

Relationship between Chlamydia Seropositivity and Presence of Symptoms of Sexually Transmitted Infections among Students of Nnamdi Azikiwe University, Awka.

¹Chukwuma, G.O., ²Emelc, F.E., ¹Enweani, I.B., ¹Agbakoba, N.R., ¹Manafa, P.O., ¹Chukwuma, C.M., ¹Okwosa, M.T.B., ³Akujiobi C.N.

1. Department of Medical Laboratory Sciences, Faculty of Health Sciences and Technology, College of Health Sciences, Nnamdi Azikiwe University, P.M.B 5001, Nnewi, Anambra State Nigeria. 2. Department of Medical Microbiology, Faculty of Medicine, College of Health Sciences Nnamdi Azikiwe University P.M.B 5001, Nnewi, Anambra State. 3. Department of Medical Microbiology, Faculty of Medicine, College of Health Sciences, Nnamdi Azikiwe University, P.M.B 5001, Nnewi, Anambra State.

ABSTRACT

In an attempt to determine the prevalence of Chlamydia antibodies among students of higher institution, 84 students of a University in South-Eastern Nigeria were screened for Chlamydia seropositivity. Volunteers were selected and questionnaires distributed. The questionnaires determined demographic data, level of sexuality, marital status, health care patronage and symptomatic presentation among the students selected. Of 84 students recruited, 26(31%) were males while the rest, 58(69%) were females. The antibody test was carried out using world wide diagnostics Chlamydia IgG quantitative test. The overall prevalence of Chlamydia seropositivity among the population studied was 6.0%, females being more affected (6.9%) than males (3.8%). Frequency of symptom was higher among females 41(89.1%) than was the case among males 5(10.9%) in all the 46 symptomatic cases investigated. Lower abdominal pain and discharge were more frequently associated with Seropositivity. The highest incidence of C. trachomatis Seropositivity was among students who had begun sexual activity under 25 years of age, had multiple sexual partners and with little or no access to health care.

Key words: Chlamydia, Population, Frequency.

INTRODUCTION

Chlamydia infection is caused by the bacterium Chlamydia trachomatis. The symptoms of the disease resemble that of other sexually transmitted diseases. Chlamydia infection was not recognized as a sexually transmitted disease until recently¹. The organism is an obligate intracellular parasite that exclusively infects humans (it cannot synthesize its own ATP or grow on artificial medium) ,it was once thought to be a virus. Chlamydia infection is the most prevalent sexually transmitted disease in the United States². There are roughly four million cases annually, most occurring in men and women under the age of 25years. Direct and indirect costs of Chlamydia (mainly costs for complications) total 24 billion US dollars a year. This is most likely an under estimate, since many people with Chlamydia infection

likely have gonorrhoea as well. Hence, costs to diagnose and treat the later sexually transmitted disease must be included.

MATERIALS AND METHODS

The study population consists of student volunteers in a University in South-Eastern Nigeria. The study was carried out between October and December 2003 and the Volunteers were asked to submit their blood samples. A total of 84 students both male and female were sampled within this period. Using a standardized questionnaire the subjects were interviewed either in their hostels or in classrooms. The following basic demographic data and information were collected: access to health care, Gynaecologic and obstetric history, history of STDs, sexual behavior, condom use

and history of sexual coercion. Blood samples were collected from volunteers who complained of symptoms of sexual diseases and from females, mostly those with a history of sexually transmitted infections. The samples were screened for presence of antibodies to chlamydia using IgG (Worldwide Diagnostics) enzyme linked immunosorbent assay (ELISA).

RESULTS

Incidence of Chlamydia seropositive students according to age and sex: Five (6%) of the study population were seropositive. Seropositivity was more frequently encountered among females 4 (4.8%) than males 1 (1.2%). Seropositivity was not recorded among individuals of 25 - 28years and 37 - 40years.

Prevalence and nature of sexually transmitted infection manifested by students: A wide range of symptomatic display was noted among seropositive cases. This ranged from dysuria, discharge, lower abdominal pain with discharge. Frequency of symptom was higher among females 41(89.1%) than was the case among males 5(10.9%) in all the 46 symptomatic cases investigated. The least

displayed symptom was lower abdominal pain associated with dysuria which had only 2 cases found in women. Dysuria was more common in men, while women displayed all the observed symptoms in various degrees; men only exhibited two i.e dysuria and discharge respectively. With respect to seropositivity, discharge and lower abdominal pain were the associated symptoms. See table 1.

