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Contraceptive Counseling and the Relationship to

Chlamydia Prevention and Screening

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PERMISSION

Title Contraceptive Counseling and the Relationship to Chlamydia Prevention and Screening

Department Nursing

Degree Master of Science

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Abstract

Contraceptive counseling is a common issue for today's health care clinicians. An important aspect of a thorough contraceptive counseling visit includes sexually transmitted infection (STI) risk history and screening. Chlamydia is the most common STI and it is especially problematic among women under the age of 25. Untreated infections, which are often asymptomatic, can result in serious complications such a pelvic inflammatory disease, infertility and ectopic pregnancy. Clinicians have a unique opportunity and responsibility to assist in the prevention of STI. Stressing responsible behavior and providing the necessary education, support, and resources are important aspects of primary prevention. Identifying risk factors and prompt screening and treatment of infections is a mode to secondary prevention. This is in alliance with the United States Healthy People 2020 goals that include improved pregnancy planning and spacing; prevention of unintended pregnancy; promotion of healthy sexual behaviors; and increased access to quality services to prevent sexually transmitted diseases and their complications (United States Department of Health and Human Services, 2013).

Background

Contraceptive counseling, including the assessment of sexually transmitted infections (STI), is a critical component of any comprehensive pregnancy and STI prevention strategy (Batteiger, 2013). Although abstinence is the single most effective means to avoid pregnancy and STI, there are many effective methods of contraception and protection for those who choose to be sexually active. With implementation of prevention guidelines, stressing the importance of healthy sexual behaviors, providing appropriate education, resources and support, unintended pregnancy and STI's can be prevented. Prompt identification and treatment of infections using appropriate screening methods aids in prevention of further and serious complications.

The case background is a young adult female who is involved in a new sexual relationship. She presents to the clinic requesting birth control. By obtaining a detailed history, thorough examination, and adjunct laboratory testing, the clinician is able to assess and diagnose the presence and/or absence of pregnancy and STI's. With careful consideration of personal habits, past medical history, and family health history, an appropriate contraception method can safely be prescribed. The visit is an ideal opportunity for the clinician to implement primary and secondary prevention measures. This case provides a framework for an overview of chlamydia prevention and screening strategies in women under 25 years of age.

Case report

Identifying Information: Date and Time: 1/25/14, 0900; Age: 20; Gender: female; Race: Caucasian.

Chief Complaint/Reason for Visit: Request for birth control.

History of Present Illness: LJ is a 20 year old white female, college student, who presents to clinic for birth control. Patient reports she is in a new monogamous male sexual partner, last date of intercourse 3 weeks ago, LMP 12/19/13. She denies nausea, vomiting, or pelvic pain. Does report occasional mild pain with onset of urination. Denies hematuria, no vaginal itching, lesions, pain or discharge. Denies use of condoms.

Differential Diagnosis: 1) Contraception counseling (V25.09); 2) Pregnancy (V22.2); 3) UTI (599.0); 4) STI (099.9); 4) Unprotected sexual activity (V69.2)

Past Medical/Sexual History: Nulliparous, menses onset age 13, regular monthly cycle lasting 4-5 days. Reports to 3 male sexual partners in last 2 years. No hx of STI. Denies oral or anal sex.

Past Surgical History: None.

Medications: Xenadrine 1 capsule po prn, used infrequently for "energy" and weight control.

Allergies: Penicillin (rash).

Social/Occupational History: College student, nursing program. Lives in apartment with roommate. Denies tobacco or drug use. Reports to occasional week end alcohol use, 2-4 drinks.

Family History: Both parents, mid 40's, living and well. Mother with hx of benign breast lump; father with hx of "blood clot", obtained after accident. One sister age 15 and one brother age 18, both living and well.

Review of Systems: General: No fever, chills, weight loss or gain, is concerned about weight control. Denies anorexia or bulimia. HEENT: Denies headaches, no visual changes, no ear pain, or nasal congestion. Denies sore throat or dental issues. Neck: denies neck pain or swelling. Respiratory: Denies cough or cold sx, wheezing or SOB; Cardiovascular: denies chest pain or palpitations. Gastrointestinal: Denies abdominal pain, denies nausea, vomiting, diarrhea or constipation. GU: See HPI and regular monthly menses lasting 4-5 with moderate flow. Denies

premenstrual pain or bloating. Denies discharge, itching, vaginal sores, or dyspareunia. No history of STI's or pregnancy's. heterosexual orientation with no history of anal or oral sex.

N/M: no muscle or joint pain. Denies paresthesias.

Physical Examination: BP: 122/74; P: 82; RR: 18; T: 98.5; HT: 5'7"; WT: 110#; BMI: 17.2.

