

## Assessment of the reliability of a novel self-sampling device for performing cervical sampling in Malaysia

### ABSTRACT

**Background:** The participation of women in cervical cancer screening in Malaysia is low. Self-sampling might be able to overcome this problem. The aim of this study was to assess the reliability of self-sampling for cervical smear in our country.

**Materials and methods:** This cross-sectional study was conducted on 258 community dwelling women from urban and rural settings who participated in health campaigns. In order to reduce the sampling bias, half of the study population performed the self-sampling prior to the physician sampling while the other half performed the self-sampling after the physician sampling, randomly. Acquired samples were assessed for cytological changes as well as HPV DNA detection.

**Results:** The mean age of the subjects was  $40.4 \pm 11.3$  years. The prevalence of abnormal cervical changes was 2.7%. High risk and low risk HPV genotypes were found in 4.0% and 2.7% of the subjects, respectively. A substantial agreement was observed between self-sampling and the physician obtained sampling in cytological diagnosis ( $k=0.62$ , 95%CI=0.50, 0.74), micro-organism detection ( $k=0.77$ , 95%CI=0.66, 0.88) and detection of hormonal status ( $k=0.75$ , 95%CI=0.65, 0.85) as well as detection of high risk ( $k=0.77$ , 95%CI=0.4, 0.98) and low risk ( $K=0.77$ , 95%CI=0.50, 0.92) HPV. Menopausal state was found to be related with 8.39 times more adequate cell specimens for cytology but 0.13 times less adequate cell specimens for virological assessment.

**Conclusions:** This study revealed that self-sampling has a good agreement with physician sampling in detecting HPV genotypes. Self-sampling can serve as a tool in HPV screening while it may be useful in detecting cytological abnormalities in Malaysia.

**Keyword:** Cervical cancer; Screening; Physician obtained smear; Self-sampling; Malaysia