

Analyzing the relationship between hormonal contraception and STDs

A Retrospective Chart Review

Prabhjot Singh, MD; Natalia Doni , MD

Sexually transmitted diseases (STDs) are a substantial challenge facing the United States. There are approximately 20 million new STDs that occur every year in the United States and almost half of these new infections are amongst those aged 15-24. It is estimated that 47% of adolescents are sexually active and 41% did not use a barrier method the last time they engaged in sexual intercourse. Common beliefs amongst this age group include the belief that hormonal contraceptives can protect against STDs although this is untrue.

Aside from the morbidity and mortality associated with STDs; the medical cost to the United States is substantial. On average, the United States spends a total of \$16 billion treating STDs and their associated complications. Chlamydia, Gonorrhea and Herpes Simplex are common STDs. Chlamydia and Gonorrhea are easily cured if diagnosed appropriately; if not treated, it can lead to serious complications such as pelvic inflammatory disease, ectopic pregnancy and infertility. HSV is a incurable chronic disease and the associated complications include preterm birth and fatality for the newborn.

The state of Illinois ranks third in the number of overall cases of Gonorrhea and Chlamydia. For the past 10 years, Peoria County has ranked in the top 5 counties in Illinois for the number of reported sexually transmitted diseases. Rates of Gonorrhea and Chlamydia have decreased slightly but still remain two and three times above the state average respectively.

Previous studies have attempted to analyze the relationship between hormonal contraception and STDs; however, many of these studies were either not statistically significant or not applicable to the Peoria patient population. In Sub-Saharan African, a study showed consistent DMPA use might increase risk of HSV2 seroconversion; however the power of the study was low (2015)¹

In Boston, a study showed DMPA use, but not OC use, appeared to be significantly associated with increased acquisition of cervical chlamydial and gonococcal infections (2004)². This was a small scale study performed in two clinics.

In Baltimore, a study demonstrated that women using DMPA had 3.5x the risk of developing a Chlamydia or Gonorrhea infection in comparison to those that were not using hormonal contraception (2004)³

Purpose of the study:

Purpose of the study was to examine the relationship between STDs and hormonal contraception amongst females.

Method:

Study was IRB approved. We did a retrospective chart review of Unitypoint inpatient/outpatient records from Jan 1, 2015- April 10, 2016.

Inclusion Criteria: female, age 11-24, + HSV, Gonorrhea, Chlamydia.

Exclusion Criteria: male, age <11 yoa, >24 yoa, negative STD result.

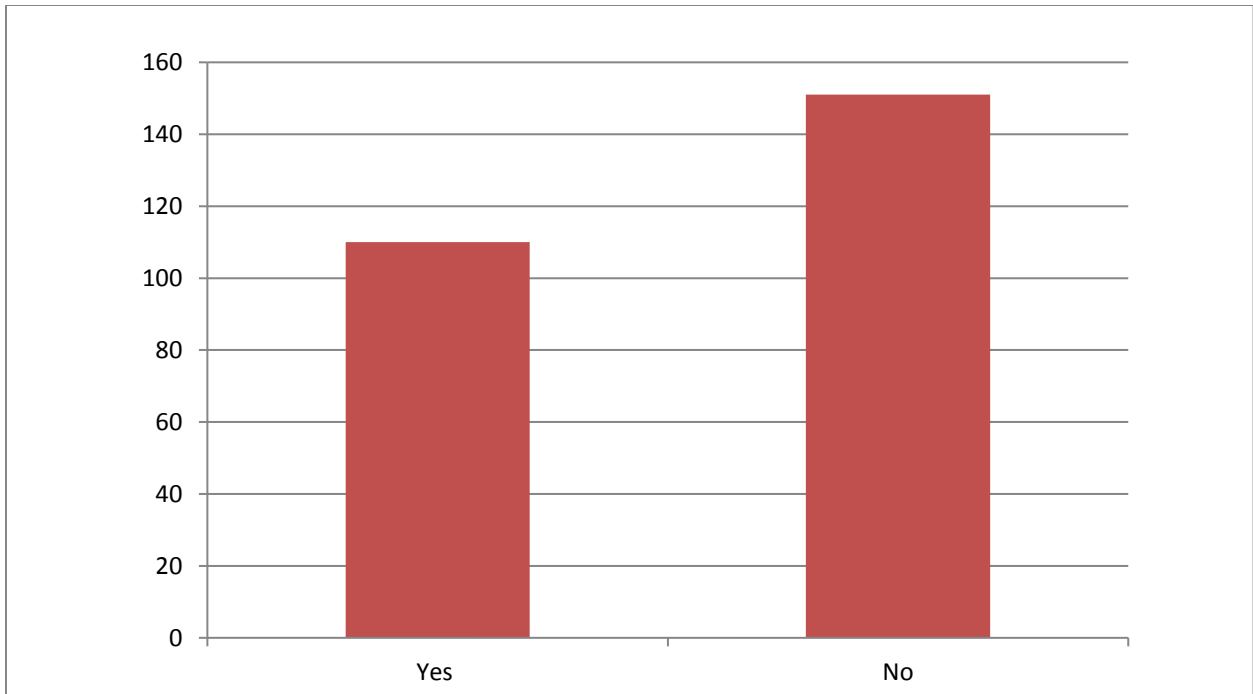
Result:

Total subjects that were collected first were 1555. From 1555 subjects 261 had a positive STD test result. About 42 % were on contraception and 58 % were not on contraception.

