

# The Trend and Causative Pathogens of Sexually Transmitted Infections (STI) in Albania

Adela Vasili<sup>1</sup>, Agim Shehi<sup>2</sup>

<sup>1,2</sup>Institute of Public Health, Tirana, Albania

**Abstract:** *The aim of this study was to highlight the trend and causative pathogens of STI in Albania. The study included all cases of sexually transmitted infections reported to the Public Health Institute during the period 2009 - 2014. There was a sharp rise in total number of patients with STI from 225 patients in 2011 to 1828 patients in 2012 (fig.1). The most common age group was 21-30 years with 43.5% of total patients. 95% of patients were females and 5% males,  $p < 0.01$ . Only 2.3% of them reported regular use of condom. The most common pathogen was *Candida albicans* (70.6%) followed by *Gardnerellavaginalis* (12.2%) and *Ureaplasmaurealyticum* (7.1%). Effective prevention and care can be achieved by use of a combination of responses. Services for prevention and for care of people with sexually transmitted infections should be expanded and include public health promotion.*

**Keywords:** sexual infection, trend, pathogen, prevention

## 1. Introduction

Sexually transmitted infections (STIs) are a major public health problem, especially in developing countries (1,2). Infections with sexually transmitted pathogens other than HIV impose an enormous burden of morbidity and mortality in both resource-constrained and developed countries, both directly, through their impact on quality of life, reproductive health and child health, and indirectly, through their role in facilitating the sexual transmission of HIV and their impact on national and individual economies. The spectrum of health consequences ranges from mild acute illness to painful disfiguring lesions and psychological morbidity. For example, infection with *N. gonorrhoeae* causes painful micturition in men, and acute or chronic lower abdominal pain in women (3,4). Without treatment, infection with *T. pallidum*, although painless in the early stages, can result in neurological, cardiovascular and bone diseases later in life, and fetal loss in pregnant woman with acute infection. Chancroid causes disabling painful ulcers which can result in extensive tissue destruction if treatment is delayed beyond a few days, particularly in immunocompromised persons. Genital herpes infection causes substantial psychosexual suffering because of its recurrent and painful nature, especially in young people (5,6). The prevalence of STIs however, has been shown to vary from one country to another and among different groups within the same country (7,8). The knowledge of the epidemiology of STIs/RTIs by periodically monitoring the prevalence of etiological agents is useful in guiding clinical management, treatment protocols and to form the basis for STI surveillance. The aim of this study was to highlight the trend and causative pathogens of STI in Albania.

## 2. Material and Methods

This is a prospective study. The Institute of Public Health (IPH) collects information from 12 prefectures from the public clinics and hospitals. For all patients, reasons for consultation are reported in registers by each health care provider. The study included all cases of sexually transmitted infections reported to the Institute of Public Health. The study cohort is homogeneous and ineligible. Because the

study included all patients with sexually transmitted infections for the aforesaid period, the cohort has not-in selection bias.

## Data Collection

Data from this study were obtained from individual forms of patients with sexually transmitted infections over the period 2009 - 2014. These forms are filled in by doctors. Detailed history, demographical data, and clinical features were recorded from all the patients. All patients were managed on the basis of algorithms of the syndromic approach (9) at the peripheral health center level recommended by national AIDS control programme, after carrying out risk assessment.

## 3. Results and Discussion

There was a sharp rise in total number of patients with STI from 225 patients in 2011 to 1828 patients in 2012 (fig.1). The most common age group was 21-30 years with 43.5% of total patients. 95% of patients were females and 5% males,  $p < 0.01$ . 87.6% of the patients were married at the time of presentation. Only 2.3% of them reported regular use of condom. Most of patients (39%) had one sexual partner (husband in 90% of them), 0.9% had two sexual partners in 6 months and 0.3% had multiple sexual partners in the past 6 months. The most common syndrome was vaginal discharge in 91.6% of cases, warts (2.6%), urethral discharge (1.7%), 42 vesicular genital ulcer (0.8%), scrotal swelling (0.3%), inguinal bubo (0.1%). 35.5% of the patients had multiple syndrome while 36.0% of cases reported lower abdominal pain. The causative pathogens of STI are shown in table 1. The most common pathogen was *Candida albicans* (70.6%) followed by *Gardnerellavaginalis* (12.2%) and *Ureaplasmaurealyticum* (7.1%). The results of our study are similar with other studies (10,11).

## 4. Conclusion

Effective prevention and care can be achieved by use of a combination of responses. Services for prevention and for care of people with sexually transmitted infections should be expanded and embrace a public health package that includes

