International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

Prevalence of Chlamydia Trachomatis in Women of Reproductive Age in Albania

Adela Vasili[1], Lila Shundi[2], Agim Shehi[3]

[1, 2, 3]Institute of Public Health, Tirana-Albania

Abstract: ***Although* Chlamydia trachomatis *is considered the most prevalent sexually transmitted disease (STD) worldwide, its true incidence and prevalence are not known. The aim of the study was to estimate the prevalence of infection by Chlamydia Trachomatis and women of reproductive age. This is a cross-sectional carried out over the period October 2010 - January 2011. In mother and child consultancy room in 4 districts (Tirana, Vlora, Lezha, Fier. Eligible for the study were sexually active women of age less than 40 years old. 482 women were included in the survey. Rejection rate was 6% whereas the rate of exclusion was 4%. The mean age of women was 30 years old with a range 17 to 40 years old. The reason for examination was: visit after delivery (1.3%), gynecological problems (66.3%), family planning (15%), pregnancy intention (16.7%) and abortion (1.3%) (fig 1). The prevalence Chlamydia was 7.5% (CI95%: 4.5 to 11.5). A program for Chlamydia control should be introduced and also women of younger age should be screened.***

Keywords: *Chlamydia trachomatis*, women, prevalence, screening

1. Introduction

Although *Chlamydia trachomatis* is considered the most prevalent sexually transmitted disease (STD) worldwide, its true incidence and prevalence are not known. The WHO estimate that annually almost 100 million new cases occur worldwide (1), but the majority of women with lower genital tract infections remains asymptomatic and therefore undiagnosed (2). In a systematic review reporting on *C. trachomatis* among asymptomatic European women the prevalence ranged from 1.7 to 17% (3). Among young women attending STD clinics rates are well above 10% (4), and in population-based studies among under 30-year-old prevalence was between 2 and 6% in the Netherlands (5), Denmark (6) and the UK (7). Reported rates of genital chlamydia infections are rising, but it is unclear whether this is due to increased testing or to a true increase in incidence (8). The chlamydia prevalence and test rates reported in European countries vary and depend highly on the population tested or screened, and on the national reporting system of chlamydia positive cases. Chlamydia infections have been associated with a wide spectrum of complications. After chlamydia urethritis, males may develop epididymitis (9), but the contribution of epididymitis to male infertility is not well understood. Adverse pregnancy outcomes which have been associated with uncomplicated chlamydia cervicitis include sporadic and recurrent miscarriage, preterm
labour, premature rupture of the membranes and low birthweight, although reports show conflicting results (10). In the pathogenesis of obstetric complications immunologic reactions of the host to the micro-organism are considered a more important trigger than the direct effect of the micro-organism itself (11). Chlamydia cervicitis may cause conjunctivitis, nasopharyngitis and pneumonia in newborns by vertical transmission (12). In women, ascending cervical infections may cause pelvic inflammatory disease (PID), and untimely tubal pathology, which increases the risk of ectopic pregnancy, tubal infertility and chronic abdominal pain. The aim of the study was to estimate the prevalence of infection by Chlamydia Trachomatis and women of reproductive age

2. Material and Methods

This is a cross-sectional carried out over the period October 2010 - January 2011. In mother and child consultancy room in 4 districts (Tirana, Vlora, Lezha, Fier. Eligible for the study were sexually active women of age less than 40 years old. Exclusion criteria were: women greater than 40 years old, taking antibiotic, menstrual cycle, pregnancy. All specimens were taken by a physician. Analysis of specimen was done with molecular biology methods of genetic amplification (PCR Roche Cobas Amplicor CT). The individual questionnaire included socio-demographic data, the reason of consultation, gynecological problems, contraceptive use