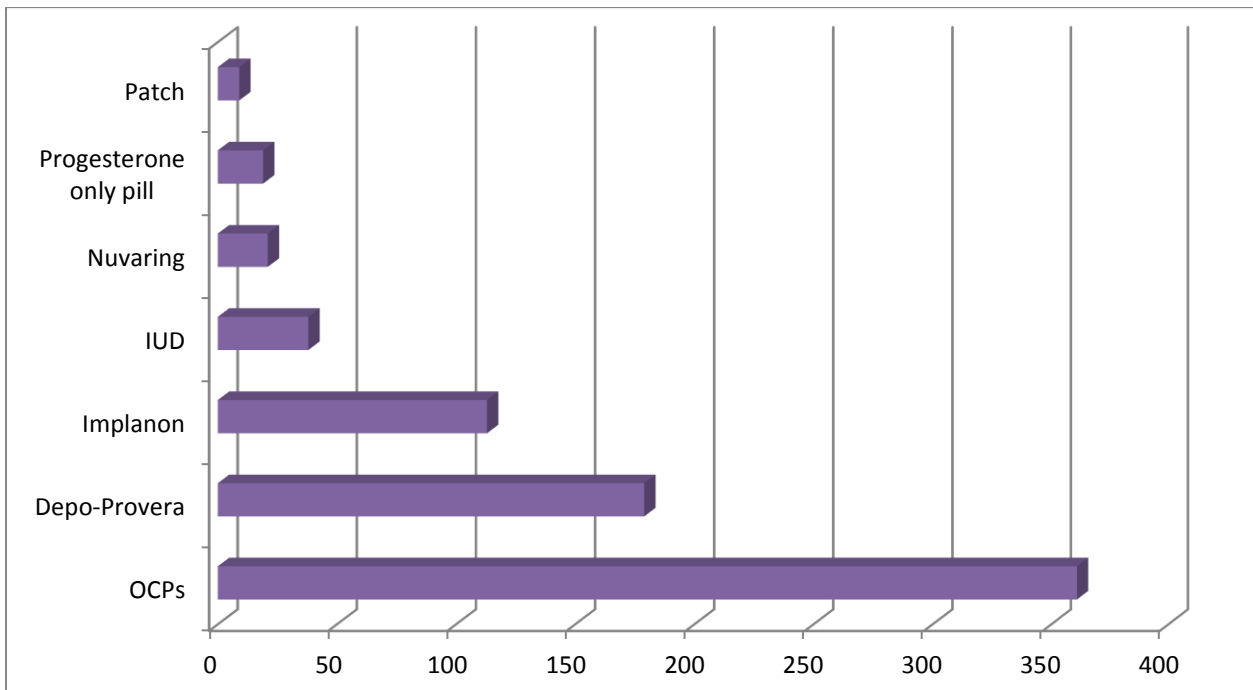
P value was statistically significant of 0.019.

Conclusion:

