Cervical cancer, a gender-specific disease, is caused by infection with the human papillomavirus (HPV) (World Health Organization [WHO], 2007, 2014). Genital HPV infection is the most common sexually transmitted infection in the United States and in other countries, with infection rates ranging from 14%–90% (Centers for Disease Control and Prevention [CDC], 2014; Forman et al., 2012; WHO, 2007, 2014). More than 100 types of HPV have been identified, about 40 of which can infect the genital area (CDC, 2014). High-risk types of HPV cause virtually all cervical cancer; cause most anal cancers; and cause some vaginal, vulvar, penile, and oropharyngeal cancers (Forman et al., 2012). The International Agency for Research on Cancer (IARC) assessed the carcinogenic risk of the biologic agents and classified HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, and 59 as carcinogenic to humans (WHO, 2007). Most high-risk HPV infections are asymptomatic, with most infections clearing in one to two years (Koutsy, 1997; Spitzer, 2006). However, the transient nature of the infection may cause cytologic abnormalities, which may progress to invasive cancers.

Although HPV vaccination and cervical cancer screening have been demonstrated to be effective in prevention of cervical cancer in developed countries (CDC, 2010; Markowitz et al., 2013; National Cancer Institute [NCI], 2014; WHO, 2014), these methods are too expensive for use in resource-limited and developing countries. Therefore, a need exists for inexpensive prevention methods to detect cervical precancers and cancers earlier in these countries. Several screening strategies have...