Rapid Tests for Trichomonas in Adolescent Females

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Background: Adolescent females have the high rates of trichomonas *vaginalis*, but the diagnosis of trichomonas is hampered by insensitive test methods. Most clinicians rely on microscopically examining vaginal secretions (wet mount) which is only 58% sensitive compared to culture, the current gold standard. Culture, unfortunately, requires a microbiology laboratory and 24-120 hours for results. A new rapid trichomonas screening test uses color immunochromatographic capillary flow technology and requires 10 minutes for results. The purpose of this study was to test sensitivity and specificity of the rapid test in a non-research setting and to compare other sexually transmitted infections (STIs) in those who are trichomonas positive. **Methods:** Sexually active adolescent females age 14-21 attending an urban teen health center were recruited if they had genitourinary symptoms, a planned pelvic exam, and parental consent. An enrollment log was maintained to assess sampling bias. We collected information on demographics, symptoms, sexual behavior and gynecologic history. During the pelvic exam, the clinician collected four vaginal swabs: one each for wet mount, rapid test, culture, and a swab to be frozen for discrepant analysis. Additional STI testing was performed at the clinicians' discretion. Clinical findings were gathered from the clinician after the exam. Associations between categorical variables were assessed using a chi squared test. **Results:** The enrollment log identified 104 adolescent females as eligible, 70 were approached and 52 agreed to participate (74 %). Of these, the mean age was 18, the majority self identified as black (80 %). The most common reason for visit was vaginal symptoms. In this sample, chlamydia was detected in 10 (19%) of all subjects, and gonorrhea in 2 (4%). Trichomonas was detected by culture in 7 (13%) subjects. Wet mount detected 4 (58%) and rapid detected 5 (71%) of patients who were trichomonas culture positive. Of subjects with trichomonas, 43% had concurrent chlamydia. Of those who denied symptoms, 38% were positive for an STI. While 25% of those with no new partner in the past three months were STI positive, 54% of those with at least one new partner in the past three months had an STI. ($p = 0.084$). **Conclusions:** The rapid test for trichomonas appears to be simple to use in a clinic setting and more sensitive than wet mount. Asymptomatic women were just as likely to have an STI as symptomatic women. A history of a new partner in the last 3 months doubled the chance of an STI. More than a third of subjects had more than one STI which may warrant empiric treatment for chlamydia if the rapid trichomonas test is positive.