Objectives
To determine percentage differences of erythema values and progression of the degree of redness of denture stomatitis between visual examination and ImageJ software.
Methods
35 pairs of intraoral photograph of palatal denture stomatitis were captured. These images are being evaluated both subjectively and objectively.Subjective evaluation was assessed by two oral medicine specialists through the used of visual assessment. The objective evaluation was done through the usage of ImageJ software. This information was analyzed through Kappa analysis, Intraclass correlation coefficient (ICC) and Receiver operating characteristic curve (ROC).
Results
According to Kappa value of the progression of the degree of redness between examiners and ImageJ, showed that it has fair (0.382) to moderate (0.424) agreement. While the Kappa analysis measure of agreement value between examiners and ImageJ software in regard of % difference of erythema values demonstrated that it has poor agreement. (0.000) The result obtained from this study can be assumed that both visual examination and computer analysis displays sufficient reliability, as the progression of the degree of redness in both examiners and ImageJ software are moving coordinately which also demonstrated in intraclass correlation coefficient (0.542). Also the assessment of ImageJ software had been done through the used of ROC curve which is equivalent to 0.855, demonstrated that the software itself has good sensitivity and specificity.
Conclusions
The evaluation of denture stomatitis progression can be provided by the used of ImageJ software, which can be used as an assessment tools for easing communication between clinicians objectively and enable to determined the treatment progression of the lesion. However, usage of the software might be limited in some cases due to variation of anatomy of the selected area.