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A Survey Study of *Trichomonas Vaginalis* Infection in Unmarried Male Referred to Farmanfarmaean Clinic

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Background: Sexually transmitted infections (STIs) in adolescents are important subjects in social health. *Trichomonas vaginalis* infection as a marker for other STIs studied in a population-based among unmarried male from a demographic surveillance. In Iran before marriage ceremony couples should refer to special clinics to be checked for some tests such as addiction, genetic disorders and so on, in order to have legally permission for marriage. This study was performed to evaluate the prevalence of trichomoniasis in men who were not married before.

Objectives: Most studies are based on vaginal secretion in women and urine samples in men. There has been no study for STIs in men before marriage. Sexual relations typically occur before adolescents that have gained experience and skills in self-protection. Our hypothesis was to know how they could have been infected before marriage

Patients and Methods: Urine samples were randomly selected from reproductive age group of participants who referred to Farmanfarmaean polyclinic. Two hundred samples were from those who have not married before as well as 100 samples from those who were going to remarry. Samples were checked by direct smear as well as cultured in TYI-S-33 medium.

Results: Urine samples from first group and second group were checked in this study. No positive samples were diagnosed for *Trichomonas vaginalis*, however 7% of the samples were shown degrees of bacterial infection and also three percent had 10 to 20 epithelial cells per field of microscope. These cells in urine may also be associated with an inflammation or infection of the urethra or bladder.

Conclusions: According to the reports for the vast majority, sexual relations begin in adolescence. There is evidence that new HIV infections in the younger age groups continue to raise the number of people living with HIV/AIDS. Globally, more than half of all new HIV infections are among the 15-24 age groups. Current recommendations include annual STI screening in this population, because highlighting the factors may cause the spread of STIs suggests management interventions to prevent further spread.

Keywords: Trichomonas; Adolescent; Men; Culture

1. Background

Trichomoniasis is one of the most common sexually transmitted infections (STI), that caused by *Trichomonas vaginalis*, a flagellated parasite. Approximately 50% of infected women show symptoms, however infection has usually short duration in men and easily transmit the parasite to their partners (1). Although the disease is mostly asymptomatic in men, but it can be presented by urethritis and prostatitis (2). Lee et al. (2012) reported that, out of 7 positive male patients for *T. vaginalis* by PCR method, five patients had been diagnosed with prostatitis and 2other patients recognized with urethritis (3). According to the recent study by Agoli et al. (4) from Shiraz, south of Iran, 15% of men with prostatitis and urethritis were infected with *T. vaginalis*. They used PCR as a method of choice. Adolescents sexual activities are at high risk for STIs. Study in Zambia showed that, over 12% of the 15, 16 year-olds patients in clinics were infected with HIV (5), and in another report 14.4%of female had trichomoniasis infection at the age of 13 - 19 with the use of direct smear and culture methods (6). The microscopy and culture of urine samples from 270 adolescent male patients showed 64% positive test for either Neisseria gonorrhoeae/Chlamydia trachomatis and 5% *Trichomonas vaginalis* (7).

2. Objectives

Most studies are based on vaginal secretion in women and urine samples in men. There have been no studies for STIs in male before marriage. Sexual relations typically occur before adolescents have gained experience and skills in self-protection. Mostly these relations would happen before they acquire adequate information about

Implication for health policy/practice/research/medical education:
This article emphasizes on preventing the sexually transmitted infections. Thus checking the couples for any transmitted infection before marriage is one of the best methods in order to prevent any STD, which *Trichomonas vaginalis* is one of the most common one. The motto of prevention is more useful than treatment or other subjects. Therefore, in order to prevent problems that may happen after marriage, it is better to check the couples for any STI before marriage.

STDs, and before they got access to health services. Our hypothesis was to know how they could have been infected before marriage. However, there were limitations in our study. According to the Iranian law before marriage ceremony couples should refer to special clinics to be checked for some tests such as addiction, genetic disorders and so on, in order to have legally permission for marriage. Trichomoniasis is a mark for other STIs. Due to the third wave of AIDS in our country, this study was performed to evaluate the prevalence of trichomoniasis in men who were not married before. Isolation of *T. vaginalis* by culture method is currently the best standard for diagnosis.

