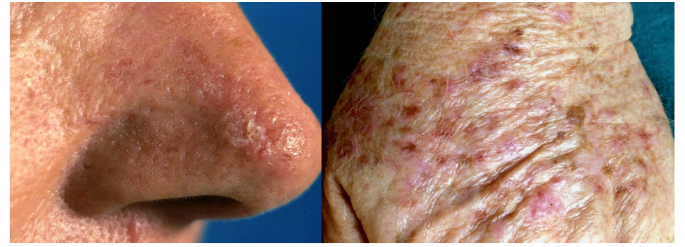


Figure 1p Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.

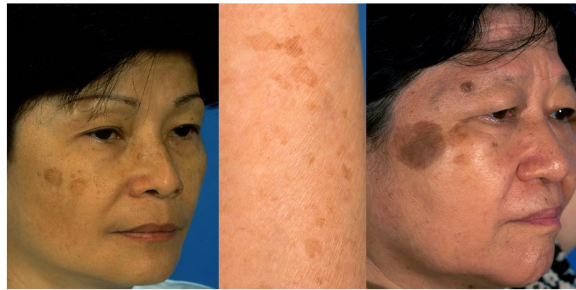


Figure 1o Large, annular hyperpigmented plaque with areas of central variegation over lateral aspect of right arm.

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