General: Alert and oriented x3, slender, well groomed female, no acute distress, SKIN: pink, warm, and dry, without rashes or lesions. HEENT: Normocephalic, atraumatic. Hair thick and full. Conjunctiva clear, sclera white. Naso-oral mucosa pink and moist. Posterior pharynx without tonsillar hypertrophy, no crypts or exudates. Neck: Supple, no lymphadenopathy, no thyromegaly, Lungs: clear to auscultation without wheezes or rales; CV: RRR s1, s2, no murmur, clicks or rubs, no clubbing, cyanosis or edema of extremities; Abdomen: soft, normoactive bowel sounds, nontender to palpation, no masses noted, no hepatosplenomegaly; GU: declined; NM: full ROM to upper and lower extremities without pain.

Labs: UA/UC: normal; urine HCG: negative; UA for Chlamydia/Gonorrhea: pending.

Assessment: 1) Contraception management (V25.04); History of unprotected Sexual intercourse (V69.2).

Plan:

- Discussion focused on safe sex practices, sexually transmitted disease prevention and birth control methods.
- Handout provided on STIs and associated symptoms.
- Encouraged healthy sexual behavior and self protection.
- Written and verbal review on contraception options to include oral, patch and vaginal ring hormonal methods, IUD, and Implanon provided. Pt chose oral pill method.

- Start low dose combination pill (Alesse), 1st tablet po today. Discussed side effects and possible break through bleeding.
- Advised to use backup method or abstinence for the next week.
- Advised to perform home pregnancy test or RTC for urine HcG next week as last date of intercourse occurred in the last couple of weeks.
- Reiterated the importance of STI screen yearly and recommended that she return for a STI screen as well as follow up in 3 months to review contraceptive management.
- Discussion on HPV prevention per vaccination. Pt. opts to proceed with Gardisil series today.

Literature review

For the purpose of this case study, the literature review will focus on chlamydia infection, prevention and screening strategies. Using multiple search engines including PubMed, and CINAHL, and incorporating UpToDate information, Chlamydia trachomatis and its prevention and screening options were thoroughly investigated. The findings provided the author with a more thorough understanding and thus improved skill in contraceptive counseling.

Chlamydia

As described by Marrazzo (2014), chlamydia is the most common sexually transmitted infection. The Minnesota Department of Health (2012), reports the incidence of chlamydia has almost tripled in the past 10 years. Although increases have been seen in all gender, age and geographical groups, the rates have quadrupled among men and doubled in females. The CDC (2014) reports a prevalence among people aged 14-24 years which is nearly 3 times that of people aged 25-39. Non-Hispanic blacks have a 5 times greater prevalence than non-Hispanic whites.

Chlamydia is not only very prevalent, but also very expensive. In 2014, CDC published an analysis showing that sexually transmitted diseases cost the American healthcare system an estimated yearly \$16 billion in direct costs alone. According to Papp, Schachter, Gaydoh, & Van Der Pol (2014), the direct medical costs of *C. trachomatis* infections were estimated at \$516.7 million in 2008. This does not include tangible costs such as lost productivity, costs of psychological and emotional injury caused by infertility and ectopic pregnancy caused by the infection.

Chlamydia is caused by the bacteria *Chlamydia trachomatis* and the majority of affected persons are asymptomatic (Marrazzo, 2014; Workowski & Berman 2010). It is spread through sexual contact with the penis, vagina, mouth, or anus of an infected partner. As referenced by Marrazzo (2014), the cervix is the most commonly infected site and a good portion of women may also have an infection of the urethra. Most authors agree that at least 85 percent of women with infection neither signs nor symptoms. (Batteiger, 2014; Marrazzo, 2014; Workowski & Berman 2010;). If left untreated, the chlamydia infection can ascend to the pelvis which can lead to serious complications such as pelvic inflammatory disease, tubal factor infertility, ectopic pregnancy, and chronic pelvic pain. In pregnant women, untreated chlamydia has been associated with pre-term delivery and ophthalmia neonatorum and pneumonia in the new newborn (Marrazzo, 2014).

The incubation period of symptomatic infection is generally 7-14 days following exposure (Marrazzo, 2014). It is unclear, however, how long those with asymptomatic disease may carry the infection. Geisler (2010) reports a symptomatic review of ten studies of untreated, uncomplicated infections, chlamydia persisted weeks to months after diagnosis in 56-89 percent, and for at least one year in 46-57 percent. As noted by Marrazzo (2014) these studies did not

record infection date nor did they evaluate for reinfection as opposed to persistent infection, thus limiting the understanding of duration of untreated infection. Nonetheless, all chlamydia infections should be treated to prevent further complications. It is extremely important to improve prevention and screening strategies (Batteiger, 2013; Marrazzo 2014; Workowski & Berman, 2010).

Prevention

The CDC prevention guidelines, as reviewed by Workowski & Berman (2010), consist of five major strategies: education and counseling on behavior changes; identification of asymptomatic infection and symptomatic persons not likely to seek treatment; effective diagnosis and treatment; sex partner treatment; and pre-exposure vaccination. This author will review education, counseling and identification (screening) of infection.

