

WHAT DO YOU GET WHEN YOU FALL IN LOVE?: WAREHOUSE YOUTH HEALTH CENTRE CHLAMYDIA AUDIT

Rose Cole, RN, CM, MNurs (Hons), BAppSc (Ad Nurs), DAS (Nurs), RN/Lecturer, The Warehouse Youth Health Centre, College of Social and Health Sciences, School of Nursing, Family and Community Health, University of Western Sydney, New South Wales, Australia

Shane Jasiak, RN, CM, BNurs, is Clinical Nurse Specialist, The Warehouse Youth Health Centre, FPA (Family Planning Australia) Health, Penrith, New South Wales, Australia

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Key words: youth, chlamydia, screening, clinical guidelines

ABSTRACT

Objective:

The aim of the chlamydia audit was to determine the rate of positive diagnosis of chlamydia trachomatis in young people aged 12 to 25 years of age who were tested at the Warehouse Youth Health Centre, Sydney, Australia, in 2001 and to review current practice relating to chlamydia testing.

Design:

A retrospective study was conducted on the medical records of clients identified through the pathology register as having a chlamydia test during 2001 from 1 January to 31 December 2001. The data were descriptively analysed.

Setting:

The Warehouse Youth Health Centre, an FPA (Family Planning Australia) Health service which targets young people in Western Sydney, New South Wales, Australia.

Results:

Chlamydia tests were performed on 194 clients at the Warehouse Youth Health Centre in 2001. Tests were performed on 179 (92.3%) female and 15 (7.7%) male clients. The overall positivity rate was 8.8% (17/194). Of the positive chlamydia tests 82.4% (14/17) were female clients and 17.6% (3/17) were male clients. The most common reasons for the clinician or client requesting the chlamydia tests were because the client was symptomatic, had unprotected sexual intercourse or had multiple partners.

Conclusion:

The major recommendation from this audit is for chlamydia screening for all sexually active young people under the age of 25 years.

INTRODUCTION

The Warehouse Youth Health Centre, a Division of FPA Health, services the Penrith, Hawkesbury and Blue Mountains local government areas, in New South Wales, particularly targeting those young people, aged 12–25 years, who are socially or geographically isolated. The centre offers a range of clinical, counselling and health promotion projects and works collaboratively with the local community (including young people) in the development and implementation of prevention, early intervention and intervention programs related to reproductive and sexual health.

Clinical staff (nurses and doctors) of the Warehouse Youth Health Centre were concerned about the number of positive diagnoses of chlamydia trachomatis in clients during 2001. Data from the Population Health Unit, Wentworth Area Health Service (WAHS), reported that the Warehouse chlamydia notifications for the period January to June 2001 represented 7.8% of WAHS total notifications for chlamydia (G. Truman, personal communication, 29 January 2002). The clinical staff undertook a retrospective chlamydia audit in order to improve current practice and review the FPA Health guidelines and practice for chlamydia testing and sexually transmissible infections (STI) management.

LITERATURE REVIEW

Young people and sexual health

The Australian Institute of Health and Welfare (Moon et al 1999) and NSW Health (2000) acknowledge the sexual health needs of young people. Australian research indicates that adolescents are at high risk of contracting sexually transmissible infections (STIs) due to inconsistent condom use and multiple short-term sexual partners as risk-taking behaviours. Contributing to their vulnerability is a lack of knowledge regarding STIs. A national study of 3,550 year 10 and 12 high school

students reported that although 45% of young people used condoms and 30% of young people identified chlamydia as an STI, less than 16% of young people believed they were likely to get an STI (Lindsay et al 1997). This combination of risk-taking and lack of knowledge contributes to young people's susceptibility to contracting chlamydia. Access to appropriate health services for STI information and screening is necessary particularly within services which are identified as being youth friendly (Silk 1999).

