

Comparative assessment of self-sampling device and gynecologist sampling for cytology and HPV DNA detection in rural and low resource setting: A Malaysian experience

ABSTRACT

Purpose: This study was conducted to assess the agreement and differences between cervical self-sampling with a Kato device (KSSD) and gynecologist sampling for Pap cytology and human papillomavirus DNA (HPV DNA) detection. **Materials and methods:** Women underwent self-sampling followed by gynecologist sampling during screening at two primary health clinics. Pap cytology of cervical specimens was evaluated for specimen adequacy, presence of endocervical cells or transformation zone cells and cytological interpretation for cells abnormalities. Cervical specimens were also extracted and tested for HPV DNA detection. Positive HPV smears underwent gene sequencing and HPV genotyping by referring to the online NCBI gene bank. Results were compared between samplings by Kappa agreement and McNemar test. **Results:** For Pap specimen adequacy, KSSD showed 100% agreement with gynecologist sampling but had only 32.3% agreement for presence of endocervical cells. Both sampling showed 100% agreement with only 1 case detected HSIL favouring CIN2 for cytology result. HPV DNA detection showed 86.2% agreement ($K=0.64$, 95% CI 0.524-0.756, $p=0.001$) between samplings. KSSD and gynaecologist sampling identified high risk HPV in 17.3% and 23.9% respectively ($p= 0.014$). **Conclusion:** The self-sampling using Kato device can serve as a tool in Pap cytology and HPV DNA detection in low resource settings in Malaysia. Self-sampling devices such as KSSD can be used as an alternative technique to gynaecologist sampling for cervical cancer screening among rural populations in Malaysia.

Keyword: Cervical screening; Self-sampling; Gynecologist sampling; HPV DNA; Pap cytology