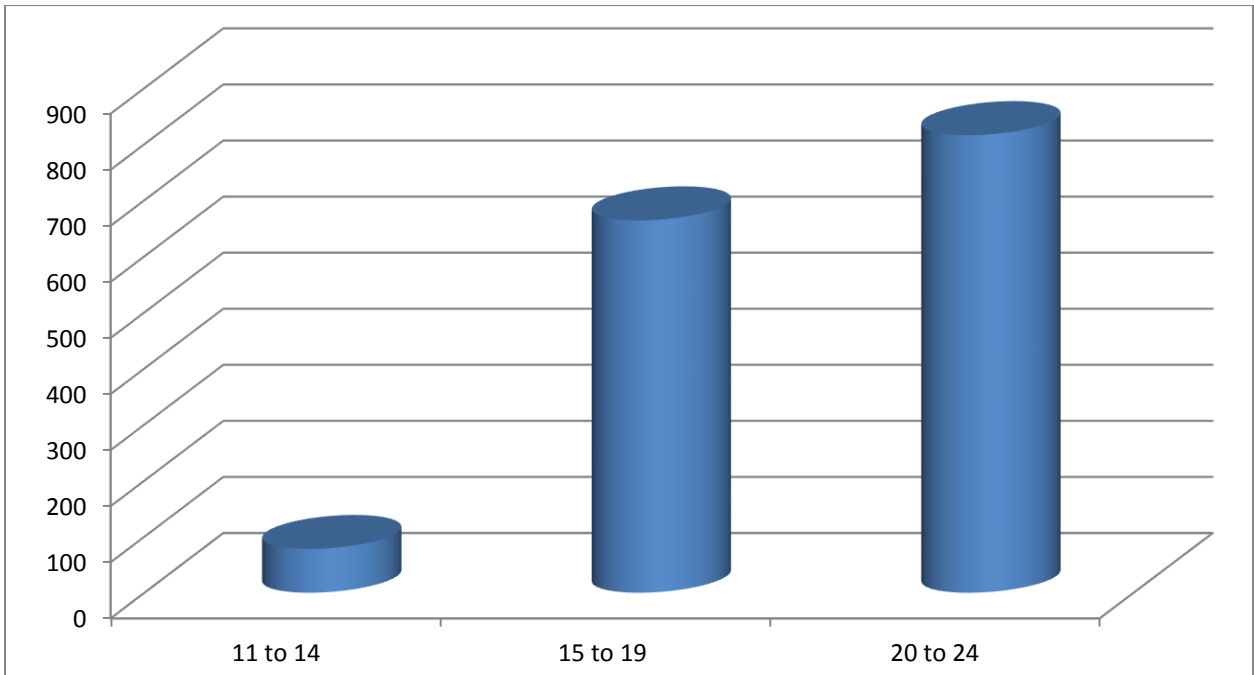
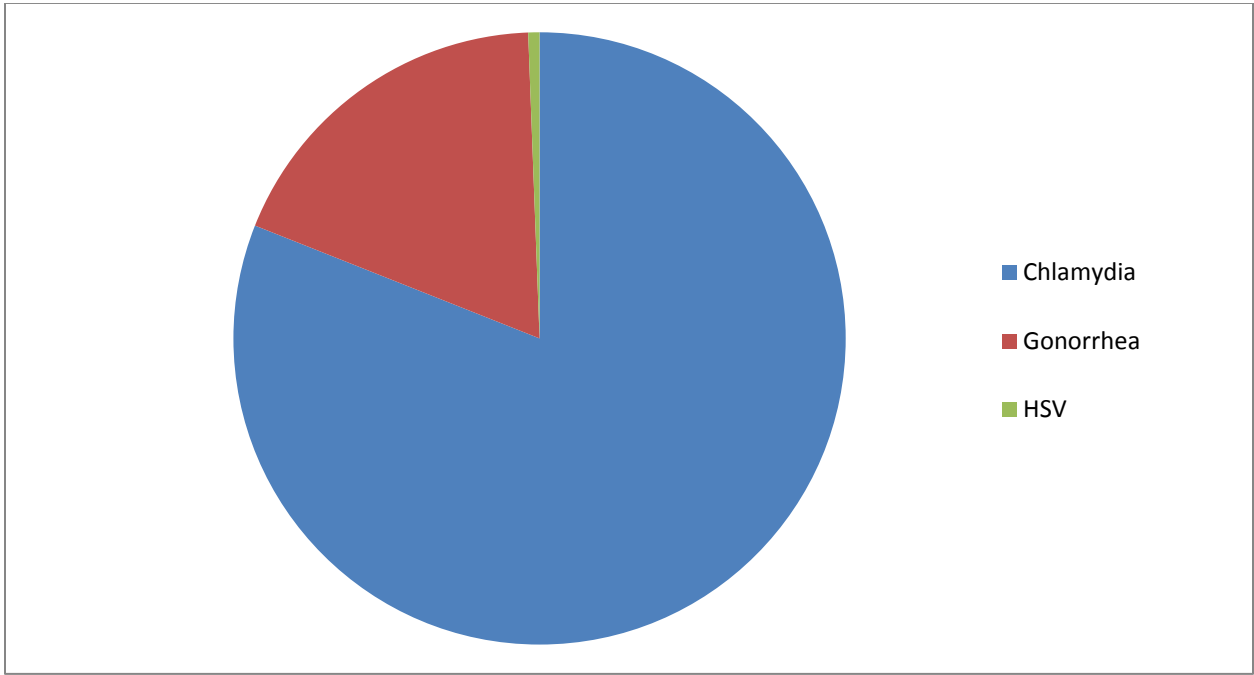
Patients who did not use contraception are more likely to have a positive STD test



STD and Contraception



Types of Contraception



Age

Limitations of the study

- Did not count for recurrence of STD
- Other STD's did not include in the study
- Possible contraception from clinics outside Unity Point
- Confounding factors like: barrier methods, number of sexual partners, history of previous STD
- HSV often diagnosed without cultures

References:

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- 2. Hormonal Contraceptive Use, Cervical Ectopy,... | Stanford Health Care." Hormonal Contraceptive Use, Cervical Ectopy,... | Stanford Health Care. N.p., n.d. Web. 11 May 2016
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