Education and counseling are the foundation of primary prevention (Batteiger, 2014; United States Preventative Services Task Force (USPSTF), 2007; Workowski & Berman, 2010 2014). As part of this process, the clinician should obtain a thorough sexual history to address management and risk reduction. Effective interviewing strategies and a non-judgmental attitude are essential in acquiring the appropriate information thus yielding identification of risk factors which allows for more focused intervention. Batteiger (2014), and Workowski & Berman (2010) list similar risk factors that include young age, prior history of infection, multiple sex partners, inconsistent use of barrier, cervical ectopy, unmarried, and lower socioeconomic status. The USPSTF (2007) also defines risk as history of prior chlamydial or other sexually transmitted infection, new or multiple sex partners, and includes those exchanging sex for drugs or money.

Counseling should be directed at the patient's personal risk and situation. Multiple effective counseling methods as discussed by Workowski & Berman (2010) include interactive

counseling, videos, and large group presentations. Group based strategies have also been shown to be effective. Topics included in the counseling should be directed at the individual's patient's need and risk factors.

Counseling should include a discussion on abstinence as the most reliable way to prevent chlamydia; however, other methods are available such as male condoms. When used consistently and correctly, condoms are highly effective in preventing STI's (Workowski & Berman 2010). Because consistence and correct use are the key to prevention, the clinician should educate the patient on proper use: new condom with each sex act, place on erect penis, use only water based lubricants, and hold condom on firmly during withdrawal. Female condoms, cervical diaphragms, topical microbicides and spermicides are also available but have a decreased rate of protection and should not be used as first line prevention.

Screening

Due to the high rate of asymptotic infection, routine screening is recommended. Both the USPSTF (2007) and the CDC (2010) have published guidelines on chlamydia screening. The USPSTF recommends screening for all sexually active non-pregnant young women age 24 and younger and for older non-pregnant woman who are at increased risk. The CDC guidelines slightly differ in that the upper age limit is 25 years or younger, in addition to screening on an annual basis. The CDC also recommends retesting new incident infection three months after treatment regardless if partner was treated.

In pregnant women, the USPSTF recommends screening all pregnant women age 24 years or younger, and for older persons with risk factors. Batteiger (2014), notes that there are no controlled trials regarding pregnancy outcomes and treatment of chlamydia. The CDC recommends all pregnant women be screened, regardless of age. The CDC also recommends

repeat testing be performed in 3 weeks after completion of therapy to ensure eradication. Both the USPSTF and the CDC recommend rescreening during the third trimester to prevent maternal complications and transmission to the neonate.

There are a number of options available for laboratory screening. However, as described by Batteiger (2013), the nucleic acid amplification tests (NAATs) has largely replaced other testing such as culture and immunoassays due to better specificity and sensitivity and ease of performance. The major advantage of NAATs is their excellent performance on specimens that can be collected without having to perform a pelvic examination. NAATs can be performed on a variety of samples that can be collected noninvasively, including using urine samples in both men and women (Cook, Hutchison, Ostergaard, Braithwaite, & Ness, 2005). Cook et. al. (2005) provided a systematic review from 29 studies with the analysis demonstrating that the sensitivity and specificity of non-invasive testing (urine) was comparable to invasive testing. However, subsequent studies showed that in women, NAAT on vaginal swab fluid, collected either by the clinician or the patient, had even a higher sensitivity than in urine (Hosenfeld, Workowski, Berman, Zaidi, Dyson, Mosure, Bolan, & Bauer, 2009). Even so, given the barriers of vagina exams, urine testing is widely accepted means of screening for chlamydia in both men and women.

As of March 2014, the CDC has updated the recommendations for laboratory based detection of chlamydia. Papp, Schachter, Gaydoh, & Van Der Pol (2014) have provided a summary of the new recommendations regarding optimal specimen types, the use of tests to detect rectal and oropharyngeal chlamydia infections and information regarding when supplemental testing is indicated. Updated CDC recommendations now specify that vaginal swabs are preferred specimen for screening women and include the use of rectal and

supplemental testing is indicated. Updated CDC recommendations now specify that vaginal swabs are preferred specimen for screening women and include the use of rectal and oropharyngeal specimens among populations at risk for extragenital infections. Also advised by the CDC, laboratories should maintain capability to culture for chlamydia because there is insufficient data to recommend nonculture in cases of sexual assault in prepubescent boy and extragenital anatomic sites in prepubescent girls.

Summary

Contraceptive counseling is a common visit for today's health care clinicians and should include a thorough sexually transmitted infection (STI) risk history and screening. Chlamydia is the most common STI, especially in women under the age of 25. Untreated infections, which are often asymptomatic, can result in serious complications and are very costly to our health care system. When implementing recommended STI prevention and screening methods, as addressed in the literature review, the clinician has a unique opportunity to assist in prevention of sexually transmitted infection (STI).

Learning Points

- Up to 85% of all chlamydia infections are asymptomatic.
- Annual chlamydia screening for all sexually active women age 25 and under, as well as older women with risk factors.
- The diagnostic test of choice for chlamydia infection is nucleic acid amplification testing (NAAT) of vaginal swabs for women and first catch urine for men.
- As of March 2014, CDC has released new recommendations that specify vaginal swabs are preferred specimen for screening women and rectal and oropharyngeal specimens be obtained in populations at risk for extragenital infections.

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