



Rising STD Rates in Latino Adolescents and Young Adults: A Literature Review

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### **Abstract**

Sexually transmitted diseases (STDs) are a part of a major public health in the United States overall and specifically in California. A large number of new diseases arise each year in the United States. Sexually transmitted diseases are passed beginning with one individual then onto the next through sexual interaction including vaginal, oral, and anal sex. They can also be transmitted from one individual onto the next through intimate physical contact. The health behavior focus in this literature review is to analyze the increasing sexually transmitted disease (STD) rates with lack of condom use and sexual health education in Latino adolescents and young adults in California and the United States. The medical and social outcomes of adolescent and young adult sexual activity are a national health concern. Although sexually transmitted diseases influence people, they take an especially overwhelming toll on adolescents and young adults. Adolescents and young adults aged 10 to 24 years of age, make up one-fourth of the population and represent half of the 20 million new sexually transmitted diseases in the United States every year. Are the rates of condom use, sexual health education, and STD testing (chlamydia, gonorrhea and syphilis) increasing STD rates among Latinos adolescents and young adults?

*Keywords:* sexually transmitted disease, STD, condom, chlamydia, gonorrhea, syphilis, Latino, sexual health education, rising STD rates, Planned Parenthood

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## Introduction

Sexually transmitted diseases (STD) otherwise called sexually transmitted infections or venereal disease, are exceptionally common. The health disparities associated with STDs continue year after year. Approximately half of all STDs in our state are experienced by adolescents and young adults ages 15-24. Minorities and low-income populations like Latinos are similarly excessively affected. This paper represents the results of a literature review to assess and analyze the cause and effect of rising STD rates in Latino adolescents and young adults in California. STDs can prompt alarming health outcomes.

There are multiple approaches for ongoing risks in STDs and to improve the sexual health and wellbeing among Latino adolescents and young adults in California (Alfonsi & Shlay, 2005). The three STDs analyzed in this literature review don't have evident symptoms, therefore they frequently go undetected and untreated. STDs that often cause no symptoms can lead to serious reproductive health problems such as pelvic inflammatory disease (PID), infertility, cancer, and if a woman is pregnant, it can cause infections in newborn babies (CDPH, 2020). In spite of the fact that there have been great strides in extending access to social insurance since the implementation of the Affordable Care Act, gaps still remain for STD services (Rabinovitz, & Fox, 2020).

## Statement of Problem

### Chlamydia

Chlamydia is the common sexually transmitted disease caused by a bacterium called *Chlamydia trachomatis* (CDPH, 2020). Chlamydia is one of the most common STDs diagnosed in the US. It can cause serious complications to a woman's reproductive system causing her to have difficulty getting pregnant or potentially a fatal ectopic pregnancy (CDC, 2019). The

symptoms associated with chlamydia are similar for men and women, with one symptom specific to men. In women, symptoms they may notice are abnormal vaginal discharge and a burning sensation when urinating. In men, symptoms they may notice are discharge from their penis, a burning sensation when urinating, and pain and swelling in one or both testicles which is not as common as the other two symptoms (CDC, 2019)

The rate of reported chlamydia cases among Latinos was 404.1 cases per 100,000 population (STDs in Racial and Ethnic Minorities, 2017). In 2017, the rate of reported chlamydia cases among Hispanics was 1.9 times the rate among Whites. In 2018, there were 1.8 million Chlamydia cases in the US and a 19% increase since 2014 according to the CDC (CDC, 2019).

According to the California Department of Public Health (CDPH), adolescents ages 15-19 showed an 82% increase from 34,625 cases in 2014 to 41,758 cases in 2018. Young adults ages 20-24 showed an 81% increase from 65,359 cases in 2014 to 80,415 cases in 2018. Of those cases, Latino adolescents and young adults made up 53,528 cases in 2014 rising to 54,326 cases in 2018 showing a 98% increase (CDPH, 2020).

