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Received: June 8, 2016

Revised: July 10, 2016

Accepted: July 11, 2016

ABSTRACT

Introduction: This study examined the concordance in clinical diagnosis of high-risk lesions in the oral cavity and referral decisions between clinical oral examination (COE) and teledentistry. **Materials and Methods:** Sixteen individuals with a range of oral potentially malignant disorders (OPMD) and normal oral mucosa were included. Five areas of the oral cavity were photographed by three dentists using mobile phone cameras with 5 MP-13 MP resolutions. On the same day, the patients were given COE by two oral medicine specialists (OMS) and 3 weeks later, they reviewed the images taken using the phone, and concordance was examined between the two by Kappa statistics. The sensitivity and specificity of clinical diagnosis using the phone images were also measured. Pre- and post-program questionnaires were answered by both the dentists and the OMS to determine the feasibility of integrating teledentistry in their clinical practice. **Results:** The Kappa values in determining the presence of lesion, category of lesion (OPMD or not), and making referral decision were moderate to strong (0.64–1.00). The overall sensitivity was more than 70% and specificity was 100%. The false negative rate decreased as the camera resolution increased. All dentists agreed that the process could facilitate early detection of oral mucosal lesion, and was easy to use in the clinic. **Conclusions:** This study provides evidence that teledentistry can be used for communication between primary care and OMS and could be readily integrated into clinical setting for patient management.

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Telemicine and e-Health. March 2017, Vol. 23, No. 3: 192-199

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