DISCUSSION

The study has shown that the overall incidence of the disease was 6.0% among the population studied. This is a bit higher than the 4.0% prevalence obtained by Ngandijio et al.³ among Camerounian students. More women 58(69.0%) were selected than men 26(31.0%) since women are usually more predisposed to infection and therefore are at higher risk group than men. The result indicates that there is a slight prevalence of Chlamydia seropositivity among students of Nnamdi Azikiwe University. Symptoms associated with sexually transmitted infections (STI) were higher among females 41(49%) than was the case among their male counterparts 5(6%).

TABLE I: Prevalence and nature of STI symptom manifested by students of NAU

SYMPTOMS	SEROPOSITIVE		SERONEGATIVE		TOTAL N(%)
	MALE N(%)	FEMALE N(%)	MALE N(%)	FEMALE N(%)	
Dysuria	0(0%)	0(0%)	4(8.7%)	6(13.1%)	10(21.8%)
Discharge	0(0%)	1(2.2%)	1(2.2%)	8(17.3%)	10(21.8%)
Dispaerunia	0(0%)	0(0%)	0(0%)	3(6.5%)	3(6.5%)
Lower abdominal pain	0(0%)	2(4.3%)	0(0%)	12(26.1%)	14(30.4%)
Lower abdominal pain with dysuria	0(0%)	0(0%)	0(0%)	2(4.3%)	2(4.3%)
Lower abdominal pain with discharge	0(0%)	0(0%)	0(0%)	7(15.2%)	7(15.2%)
TOTAL	0(0%)	3(6.5%)	5(10.9%)	38(82.6%)	46(100%)

This is not surprising since women are more prone to infection than men. The result also shows that 2(40%) of 5 seropositive cases never displayed any symptom. It is not clear how infectious asymptomatic Chlamydia seropositive

individuals are, and thus how relevant they are compared with symptomatic cases. Three factors may contribute to the transmission dynamics: first, case management is poor. Those given inadequate drug treatment probably remain

seropositive and may spread the infection. Biodata analysis showed that 2 of 5 seropositive students were asymptomatic; this is likely to perpetuate transmission.

Asymptomatic persons may not realize that they are infected and hence they do not seek care. If symptoms presented are common and non specific the patient is not likely to suspect an infection (mostly in women). This is so in pregnancy when urogenital symptoms not due to infection are common². Conversely, some people may suspect an infection, but decide not to seek care because of perceived shame, cost, or unpleasant services.

Improving people recognition of abnormal urogenital symptoms and encouraging presentation for syndrome management are potentially important for reducing the level of Chlamydia Seropositivity.

It is also observed that a wide range of symptomatic display was noted among seropositive cases. This ranged from dysuria, discharge, lower abdominal pain, dyspaerunia to combined symptoms such as lower abdominal pain with discharge. It is important to note that these symptoms are not directly associated with Chlamydia Seropositivity but may be evidence of infection by other organisms. It is worthy to note that frequency of symptom was more among females 41(89.1%) than was the case among males 5(10.9%). However, only discharge and lower abdominal pain was present in the symptomatic and seropositive cases. It was

also observed that the possibility of displaying a symptom increased with number of sex partners. This appears to be in harmony with the view² that most people who suffer from STI have more than one sex partner. In this study, unmarried women displayed more symptom than any other group.

Chlamydia infection can be regarded as a socially transmitted disease. Thus medical intervention cannot be the only solution to control infection rates. Social factors, including behavioral changes and consistent access to quality healthcare, need to be included to eradicate this preventable disease.

REFERENCES

1. Hatch D.,(1996), Chlamydia trachomatis isolates causing uncomplicated female genital tract infections and pelvic inflammatory disease. *Antimicrob agents chemother*:39:760-2.
2. Thompson, S.E., Washington, A.E., (2000). *Epidemiology of Sexually transmitted Chlamydia trachomatis infections* :Rev:5:96-123.
3. Ngandijio, A., Clerc M., Fonkoua, M.C., Thonnon J.,Lunal, F., Bebear,C., Bianchi, A., (2003). Screening of volunteer students in Yaounde (Cameroun, Central Africa) for Chlamydia trachomatis infection and genotyping of isolated C. trachomatis strains. *Journal of Clinical Microbiology*: 41:9.