the following elements: Promotion of safer sexual behaviour; Promotion of early health-care-seeking behaviour; Introduction of prevention and care activities across all primary health-care programmes, including sexual and reproductive health and HIV programmes. Successful and cost-effective integrated programmes for sexually transmitted infection, HIV and tuberculosis control have been documented in several countries. The care is usually given by the same providers at the primary health centre level as those already delivering the primary health care. Such an approach is both attractive and cost-saving for client and health system alike; s A comprehensive approach to case management that encompasses: – identification of the sexually transmitted infections syndrome; – appropriate antimicrobial treatment for the syndrome; – education and counselling on ways to avoid or reduce risk of infection with sexually transmitted pathogens, including HIV; – promotion of the correct and consistent use of condoms; – partner notification. To the extent possible, interventions and strategies should be evidence-based. By implementing and carefully evaluating innovative interventions, however, new evidence can be gathered to inform policies, programmes and scaling up. It is, therefore, important to apply the following concept: plan, do, assess and then (if successful) scale up. Innovative approaches in such a process include. Periodic presumptive treatment: this short-term strategy has been shown to control certain sexually transmitted infections when targeted at specific population groups in appropriate settings. Social marketing of commodities for infection control: social marketing of pre-packed medicines or condoms (along with training in their correct and consistent use) for treatment and prevention has improved access to care for sexually transmitted infections in some places (12). There has been sufficient evidence to show that condoms, when used correctly and consistently, are effective in protecting against the transmission of STI to women and men. They also reduce the risk of men becoming infected with gonorrhoea from their sexual partners. Correct and consistent condom use is associated not only with reduced transmission of HIV and with reduced acquisition of urethral infection among men, but also with the reduced acquisition of the following (13,14): genital infection with herpes simplex virus type 2 by men and women; s syphilis by men and women; s chlamydial infection by men and women; gonococcal infection by women; possibly *Trichomonas vaginalis* infection by women. Condom use has also resulted in accelerated regression of cervical and penile human papillomavirus-associated lesions and accelerated clearance of genital human papillomavirus infection by women (15). Given this evidence, it is important to assess the magnitude of sexually transmitted infection rates in the general population and in high-risk populations. In countries where these rates are high in both the general population and high-risk populations, safer sex strategies must be delivered as a package to both population groups. Such strategies include: promoting the correct use of male and female condoms, and their distribution, and sexual abstinence, delaying sexual debut and reducing the number of sexual partners. In settings where the infections are concentrated in high-risk populations, targeted interventions should be a priority, but not to the exclusion of education and other prevention and care services for the general population.

## References

- [1] Infections sexuellement transmissibles et autres infections de l'appareil reproducteur. Guide de pratiques essentielles, 2005, OMS ;
- [2] Building a sentinel surveillance system for sexually transmitted infections in Germany, 2003; V. Bremer, U Marcus, A Hofmann, O Hamouda; Sex Transm Infect 2005; 81:173–179;
- [3] Guidelines for the Management of Sexually Transmitted Infections. Geneva: World Health Organization, 2001:1–73 ;
- [4] Centers for Disease Control and Prevention (US) Sexually transmitted diseases: STD\*MIS. [cited 2009 May 27]. Available from: URL: <http://www.cdc.gov/std/std-mis>;
- [5] Dowell D, Gaffga NH, Weinstock H, Peterman TA. Integration of surveillance for STDs, HIV, hepatitis, and TB: a survey of U.S. STD control programs. Public Health Rep 2009;124(Suppl 2):31-38;
- [6] Centers for Disease Control and Prevention (US), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. 2006 disease profile. Atlanta: CDC; 2008;
- [7] Risser W, Bortot A, Benjamins L, et al. The epidemiology of sexually transmitted infections in adolescents. Semin Pediatr Infect Dis. 2005;16:160–167. [PubMed] ;
- [8] WHO. Prevention and control of sexually transmitted infections: draft global strategy. [Accessed April 6, 2011]. Available at: [http://www.who.int/reproductive-health/docs/stis\\_strategy.pdf](http://www.who.int/reproductive-health/docs/stis_strategy.pdf).
- [9] Surveillance of STD syndromes: contributing to the STD programme in Cote d'Ivoire; Guy la Roche et al; Health Policy Plan. (2000) 15 (4): 441-446 ;
- [10] Ritchie G. Strategies to promote sexual health. Nurs Stand. 2006;20:35–40 ;
- [11] Saperstein A, Fimhaber G. Should you test or treat partners of patients with gonorrhoea, Chlamydia or trichomoniasis? J Fam Pract. 2010;59:46–48. [PubMed] ;
- [12] Low N, Broutet N, Adu-Sarkodie Y, Barton P, Hossain M, Hawkes S. Global control of sexually transmitted infections. Lancet. 2006;368:2001–2016. [PubMed] ;
- [13] Lowndes CM, Fenton KA: Surveillance systems for STIs in the European Union: facing a changing epidemiology.
- [14] Sex Transm Infect 2004, 80:264-271. PubMed Abstract | Publisher Full Text | PubMed Central Full Text ;
- [15] Holmes KK, Levine R, Weaver M. Effectiveness of condoms in preventing sexually transmitted infections. Bulletin of the World Health Organization, 2004, 82:454–461.

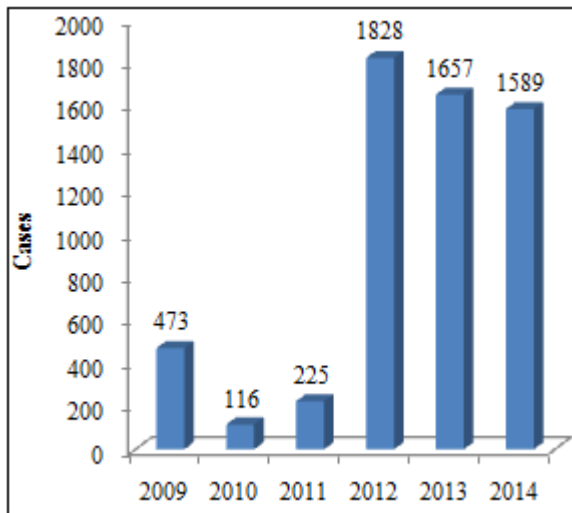


Figure 1: The number of cases of STI by year

Table 1: The causative pathogens of STI

Pathogen	Cases	%
Neisseria gonorrhoeae	51	0.7
Ureaplasmaurealyticum	503	7.1
Mycoplasma hominis	172	2.4
Treponema pallidum	169	2.4
Gardnerellavaginalis	858	12.2
Trichomonas vaginalis	245	3.5
Candida albicans	4977	70.6
Chlamydiatrachomatis	8	0.1
Herpes simplex	63	0.9