ABSTRACT

Trichomoniasis is the most common non viral sexually transmitted disease in the world and is considered as an orphan in the field of medicine being under diagnosed and under treated by the medical community. The World Health Organization estimates that the global incidence of 174 million cases per year, 44% (76.5 million) of cases occur in the South and South East Asia. Vaginal trichomoniasis has been linked with complications such as pre term birth, pre mature rupture of membranes, low birth weight, post-abortion or post-hysterectomy infection and acquisition and transmission of HIV. (Madico *et al.*, 1998; Wendel, 2003; Schwebke and Burgess, 2004; Schwebke, 2004). *Trichomonas vaginalis* is a predictor for cervical neoplasia (Viikki *et al.*, 2000). *T. vaginalis* can reduce the chances of conception for both female and males (Soper, 2004).

Not many studies have been done on the prevalence of *T. vaginalis* in Sri Lanka. The only published data available had given a prevalence of 4.4% for trichomoniasis among females with symptoms of vaginits (Perera, 1994). Lack of research in this field had led to the difficulty in identifying the magnitude of the problem and its impact in Sri Lanka.

The objective of this study was to evaluate the diagnostic techniques to determine *T. vaginalis* infection among a group of inmates from a rehabilitation house and group of clinic patients attending gynaecology and sexually transmitted diseases clinics. Residents of the rehabilitation house had a background of being sexual workers, victims of sexual harassments, grown up children from orphanages, deserted by the family or psychiatric

patients. Clinical diagnosis was compared with the laboratory diagnosis (wet mount microscopy, microscopy of Gram's and Geimsa stained dry smear, Modified Cystein Peptone Liver Maltose culture and antigen detecting OSOM Trichomonas rapid test) in each group. Response to the treatment with metronidazole was also assessed. Further, specimen collection techniques using self obtained low vaginal swabs (SOLVS) and clinician obtained low vaginal swabs and high vaginal swabs were also assessed.

The study was a cross sectional, descriptive study with an interviewer administered questionnaire, clinical examination and laboratory tests. Six hundred and one symptomatic and asymptomatic women in the age group of 16-45 years were enrolled in the study (301 from rehabilitation house and 300 from hospital clinic). The mean age of the participants was 31.7 years (SD = 8.8). The majority (68.1 %) were married and 11.8% of participants had multiple partners. The last sexual exposure was less than 3 months in 69.2% of females. Use of contraceptives was 37.2% with condoms being the most popular method. The rates of abortion, stillbirth and sub fertility were 21.1%, 4.1% and 4.6% respectively.

The proportion of trichomoniasis based on syndromic approach by the presence of greenish yellow seropurulent discharge alone or with itching and dysuria, clinical diagnosis by the presence of greenish-yellow seropurulent discharge on examination and laboratory diagnosis by wet mount, stained dry smear, culture and OSOM Trichomonas rapid test (at least 1 test positive) were 24.1%, 23% and 4.8% respectively. Trichomonas

was positive on culture in 4.2% and in wet mount 2.8%. Dipstick test was performed only on 100 patients and had a positivity rate of 10%. No positives were detected by microscopy of Gram stained dry smears. Out of the 29 that were positive by laboratory tests, 11 were in the age group of 36-45 years and 9 each in the other two age groups (15-25 and 26-35 years). The majority of infected patients were married. Most of the females that were positive (86.2%) had 1 to 4 pregnancies. There was no statistically significant relationship between the presence of symptoms and trichomoniasis. Although not significant 82.7% of positives had a pH value between 6-8. Sensitivity and specificity of direct microscopy of vaginal smear, urine sediment and dipstick was 68% and 100%, 48% and 100%, 100% and 96% respectively when compared with culture. No metronidazole resistance was detected among our study population. Only 46.2% consented to obtain SOLVSs indicating the low acceptability of SOLVS. We also observed that SOLVSs were comparable to vaginal swabs collected by the clinicians.

In conclusion the diagnosis of *T. vaginalis* infection is not possible based on clinical signs and symptoms alone but laboratory demonstration of the organism is essential to prevent over treatment. Dipstick can be used as a point diagnostic test at settings where cost is not an issue and in settings where microscopy is impractical. Culture should be performed in doubtful cases and wet mount should be replaced with broth culture as the test of choice for the detection of *T. vaginalis* at reference laboratories.