

Secondary Analysis of Adolescent and Young Adult Sexual Health in Kalamazoo and Jackson Counties: Chlamydia

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Healthy People 2020 Goals

- 1) Reduce the proportion of adolescents and young adults with *Chlamydia trachomatis* infections
- 2) Reduce Chlamydia rates among females 15-44 years
- 3) Increase the proportion of sexually active females aged 24 years and under enrolled in Medicaid plans who are screened for genital Chlamydia infections during the measurement year
- 4) Increase the proportion of sexually active females aged 24 years and under enrolled in commercial health insurance plans who are screened for genital Chlamydia infections during the measurement year

Introduction

- Chlamydia, is the most frequently reported bacterial sexually transmitted infection.
- In 2011 alone, it was estimated that 2.86 million infections occur annually.
- Young people (ages 15-24) are particularly affected, accounting for half (50 percent) of all new STI.
- Over one-third of new cases of Chlamydia occur in young adults between the ages of 20 and 24.
- Females are more at risk than males due to their anatomical structure.

Targeted Population

- 59% of the 18 million United States college students are between the ages of 18-24 (Trieu, Bratton, & Marshak, 2011).
- In 2009 only 52.5% of college students reported receiving information from their college regarding sexually transmitted infections (Lechner et al., 2013)
- Many colleges and universities prioritize other topics such as influenza and responsible alcohol consumption, over sexual health (2013).

Contributing Factors

- Lack of condom use and multiple sex partners are two of the main reasons Chlamydia is on the rise for young adults.
- Low socioeconomic status: lack of transport, access, cost, lack of insurance, etc.
- Race: African American female and males have the highest Chlamydia rates.
- Sex: Females are at greater risk than males.

Rationale for Increase in Screening

- Chlamydia can often go symptomless and that is why it is often referred to as the “silent” infection
- It is reported that only about 10% of males and 5-30% of females with Chlamydia infections experience symptoms.
- Symptoms usually begin with burning sensation with urinating or abnormal discharge for both males & females
- Can lead to pelvic inflammatory disease (PID) and infertility if untreated.

Screening

- Chlamydia is diagnosed through either a urine test to look for bacterial cells, or a swab of the cervix or end of the penis.
- People of all ages should be getting tested if they are not practicing safe sex or have multiple partners.
- The CDC highly recommends that sexually active females 25 years old and younger need testing every year.

Treatment

- Treatment of Chlamydia includes use of antibiotics
- The antibiotics are either given as a single dose, or a seven-day course.
- Must remain abstinent during those seven days.
- Proper use of latex condoms is one way that this infection can be prevented from spreading.

Economic Impact

- The annual cost of curable STIs is \$742 million
- The most recent estimate of the annual cost of Chlamydia infections is \$647 million
- For men it was an average of \$26 per case and for women it was an average of \$315 per case
- The annual cost of Chlamydia complications in women is more than \$2 billion
- It is estimated that treatment for a single case of PID can costs anywhere from \$1,060 and \$3,180

Method

- The method of this thesis was to conduct a secondary analysis regarding the prevalence of Chlamydia in both Kalamazoo and Jackson Counties

Goal

- The goal of this secondary analysis was to obtain concrete evidence in order to help support the need for a sexual health education designed for college students at Western Michigan University about Chlamydia.

Hypothesis

- The hypothesis of this thesis was that there would be a higher prevalence of Chlamydia in Kalamazoo County compared to Jackson County.
- It was also predicted that there would be a steady increase in Chlamydia from 2001-2011.
- It was predicted that the increased population of each college/university was a contributing factor to the higher rates of STIs among the college student age group 20-24.

Age Group

- The targeted age group was 20-24.
- It is an age group that accounts for many of the students attending Western Michigan University.

Demographics

- Kalamazoo County (250, 569) vs. Jackson County (160,248)
- Kalamazoo County: Females (127,902) vs. Males (122,757)
- Jackson County: Females (78, 538) vs. Males (81, 710).
- Both counties predominately Caucasian
- African American population: Kalamazoo (27, 266) vs. Jackson (12,739)
- Population of 20-24 year olds: Kalamazoo (30, 563) vs. Jackson (10, 013)

Sample

- Kalamazoo County: University, Private College, and a Community College
- Jackson County: Community College
- United States Census counts individuals based on the city they live the majority of the year.
- College students should be counted at their college address and not necessarily what their state license indicates.
- Chlamydia rates are reported to the County Health Department indicated by their license address.

Poverty

- Kalamazoo county: **19.2%** of total population fell below the poverty line.
 - Ages 18-24: **47.7%** fell below poverty line
 - African American population: **35.8%**
 - Caucasian: **12.9%**
- Jackson County: **15.7%** of total population fell below the poverty line.
- Limited additional information regarding poverty in Jackson County.

