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## Will final-year medical students be ready to do diabetic retinopathy screening and make appropriate referring decision in upcoming internist life?

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**Background:** Diabetic Retinopathy (DR) was a leading cause of visual loss worldwide. Primary care physician with competences to refer DR patients appropriately might help prevent permanent visual loss from this organ damaged. We assessed accuracy of DR grading and referring decision of final-year medical students who will become primary care physicians in the upcoming year.

**Method:** The study was conducted in Vachira Phuket Hospital. All 22 final-year medical students were enrolled. To complete questionnaires which consisted of twenty images demonstrating varied stages of DR, participants were assigned to grade DR and make referring decision. The images were selected from standard photographs displayed in reliable publications. AAO DR classification system which classified DR into no DR, mild nonproliferative DR (NPDR), moderate NPDR, severe NPDR and proliferative DR(PDR) was used as a classification system in this study. Sensitivity and specificity of DR grading were analyzed. Referring scores would be assessed if DR staging was correctly marked.

**Results:** Average DR staging and referring score were respectively 8.36 and 7.59 out of 20. Given that passing level of staging and referring score was 80%, no students achieved this level. Average grading sensitivity of mild NPDR, moderate NPDR, severe NPDR and PDR were 45.45%, 40.90%, 30.68% and 48.86%, respectively. The specificity of DR was 43.18%.

**Conclusion:** To provide early DR diagnosis, prevent DR complication and reduce numbers of patient in tertiary care centers, the impediment to retain medical students' long-term knowledge and make referring decision properly should be figured out. Moreover, medical students' obstacles of DR grading should be promptly interpreted in further study.

**Discussion:** The study revealed that most of final-year medical students did not have enough competences to do DR grading and refer the patient sensibly.

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