Chlamydia trachomatis: Definition and prevalence

Chlamydia trachomatis is an intracellular bacterial infection, increasingly being identified in young people, with serious implications if left untreated. The complications in females include pelvic inflammatory disease, infertility and ectopic pregnancy and for males primarily infertility due to untreated epididymitis (Dayan 2000; Stamm 1999). Health promotion, through early detection and evidence based screening practices, is necessary to reduce the economic burden associated with treating complications (Philpot 1993) as well as reducing the psychosocial morbidity relating to the stigma and anxiety associated with a STI (Duncan et al 2001).

Nationally, chlamydia trachomatis was the most common notifiable sexually transmitted infection and third most common notifiable disease in Australia in 1999. However, since chlamydia notification commenced in 1998 the following data outlined needs to be interpreted with caution. In 1999, there were 74.2 chlamydia notifications per 100,000 population. Between 1991 and 1998 there has been an 80% increase in the population with young people aged 20 to 24 years identified at particular risk. Young people made up 60% of the national chlamydia notifications in 1998 (Moon et al 1999). In 1999, Indigenous chlamydia notifications were 882 per 100,000. A gender ratio of males to females of 1:1.5 exists (Roche et al 1999). Infection rates in males are thought to be artificially low due to a lack of males presenting for testing and the fact that current detection practices focus mainly on women. Literature identifies the underreporting of chlamydia among young women due to the asymptomatic presentation (Dayan 2000; Roche et al 1999).

National prevalence rates range from 2.5% to 14% in sexually transmitted disease (STD) clinics and 5% in family planning clinics (Mulhall et al 1995). Dayan (2000) argues that the true rate of infection is underestimated and reports prevalence rates of 6.5% to 7.2% in selective populations in rural and remote Australia.

Studies of chlamydia prevalence in Australian adolescents identify significant rates. Quinlivan et al (1998) reported a 27% prevalence rate in an antenatal population and Dhupelia and King (1993) reported a prevalence rate of 19.8% among university students. A recent prevalence study of chlamydia among adolescents in western Sydney at the High Street Youth Health Service (Johnston et al. [unpublished] cited by Kang

2002) identified a prevalence rate of 6.1%, all of which were asymptomatic. Kang (2002) highlights that homeless adolescents in western Sydney are at particular risk of contracting chlamydia and recommends further prevalence studies particularly for those adolescents under 16 years of age as well as program and screening development.

In the WAHS, it is of significance that chlamydia rates for females aged 0-14 years old and 15-19 years old are significantly higher than the state average (females 0-14: 16/100,000 versus 5/100,000 respectively and females 15-19: 431/100,000 versus 289/100,000 respectively).

Chlamydia screening

Internationally, the United Kingdom (UK) and the United States of America (USA) have recommendations for national chlamydia screening. In the UK, the following target groups are identified for chlamydia screening: anyone with symptoms; all those attending genitourinary medicine clinics; women seeking termination of pregnancy; and, women under 30 using emergency contraception (Kettle et al 2002). Oakeshott et al (1998) from the UK recommend opportunistic screening particularly at the time of Pap smear in high-risk groups. In the USA, it has been recommended that sexually active teenage girls have six monthly chlamydia screening (Burstein et al 1998). Katz et al (1996) highlight the importance of chlamydia screening for reducing morbidity.

Currently there are no national chlamydia screening guidelines and Medicare does not fund chlamydia screening. However, the National Health and Medical Research Council Working Party on Pelvic Inflammatory Disease (1988) developed a protocol for chlamydial testing which recognised the following risk factors: age less than 25 years; more than one sexual partner; recent change in partner (ie. within the last two months) or a partner in this category; women using no contraception or non-barrier method or an unplanned pregnancy; cervical ectropia; and, patient request (p.ii). This report was rescinded in 1996 and national guidelines are needed for chlamydia screening particularly in high-risk groups.