### **Gonorrhea**

Gonorrhea is a common sexually transmitted infection caused by a bacterium called *Neisseria gonorrhoeae* (CDPH, 2020). Many people who have gonorrhea don't know it, especially in women in which the disease often has no symptoms. An individual can pass gonorrhea to others without knowing it. Gonorrhea can be cured with the right treatment but recently according to the CDC, Gonorrhea has progressively developed resistance to the antibiotic drugs prescribed to treat it (CDC, 2019). The symptoms associated with chlamydia are similar for men and women with one other symptom specific to each gender. Some men and women have no symptoms but those who do have symptoms experience discharge from the penis

or vagina, and a burning sensation when urinating. For men, painful or swollen testicles aren't as common, and for women, vaginal bleeding between periods (CDC, 2019).

There were 113.7 gonorrhea cases per 100,000 in the Latino population, which was 1.7 times the rate among Whites. In 2018, there were 583,405 cases which showed a 63% increase since 2014 according to the CDC (STDs in Racial and Ethnic Minorities, 2017).

According to the California Department of Public Health (CDPH), adolescents ages 15-19 showed an 80% increase from 5,643 cases in 2014 to 7,000 cases in 2018. Young adults ages 20-24 showed an 68% increase from 12,056 cases in 2014 to 17,549 cases in 2018. Of those cases, Latino adolescents and young adults made up 11,947 cases in 2014 rising to 20,553 cases in 2018 showing a 58% increase (CDPH, 2020).

### **Syphilis**

There are three types of syphilis focused in this literature review, primary, secondary, and congenital. Syphilis is caused by the bacterium *Treponema pallidum*. Untreated infection can lead to long-term health problems, including brain disease (CDC, 2019). Congenital syphilis is an infection transmitted from a pregnant woman to their child during pregnancy and/or delivery (CDC, 2019). Congenital syphilis can cause severe illness in infants including premature birth, low birth weight, birth defects, blindness, and hearing loss. Another negative factor of congenital syphilis is that it can also lead to stillbirth and infant death (CDPH, 2020). The symptoms associated with primary syphilis are a single sore or multiple sores. Depending where syphilis entered your body whether it be from anal, vaginal, or oral sex, will allow the sore to usually appear firm, round, and painless (CDC, 2019). The sore will usually last 3 to 6 weeks and heals regardless of whether or not it is treated but even after the sore goes away, one should still receive treatment. Receiving treatment will stop your infection from moving to the secondary

stage (CDPH, 2020). Symptoms during the secondary stage present skin rashes and/or mucous membrane lesions (CDC, 2019). Mucous membrane lesions are sores in your mouth, vagina, or anus and this stage usually starts with a rash on one or more areas of your body (CDC, 2019). A pregnant woman should be tested for syphilis and other STDs at her prenatal visit and if diagnosed with congenital syphilis, she should receive antibiotic treatment right away.

There were 11.8 primary and secondary syphilis cases per 100,000 of the Latino population which was 2.2 times the rate among Whites (STDs in Racial and Ethnic Minorities, 2017). In 2018, there were 35,063 primary and secondary syphilis cases which showed a 71% increase since 2014. In 2018, there were 1,306 congenital syphilis cases which showed a drastic 185% increase since 2014 (CDPH, 2020).

According to the California Department of Public Health (CDPH), adolescents ages 15-19 showed a 47% increase from 154 cases in 2014 to 328 cases in 2018. Young adults ages 20-24 showed a 47% increase from 581 cases in 2014 to 1,231 cases in 2018. Of those cases, Latino adolescents and young adults made up 1,411 cases in 2014 rising to 2,786 cases in 2018 showing a 51% increase (CDPH, 2020). Congenital syphilis cases in California Latinos showed a 36% increase from 56 cases in 2014 to 155 cases in 2018 (CDPH, 2020).

### **Research Goals**

The research goal is to review the available literature about the lack of condom use and rising STD rates in the Latino population, specifically focusing on adolescents and young adults. Also to review what contributes to the rising rates, whether it be lack of access or knowledge to resources such as Planned Parenthood or sexual health education in California public and private school systems are not educating individuals accordingly from junior high through college ages. The specific research objectives are as follows:

1. Identify the variety of risk factors associated with the lack of condom use and attempt to prevent sexually transmitted diseases in Latino adolescents and young adults in California.
2. Promote condom use and STD testings regularly through schools and Planned Parenthood.
3. Evaluate the California private and public school sexual education curriculum and access to resources provided to students.

