

# D6: Evaluation of In-House Real-Time Loop Mediated Isothermal Amplification for Detection of Human Papillomavirus 16 in Oral Squamous Cell Carcinoma

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## ABSTRACT

**Introduction:** Human papillomavirus (HPV) is responsible for an escalating proportion of oral squamous cell carcinoma (OSCC). Production of p16<sup>INK4a</sup> protein has been established as an important cofactor and its detection is routinely done using immunohistochemistry method in tissue specimen. Given that the immunohistology method is cumbersome in some ways, a sensitive, rapid and reliable molecular method is required. This study was conducted to evaluate an in-house quantitative loop mediated isothermal amplification (qLAMP) assay for detection of HPV 16 in OSCC clinical samples. **Method:** Confirmed OSCC clinical samples which consisted of saliva (n=14), blood (n=59) and tissue (n=64) were subjected to HPV 16 detection and viral load quantification by real-time Loopamp turbidimeter. The results were compared with p16-IHC. The sensitivity and specificity was determined. **Results:** HPV 16 was detected in two (14%) of the saliva and one (1.5%) in the tissue samples. The viral load of the positive cases was found to be in the range of 106 to 109 copies/μl. None of the blood samples was positive for HPV 16. All HPV 16 LAMP positive were also positive by p16-IHC. The sensitivity and specificity was 100%. **Conclusion:** This qLAMP assay using saliva may improve the diagnosis of HPV 16 due to its rapidity, high sensitivity and specificity.

## KEY WORDS:

*Human papillomavirus 16 (HPV16); real-time loop mediated isothermal amplification (LAMP); p16-IHC*

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# D7: The Association between Finger Photoplethysmography Fitness Index and other Cardiovascular Risk Marker Among the Young Women

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## ABSTRACT

**Introduction:** Recent studies had emphasized vascular markers for cardiovascular disease (CVD) risk prediction. Finger photoplethysmography fitness index (PPGF) is new marker that is developed from photoplethysmography waveform. **Objective:** The objectives of this study were to compare the level of PPGF between those with and without CVD risk factors and to determine the association between PPGF with other vascular markers such as carotid femoral pulse wave velocity (PWVCF), carotid intima media thickness (CIMT) and C-reactive protein (CRP). **Method:** We recruited 148 young women, age 20 to 40 years and categorized them into healthy group (HG, n=71) or having any CVD risk factors (RG, n=77). CVD risk factors were abdominal obesity, smoking, hypertension, dyslipidemia and family history of premature CVD. Parameters measured were weight, height, blood pressure, lipid profile, fasting blood glucose, PPGF, PWVCF, CIMT and CRP. Data was analyzed using SPSS version 20 with p<0.05 as significant level. **Result:** The mean age of subjects was 29.97±5.27 years old. No difference in PPGF between the groups (HG=48.79±8.91% vs. RG=49.37±9.53%, p>0.05). PPGF was correlated with PWVCF even after age adjustment (p<0.01). Independent variables for PPGF were PWVCF (Beta=-0.31, p<0.001) and height (Beta=0.16, p=0.04). No correlation was observed between PPGF, CIMT and CRP (p>0.05). **Conclusion:** As conclusion, PPGF is associated with PWVCF and may has potential as marker of arterial stiffness.