3. Patients and Methods

Two hundred urine samples of adolescent male that were going to test for addiction and other tests, in order to have certificate for marriage ceremony, were used in this study. Besides that, for the presence of *T. vaginalis* 100 samples were taken from the couples who were going to remarry. Twelve ml of urine samples were collected in screw capped sterile tube and centrifuged in 2000 rpm for 10 min, then supernatant were discarded. One drop of the pellet used for direct smear under the microscope light and the rest used for culturing in TYI-S-33 medium culture.

4. Results

Although we could not detect any positive sample for T. vaginalis, but 15 (5%) out of 300 urine samples were infected with bacteria and 3% of the samples had 10 to 15 epithelial cells per field of microscope.

5. Discussion

A little information is available about the risk of STI among adolescent male. Sexually transmitted diseases are the most common causes of illness in the world, which cause social and economic problems. Asymptomatic infection is common in male, and the presence of one STI may increase the risk for another. In addition, STIs facilitate transmission of HIV to partners. The diagnosis of STIs is the main problem for adolescence, because they may be asymptomatic, and even if adolescents inform about existing disease, they ignore to seek for diagnosis and treatment (8). Although the reports of PCR as a high specificity and sensitivity are more confidently, but it can estimate the rate of infection in this cohort group. Nucleic acid amplification tests screening for adolescent male would also be very expensive and usually cannot be used in normal societies. As the valid report presents the live parasite with characteristic motility and shape, in these samples the parasite has not been seen. In our previous report from feminine who referred to gynecology clinics, out of 161 negative samples by TYI-S-33 medium, 4.3% were positive by PCR (9).

Less sensitive tests did not identify an infection when truly present (false-negative results). We believe that the increasing number of evidence supports more frequent STI screening for high-risk, asymptomatic, adolescents sexual activities and young adults. Report indicated that, about 90% of teenage boys believed that they were at no risk or at minimal risk of infection, even though nearly half of them reported they had at least one casual sex partner over the last year and the number of using condom was low. Experiment is a normal part of adolescent growth which also exposes them to health risks. The sexual relations of young people are often unplanned, sporadic and sometimes the result of pressure or force (10). Although the number of samples in our study is not enough to express the society, but at least it could provide several unanswered questions that will require additional prospective research. More information is available about male and female referred to STI clinics, but little of them are known for other populations of youth sexual activities. Our research planned to focus on adolescents and young adults at high risk for STI. In 1995, there were approximately 12 million new cases of STIs in United States that two-thirds of them occurred in individuals younger than 25 years (11). To determine how patterns of non-monogamy influence prevalences of STIs in individuals and their cohabitating sex partners, Canchihuaman et al. investigated among 2099 female and 2052 male. They reported that among the cohabiting couples, non-monogamy male was common and associated with *C. trachomatis* and *T.vaginalis* infection in his female partner (12). There are significant long-term consequences to untreated infection, including pelvic inflammatory disease, infertility, increased risk for ectopic pregnancy, complications of pregnancy, and chronic pelvic pain. Having one STI increases the risk of acquiring others, such as human immunodeficiency virus (13). Estimated direct and indirect costs of these infections reached $10 billion in 1995 (14). Although many infections (chlamydia, gonorrhea, and trichomonas) are curable with appropriate antibiotic treatment, but recurrent infection is more common. Because these infections all have similar means of acquisition, and the presence of multiple simultaneous infections is not uncommon (15). Cohen and coworkers reported declining prevalence rates of Chlamydia among adolescent boys screened and treated in public school health settings, suggesting that screening and treatment may be effective in reducing incident disease; the prevalence of gonorrhea did not change over the several years of study (16). Young people may know the risks of unprotected sex but AIDS could not possibly happen to them. Additional research is required in each of these areas as we are going to move forward in reducing STIs through adolescents and young adults. The more frequent screening of high-risk groups hopes to reduce transmission and complications of other STIs, including HIV. This article suggests management interventions to prevent further spread of HIV/STIs.

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Authors' Contribution

Nayrreh hassan: sample collection; Zohreh Aghighi: Lab. diagnostic; Zarrintaj Valadkhani: Project designer and manuscript writer.

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The authors declare that there are no conflicts of interest.

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