3. Results

482 women were included in the survey. Rejection rate was 6% whereas the rate of exclusion was 4%. The mean age of women was 30 years old with a range 17 to 40 years old. The reason for examination was: visit after delivery (1.3%), gynecological problems (66.3%), family planning (15%), pregnancy intention (16.7%) and abortion (1.3%) (fig 1). The prevalence Chlamydia was 7.5% (CI95%: 4.5 to 11.5). The age group 20-24 years showed the highest prevalence (11.9%) followed by agegroup 25-29 years (9.1%) and agegroup >30years (5.8%) presenting a significant downward trend of prevalence with increasing age ($\chi^2_{\text{for trend}}$ =4.7 p=0.01) (fig. 2). 89% of participants displayed clinical signs whereas 11% of them did not show any signs or symptoms (fig. 3). Women that reported novel sexual partners the last six months were 7.5 times more likely to be infected with Chlamydia, with a significant difference with women that did not have novel partners,95%CI[2,44-23,8], p<0.01. Our study found a high prevalence. It must be emphasized that this is the first study involving molecular methods of testing. A program for Chlamydia control should be introduced and also women of younger age should be screened. Chlamydia case reports likely underestimate the burden of disease because most infections are asymptomatic and are neither diagnosed nor reported. At the same time, because untreated chlamydia can persist, case report data are

strongly influenced by screening activity, increasing with extensive screening and decreasing with limited screening. For these reasons, case report data are not reliable indicators of either population incidence or population prevalence. Several studies in literature report that prevalence was highest among adolescents and young adults aged <25 years. Young persons might be at increased risk for infection because of biologic risk factors (e.g., cervical ectopy might predispose to infection and is more common in younger women), contextual risk factors (e.g., some young persons might lack power in relationships to insist upon condom use), or behavioral risk factors (e.g., younger persons might be more likely to have sex with new partners or sex with multiple partners (13). Although infection was more common among participants with multiple sex partners in the last year, prevalence among sexually active participants reporting only one partner in the last year was 1.4%, suggesting that not having had recent multiple partners does not eliminate risk for infection. Among sexually active females, use of oral contraceptives was not associated with chlamydial infection, although use of these methods might be confounded by condom use because women using hormonal contraceptives might be less likely to use barrier contraceptives. Although previous studies have shown that use of hormonal contraceptives is associated with chlamydial infection (14), these studies were not population-based, and the hormonal contraceptives used were older formulations. Longitudinal studies using current formulations of contraceptives might be useful to better determine how contraceptive choice, including hormonal contraceptives and condom use, affects the acquisition of chlamydial infection. Evidence suggests that chlamydia screening is cost-effective at prevalence >3% (15). Prevalence among sexually active young women aged 14–24 years was 4.7% overall, suggesting that routine screening of young women continues to be a cost-effective preventive intervention. However, in the United States, chlamydia screening rates are suboptimal, with fewer than half of sexually active young women screened annually (16). WHO and CDC recommend annual screening of all sexually active females aged <25 years and screening of older women at increased risk (e.g., women who have new or multiple sex partners) (17). Treatment for chlamydia is simple and effective (18). However, reinfection is common, in part because of reinfection from an untreated partner (19,20). Clinicians should routinely screen young women and men who have sex with men for chlamydia and ensure that infected patients and their sex partners receive timely treatment to prevent reinfection (21,22). Strategies to increase screening in clinical facilities might include patient and clinician education and structural interventions at the health care facility, such as adding prompts to the electronic medical record (31). Timely treatment of sex partners might be facilitated by use of patient-delivered partner therapy, recommended by for sexually transmitted chlamydial infection since 2006 (24).

4. Conclusion

Epidemiological and economic research studies could improve the assessment of the impact on quality of life of symptomatic chlamydia infection and its complications. Studies that involve valuation of utilities against external metrics and allow valuation from the perspective of women and from the general population would improve the quality of this body of evidence. Improved estimates of the natural history of chlamydia and its impact on quality of life would help to provide more accurate assessments of the costeffectiveness of chlamydia screening.