The Chlamydia Strategy for Victoria, Australia, (2001-2004) (Victorian State Government 2001) recommends sentinel surveillance, targeted screening of high risk groups, increased health professional and community awareness of the significance of chlamydia as well as strengthening the process of partner notifications. This Victorian strategy outlines clinical indications for chlamydia testing which highlight teenage pregnant women and those seeking termination as well as those who are asymptomatic (p.22). The asymptomatic nature of chlamydia was noted by Australian researcher Hart (1993b), who reported asymptomatic presentation in females in 67% of infections and in males in 46% of infections. This asymptomatic problem of chlamydia as previously outlined is identified by the Communicable

Diseases Network Australia as being a major reason for the underreporting of the disease.

International and national (Fenton et al 2001; Pimenta et al 2000; Ramstedt et al 1992; State Government Victoria 2001; Dayan 2001; Hart a 1993; Garland and Johnson 1989) research identifies risk profiles for chlamydia and high risk populations. These risk profiles for chlamydia include; under 25 years of age; a sexually transmissible infection (STI) contact; single; nulliparous; not having steady partner; multiple sexual partners; recent change in partner; duration of current relationship less than 12 months; using an oral contraceptive pill; unprotected sexual intercourse; having vaginal discharge or dysuria. High risk populations have been reported in this literature as including: Indigenous; people of poor socioeconomic status; people attending sexually transmissible disease (STD) clinics; family planning clinics and gay men's health centres; women undergoing instrumentation of the uterus (termination of pregnancy; intrauterine contraceptive device insertion, ectopic pregnancy, dilation and curettage), semen donor; couples undergoing infertility investigation; pregnant women in the first trimester; and, people attending a general practitioner for STI screening.

Chlamydia infection has a high economic burden, and it has been suggested that at prevalence rates of greater than 2.1%, there are cost benefits to screening, which increase incrementally (Victorian State Government 2001).

THE STUDY

Aim

The aim of the chlamydia audit was to determine the rate of positive diagnosis of chlamydia trachomatis in young people aged 12 to 25 years of age who were tested for chlamydia trachomatis at the Warehouse Youth Health

Centre in the year 2001 and to review current practice relating to chlamydia testing.

METHOD

A retrospective study was conducted on the medical records of clients identified through the pathology register as having a chlamydia test during 2001 from 1 January 2001 to 31 December 2001. The following variables were recorded: reason for attending clinic; gender; age; whether the chlamydia test was a clinician or client request; indications for chlamydia test; reinfection of chlamydia; whether client has current regular sexual partner; whether client or partner has multiple partners; recency of partner change; whether asymptomatic; presenting symptoms; use of condoms; form of contraception; use of emergency contraceptive pill (previous 12 months); parity; diagnostic pathology; termination of pregnancy history (previous 12 months); location of termination clinic; antibiotics at time of termination of pregnancy; chlamydia test result; client treatment for chlamydia; partner treatment for chlamydia; client awareness of contract tracing; whether follow-up visit was attended. The data were entered into Excel, then SPSS and descriptively analysed.

RESULTS

Chlamydia tests were performed on 194 clients at the Warehouse Youth Health Centre in 2001. Female clients had 179 (92.3%) tests performed and 15 (7.7%) were performed on male clients. Overall, 72.7% of the clients were under the age of 20 years with the mean age 18.9 years (range=14 to 25yrs). The overall positive rate was 8.8% (17/194). Of the positive chlamydia tests 82.4% (14/17) were female clients and 17.6% (3/17) were male clients. The rate of positive tests was 7.8% (17/179) for females and 20% (3/15) for males. There was a total of 16 clients who had a positive chlamydia diagnosis as one client had a repeat test which was still positive four weeks