Student Population

- Western Michigan University: 24,598
- Kalamazoo College: 1,348
- Kalamazoo Valley Community College: 11,395
- Total number of college students for Kalamazoo: 37,341
- Jackson Community College: 8,186

Analysis: Females in Kalamazoo

- Looked at rates over a ten year span from 2001-2011
- The total reported amount of Chlamydia cases for females 20-24 in 2011 was **471**.
- Increase of 169 from 2001 (**302**).
- There were some variations within this time span where the rates went up and down. In 2004 the rate in females jumped to **416** from **359** in 2003. In 2005, that number once again went down to **320** in 2005.
- Highest rates were from 2011.

Analysis: Females in Jackson

- Jackson County females ages 20-24, the total reported Chlamydia cases for 2011 was **211**.
- This was an increase of **42** cases from 2001 (**169**).
- Variation of increase and decrease in reported ratings over the ten year span.
- 2011 was the highest reported rates of all other years at **211**.

Analysis: Males in Kalamazoo

- Kalamazoo County Males 20-24 for 2011 had a total of **231** cases reported.
- This was an increase of **85** cases from 2001 (**146**).
- 2011 had the highest reported rate for males in Kalamazoo over the ten year time span.

Analysis: Males in Jackson

- In Jackson County for 2011 males 20-24 had **84** reported cases of Chlamydia.
- This is only an increase of **17** from 2001 (**67**).
- 2011 had the highest reported rate for males in Jackson County over the ten year time span.

Analysis: Kalamazoo Comparison

Year	Females	Males
2011	471	231
2010	407	193
2009	400	186
2008	346	168

Analysis: Jackson Comparison

Year	Females	Males
2011	211	84
2010	179	64
2009	170	53
2008	197	68

Analysis Continued...

- Males and females ages 20-24, account for **40%** of the total Chlamydia cases in Kalamazoo County for 2011.
- For Jackson County in 2011, **43%** of males and females ages 20-24 account for the total Chlamydia cases.
- Our hypothesis was that Kalamazoo County would have a larger amount of reported cases for this age group, but Jackson County proved to have a slightly higher rating
- However, Kalamazoo had a total of **1,759** cases for all ages in 2011. Jackson County on the other had only had **687** cases for all ages in 2011

Analysis: Chlamydia in Michigan

- The total reported Chlamydia cases in 2011 for the whole state of Michigan was **50, 063**.
- Kalamazoo County contributed to **.04%** of this total number (**1,759**).
- Jackson County only account for **.01%** of the total cases (**687**).

Analysis: Chlamydia in Michigan Continued...

- Of the total Michigan Chlamydia cases reported in 2011, **18,877** were from young adults ages 20-24.
- Kalamazoo County young adults ages 20-24 made up **.04%** of this reported number (**702**).
- Jackson County young adults 20-24 made up **.02%** of the total Michigan cases for this age group (**295**).

Discussion: At Risk Population

- The major findings of the thesis are that females have higher rates of STI's than males.
- The literature indicates that African Americans have a higher rate of STI's than any other race.
- The age group of 20-24 has one of the highest rates of STI's compares to any other age group with the exception of 15-19.

Discussion: Demographics

- Kalamazoo County has a higher population than Jackson County, but regarding demographic breakdown both counties were very similar.
- Both predominantly Caucasian and mirrored similar percentages of the population of other ethnicities.
- An obvious difference between Jackson County and Kalamazoo County is the university, private college, and community college that are present in Kalamazoo County.

Discussion: Overall

- From all the data collected over the years in both Kalamazoo and Jackson counties, there is an obvious increase of reported Chlamydia infections with females having the higher rates.
- Both counties have high poverty levels, which is a risk factor for STIs and could contribute to the high number of cases reported.
- Education is an important factor to consider for this thesis because lack of education and lower socioeconomic status is associated with an increase in both Chlamydia rates.

Limitations

- The largest limitation is that the information obtained for both Kalamazoo and Jackson County is from 2010-2011.
- Limited amount of information available on education in both Kalamazoo and Jackson Counties.
- Both counties were predominately Caucasian and lacked ethnic diversity.
- There is little information regarding where a college student counts in the U.S. census.

Recommendations

- Based on the research regarding educating young adults about sexual health, it is believed that using text messaging as a source of communication could be beneficial for students at Western Michigan University.
- The targeted population will be all incoming freshmen who are typically moving from a city other than Kalamazoo and who are unaware of their resources on and off campus.
- The information should be available for everyone, but it is vital that we start educating students immediately as they enter college during the transitional segment of their lives.

Use of Technology

- Technology is one of the main sources of communication for young adults of this generation.
- There may be benefits to the use of technology and text messages to educate youth.
- In a study performed used texting as a method to inform patients of their sexually transmitted infection were both diagnosed and treated sooner (Malbon & Romo, 2013)

Conclusion

- Overall, this thesis has shown that Chlamydia is a prevalent problem for college age students.
- Focusing on Kalamazoo County and Western Michigan University are the first steps of many towards achieving the overall goals of the Healthy People 2020 regarding STIs.

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