References

[1] WHO -Sexually transmitted infections (STIs)2016 http://www.who.int/mediacentre/factsheets/fs110/en /
[2] http://www.cdc.gov/std/chlamydia/treatment.htm
[3] European Centre for Disease Prevention and Control. Sexually transmitted infections in Europe 2011. Stockholm: ECDC; 2013.
[4] Centers for Disease Control and Prevention (2011) Sexually Transmitted Disease Surveillance 2010.
[5] Holmes KK, Sparling PF, Stamm WE, Piot P, Wasserheit JN, Corey L, et al. (2008) Sexually Transmitted Diseases. New York: McGraw-Hill.
[6] Cohen MS, Hoffman IF, Royce RA, Kazembe P, Dyer JR, Daly CC, et al. (1997) Reduction of concentration of HIV-1 in semen after treatment of urethritis: implications for prevention of sexual transmission of HIV-1. AIDSCAP Malawi Research Group. Lancet 349: 1868-1873.
[7] Last, J. M. (2001) A Dictionary of Epidemiology. Oxford: Oxford University Press.
[8] Yeh JM, Hook EW, III, Goldie SJ (2003) A refined estimate of the average lifetime cost of pelvic inflammatory disease. Sexually Transmitted Diseases 30: 369-378.
[9] Haggerty CL, Schulz R, Ness RB (2003) Lower quality of life among women with chronic pelvic pain after pelvic inflammatory disease. Obstet Gynecol 102: 934-939.
[10] Trent M, Lehmann HP, Qian Q, Thompson CB, Ellen JM, Frick KD (2011) Adolescent and parental utilities for the health states associated with pelvic inflammatory disease. Sex Transm Infect 87: 583-587. sextrans-2011-050187 [pii];10.1136/sextrans-2011-050187 [doi].
[11] Ward H, Fredlund H, Gotz H, Goulet V, Robinson A, Uuskula A (2009) ECDC Guidance. Chlamydia control in Europe, June 2009. ISBN 978-92-9193-165-1.
[12] Low N, Cassell JA, Spencer B, Bender N, Martin HA, van BJ, et al. (2011) Chlamydia control activities in Europe: crosssectional survey. Eur J Public Health doi:10.1093/eurpub/ckr046. ckr046 [pii];10.1093/eurpub/ckr046 [doi].
[13] Low N, Cassell JA, Spencer B, Bender N, Martin-Hilber A, van Bergen J, et al. (2008) Technical Report. Review of Chlamydia Control Activities in EU Countries.
[14] Low N (2007) Screening programmes for chlamydial infection: when will we ever learn? BMJ 334: 725-728.
[15] Centers for Disease Control and Prevention (2010) Sexually Transmitted Diseases Treatment Guidelines, 2010. MMWR - Morbidity & Mortality Weekly Report 59: 44-45.

[16] Royal Australian College of General Practitioners (2007) Guidelines for Preventive Activities in General Practice. 1-104.
[17] National Chlamydia Screening Programme (2010) National Chlamydia Screening Programme, England. Core requirements. 5th Edition, update 2 - August 2010.
[18] Meyers DS, Halvorson H, Luckhaupt S (2007) Screening for Chlamydial Infection: An Evidence Update for the U.S. Preventive Services Task Force. Ann Intern Med 134-141.
[19] Higgins JPT, Altman DG, Sterne JAC, Cochrane Statistical Methods Group, Cochrane Bias Methods Group (2011) Chapter 8: Assessing risk of bias in included studies. In: Higgins JPT, Green S, editors. Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration.
[20] Higgins JP, Thompson SG (2002) Quantifying heterogeneity in a meta-analysis. Statistics in Medicine 21: 1539-1558. 20. Riley RD, Higgins JP, Deeks JJ (2011) Interpretation of random effects meta-analyses. BMJ 342: d549.
[21] Atkins D, Best D, Briss PA, Eccles M, Falck-Ytter Y, Flottorp S, et al. (2004) Grading quality of evidence and strength of recommendations. BMJ 328: 1490. 10.1136/bmj.328.7454.1490 [doi];328/7454/1490 [pii].
[22] Brozek JL, Oxman A, Schunemann HJ, Akl EA, Santesso N et al. (2004) GRADEprofiler. http://www.gradeworkinggroup.org, version GRADE Working Group.
[23] Roberts TE, Robinson S, Barton P, Bryan S, Low N (2006) Screening for Chlamydia trachomatis: a systematic review of the economic evaluations and modelling. Sex Transm Infect 82: 193-200.
[24] Low N, McCarthy A, Macleod J, Salisbury C, Campbell R, Roberts TE, et al. (2007) Epidemiological, social, diagnostic and economic evaluation of population screening for genital chlamydial infection. Health Technol Assess 11: 1-184