Table 1: Indications for chlamydia test

Indication	Clinician request		Client request	
	n	%	n	%
Partner chlamydia positive	3	1.5	4	2.1
Partner STI	3	1.5	7	3.6
Symptomatic	90	46.4	3	1.5
Unprotected sexual intercourse	37	19.1	45	23.2
Recent change in partner	5	2.6	5	2.6
Multiple partner	10	5.2	29	14.9
Sexual assault	9	4.6	6	3.1
Post-treatment	2	1.0	6	3.1
Intravenous drug use	9	4.6	10	5.2
Other	7	3.6	6	3.1

post treatment. Of those who were symptomatic, 7.8% (10/128) tested positive for chlamydia. The three main reasons for clients attending the Warehouse clinic were; sexually transmitted infection-information or tests, or results (36.1%, n=70), Pap test (18.0%, n=35) and for contraception information, issue, prescription or problem (12.4%, n=24). The most common reasons for the clinician requesting the chlamydia test was because the client was symptomatic, had unprotected sexual intercourse or had multiple partners (self or partner). The most common reasons for the client requesting the test was for unprotected sexual intercourse or had multiple partners. The major diagnostic pathology was cervical swab (71%, n=137 female), vaginal swab (33%, n=64 female) and urine (24%, n=47; 20%, n=36 females; 73%, n=11 males).

Symptoms

Of all clients, 66% were symptomatic (n=128). Of the 179 female clients 68% had symptoms (n=122). Of the 15 male clients 40% (n=6) had symptoms. The following table depicts the principal presenting symptoms reported by females.

Symptom	n	%
Vaginal discharge	50	27.9
Dyspareunia	41	22.9
Postcoital bleeding	20	11.2
Intermenstrual bleeding	19	10.6
Abdominal pain	17	9.5
Dysmenorrhoea	12	6.7
Urinary symptoms (purulent discharge, dysuria or urethritis)	10	5.6
Irregular bleeding	10	5.6
Vulval itch	9	5.0
Pelvic pain	8	4.5
Premenstrual bleeding	6	3.4

The three main symptoms reported by females were vaginal discharge, dyspareunia and postcoital bleeding. Other symptoms with more than 5% reported incidence include; intermenstrual bleeding, abdominal pain, urinary symptoms, dysmenorrhoea and irregular bleeding. The males reported predominantly urinary symptoms (20%).

The mean number of symptoms for those without chlamydia was 1.13 (SD=1.14, n=175). The mean number of symptoms for those who tested positive for chlamydia was M=1.06, (SD=1.20, n=17). The difference between the two means was not significant $t_{190}=0.23$, $p=0.818$. There was no significant difference between the positive and negative chlamydia test groups in the number of symptoms by Mann Whitney test ($U=1411$, $p=0.713$).

Therefore, according to two statistical tests, the number of presenting symptoms was effectively equal for clients testing positive and clients testing negative for chlamydia. For 66 (34%) of the chlamydia tests, clients reported being asymptomatic. Of these 57 (86%) were female and nine (14%) were male. Of the females, 32% were asymptomatic whereas 60% of the males were asymptomatic. Therefore, males were much more likely to be asymptomatic than females.

Type of contraception used by the client

There was no contraception used by 6.7% (n=13) of clients. The following contraceptives were used by clients, in order of frequency; combined oral contraception (46.4%, n=90), condoms (27.3%, n=53), depo medroxyprogesterone acetate (2.1%, n=4) and contraceptive implant (1.5%, n=3). The use of contraception was not documented in 14.4% (n=28) of files. The use of emergency contraception in the previous 12 months was reported in 16.5% (n=32) of files. There were 15.4% (2/17) of the positive chlamydia clients who reported no use of contraception.

Client treatment and contact tracing

The clients were aware of contact tracing in all positive chlamydia diagnoses. Of the 16 clients who had positive tests, 37.5% (n=6) of the clients had partners who were known to be treated and in 62.5% (n=10) it was not known whether the partner had received treatment. Client treatments for the chlamydia positive clients included; doxycycline (58.8%, n=10), azithromycin (5.9%, n=1), erythromycin (11.8%, n=2) and 17.6% (n=3) were referred for treatment to a general practitioner. A follow up visit was reported in 82.4% (n=14) of files of positive diagnoses of chlamydia.

