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The Role of E6/E7 mRNA in the Prevalence and the Progression of Cervical Neoplasia in High Risk Human Papilloma Virus (HR-HPV) and Human Immunodeficiency Virus (HIV) Positive Women in South Africa

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ABSTRACT

The major cause of cervical cancer is the persistence of high-risk human papilloma virus (HRHPV). The oncogenic potential of HR-HPV depends on the increased expression of the HPV E6 and E7 mRNA oncogenes. The aim of the study was to determine the role of HPV E6/E7 mRNA in the prevalence and the progression of cervical neoplasia in HR-HPV and human immunodeficiency virus (HIV) positive women. This was a cohort study, a total of 377 samples (207 HPV positive at baseline and 107 HPV positive follow ups) was analyzed in this study. Visual inspection with acetic acid (VIA) was conducted on HPV positive women. The E6/E7 was carried out using the Arbor vita, encoE6 Cervical test. The procedure was protocol provided by the kit. The study results showed that 86.5% of participants were HPV E6/E7 mRNA negative and had Benign ≤ CIN2 and HPV E6/E7 mRNA positive and ≥ CIN3+ 92.6% but there was no statistical significance ($p>0.05$). Our results were in contrast with previous studies as there was statistical significance in other studies, however our results showed that participant that were HPV E6/E7 mRNA positive had had higher clinical means than those who tested HPV E6/E7 mRNA negative, i.e., 92.6% and 86.5% respectively. The limitation in our study could be that there was an inconsistent number of participants that were sent to colposcopy and that did an HPV E6/E7 mRNA test, therefore some participant that did an HPV E6/E7 mRNA they were not referred to colposcopy and the sample size also could have an effect in the statistical insignificance. It was further concluded that in further studies to understand the effect of HPV E6/E7 mRNA on cervical neoplasia a higher sample size of HR-HPV positive participant must be recruited and both tests must be done to all participants, a more controlled study.

Keywords: Cervical cancer, HPV, mRNA, Visual inspection

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