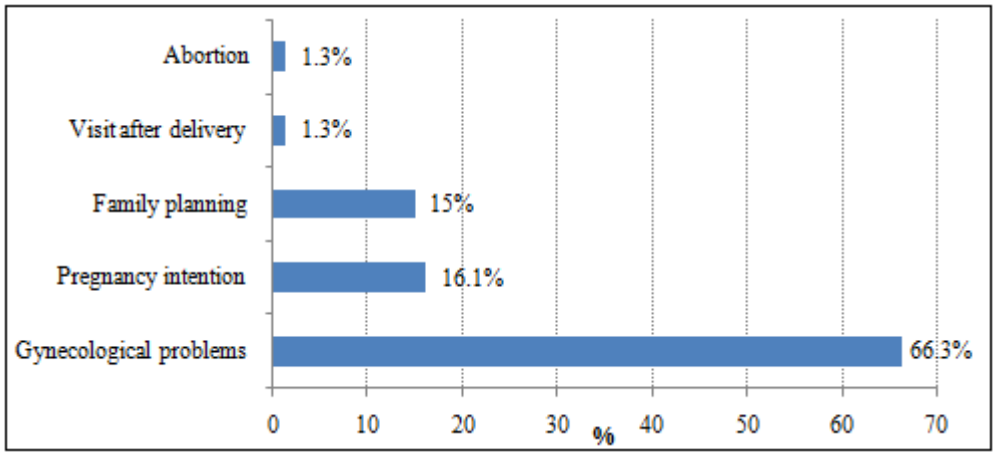

Figure 1: The reason for testing

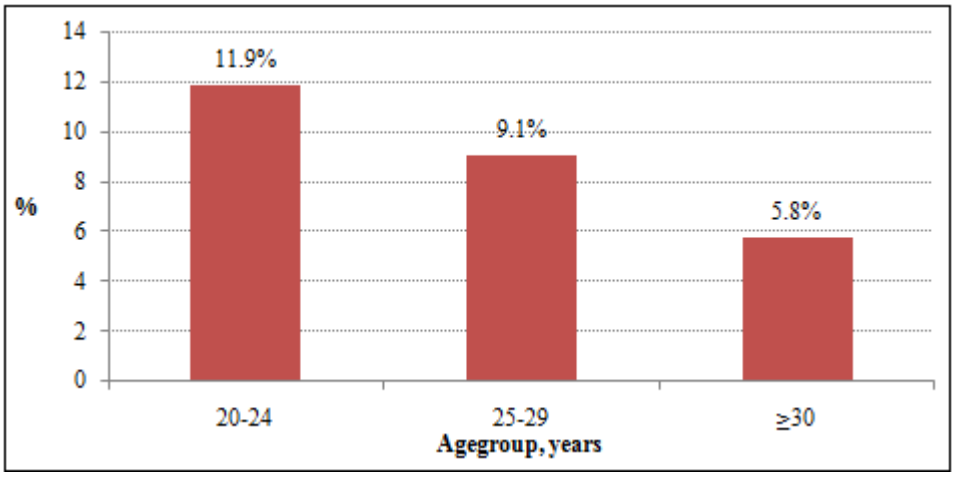

Figure 2: The prevalence of Chlamydia by age group

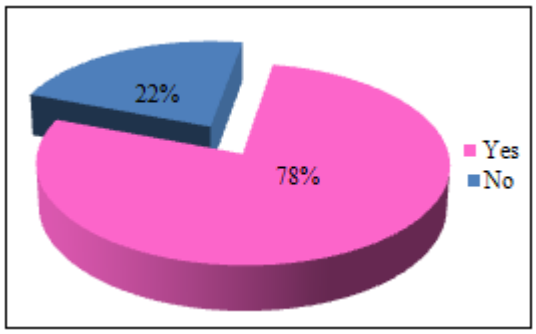

Figure 3: Frequency of clinical signs and symptoms