DISCUSSION

This retrospective audit illuminated a positivity rate of 8.8% (17/194) for chlamydia in a youth service setting where young people have predominantly presented with symptoms. This audit revealed a higher positivity rate of chlamydia than Garland and Johnson's (1989) finding of 4% at The Royal Women's Hospital, Melbourne, Australia. The average age of the population screened was 19 years, which is similar to the population in Johnston et al's unpublished study (Kang 2002) and the positivity rate is higher than their prospective prevalence rate of 6.1% among asymptomatic clients. Further prevalence studies of young people are needed which are consistent with the Chlamydia Strategy for Victoria 2001-2004 (Victorian State Government 2001).

The predominant reason for young people presenting to The Warehouse Youth Health Centre at the time of chlamydia testing was for STI - information, tests and results. However, the extensive research by Lindsay et al (1997) highlighted the knowledge deficits in young people regarding STI's, particularly chlamydia. Therefore, there is

a need for appropriate health promotion strategies in youth environments for both prevention and early detection in order to decrease morbidity.

The main reasons for chlamydia testing by clinicians was that clients were symptomatic (66%) or had a history of unprotected sexual intercourse (19.1%). These indications for testing are consistent with current recommendations for chlamydia testing (Victoria State Government 2001; Dayan 2000). The symptomatology reported in the audit is similar to the symptoms reported by Garland and Johnson (1989), however, in this audit, higher frequencies of vaginal discharge, dyspareunia and post coital bleeding were identified.

Of the young people having chlamydia testing, 34% were asymptomatic. This is similar to Garland and Johnson's (1989) finding of 35%. However, in Hart's (1993) study of chlamydia in South Australia, 67% of infections were asymptomatic, and 46% of infections in men were asymptomatic. Results like these suggest we may have missed a significant number of asymptomatic infections in clients who were not tested. Current debate articulated in the Chlamydia Strategy for Victoria 2001-2004 (Victorian State Government 2001) recommend screening of asymptomatic people with identified risk factors.

The clinician and client indications for chlamydia testing including being symptomatic, having had unprotected sexual intercourse or multiple partners are congruent with the risk profiles identified by international (Fenton et al 2001; Pimenta et al 2000; Ramstedt et al 1992) and national (Victorian State Government 2001; Dayan 2000; Garland and Johnson, 1989; Hart 1993) research.

The oral contraceptive was the most prevalent contraceptive used by female clients. Since Cottingham and Hunter (1992) reported an almost twofold risk of increase of chlamydia infection for oral contraception users, further promotion of safer sex strategies incorporating barrier methods in order to reduce risk is required.

The most frequently administered antibiotic for chlamydia positive clients was doxycycline (58.8%), which is consistent with current recommendations by the Therapeutic Guidelines Ltd. (2000) and Donovan et al (2002).

The predominant diagnostic pathology tests were cervical swabs, vaginal swabs and urine specimens for chlamydia PCR. These are consistent with the literature recommendations (Dayan 2000; Garland et al 2000; Donovan 1997).

Implications for practice

Young people should be considered a high-risk group for chlamydia. Chlamydia testing especially at time of pregnancy counselling and testing, Pap tests and at time of consultation for emergency contraception and oral contraception in asymptomatic young female clients is recommended. Given the significant rate of asymptomatic infection with chlamydia, and the lack of knowledge many

young people have of this condition, consideration should be given to offering chlamydia testing to all young people under 25 years of age presenting to family planning clinics and youth health services worldwide.

Recommendations for research

There is a need for research regarding the accuracy, appropriateness and accessibility of current information of chlamydia and other STIs which is distributed to young people. Further research is also required addressing innovative forms of communication which are youth friendly and target low literacy sub-groups of the youth population, specifically Indigenous and culturally and linguistically diverse populations and young people disadvantaged from socioeconomic reasons and those young people who are mentally ill and experience alcohol and other drug problems. The investigation of low literacy multimedia and Internet communication is suggested. In determining the true incidence of chlamydia in the young population, more prospective prevalence studies such as that by Kang (2002) on a larger scale comparing at risk populations with the general population of sexually active young people would be valuable for promoting national chlamydia screening.

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