## **Methods**

### **Search Strategy**

A search for peer-reviewed, academic journal articles was conducted using the databases PubMed and Google Scholar. Additionally, resources included published reports from organizations which included: California Department of Public Health (CDPH) and Centers for Disease Control and Prevention (CDC). Searches concentrated on identifying the cause for a lack of condom use, sexual health education in public versus private schools in California, and resources available such as Planned Parenthood.

Key search terms were identified by age, location, and ethnic background. Terms included in the search were: “Sexually transmitted disease\*’ OR STD,” “STDs\*’ AND Latinos,” “STDs\*’ AND adolescents,” “STDs\*’ AND young adults,” “Condom use\*’ AND Latinos,” “California Latinos\*’ AND STDs,” “Planned Parenthood California\*’ AND STDs,” “California schools\*’ AND sexual health education.” Outcomes of interest include filling the gap in literature on health disparities among lower socioeconomic status Latino adolescents and young adults, and STD awareness within the target population and promoting prevention behaviors.

**Inclusion Criteria.** Research was limited to peer-reviewed, academic articles and reports from nongovernmental and governmental organizations that examined three sexually transmitted diseases among the Latino adolescents and young adults in California. Selected articles and reports included themes associated with socioeconomic status, ethnic background, age group, geographic location, and the three STDs in this literature review. Reports focusing on rates rising STD from 2014-2018 were included in the US and specifically California.

**Exclusion Criteria.** Non-peer reviewed articles or reports by organizations concluded not to be credible were not considered for this review. Articles and reports focusing on ethnic backgrounds other than Hispanic/Latino, and outside of the adolescent and young adult age group of 10-24 were not included. Articles with global information outside of California and the US were not included. Reports not specific to chlamydia, gonorrhea, and/or syphilis were excluded.

## **Results**

### **Data Analysis**

This literature review identified themes associated with condom use, sexual health education, and Planned Parenthood. The goal of this research was to examine the cause and effect of condom use and sexual health education on STD rates in Latino adolescents and young adults in California. However, the existing literature describes a variety of risk factors associated with transmitting and contracting an STD with treatment and resources more accessible to some populations rather than others due to socioeconomic status, ethnic background, insurance, access to resources and knowledge. Various themes are explored to demonstrate the overall impact of these factors on STD rates in California and what can be done to reduce these rates.

A search of the keywords resulted in a total of 136 articles and 24 reports. Among the articles, 92 were excluded by title, 20 were excluded by abstract, and 10 were excluded by criteria. Among reports, 11 were excluded by title, 2 were excluded by executive summary, and 9 were excluded by criteria. The remaining 14 articles and 2 reports were included in the study. Articles were distributed between six characteristics: article name, purpose, methodology, primary results, conclusion, and public health implications. These criteria were used to review the final selection of literature and identify key points that support their theme placement. Three domains were identified that examine the rise of sexually transmitted disease rates: condom use, sexual health education, and Planned Parenthood. Each domain included three themes identified throughout the final selection of literature. Although the increase of condom use is the key factor of this research, examining the education system structure of both public and private schools in California and understanding what Planned Parenthood has to offer are important in order to understand the access to resources and lack of knowledge the Latino adolescents and young adults population has along with parents of those individuals.

### **Domain 1: Condom Use**

Latinos in the United States are at high risk for STDs and are less likely than other adolescents and young adults to use condoms (Deardorff, et al., 2013). There are a variety of risk factors associated with the lack of condom use and attempt to prevent sexually transmitted diseases. Three themes that fall under this domain are: access to condoms, inconsistent or lack of condom use, and financial costs. The reluctance of adolescents and young adults to use condoms is another factor contributing to the rising STD rates. A few studies on adolescents and young adults have declared that condoms were seen to be difficult to use with a new or even existing partner while some are unfamiliar with regularly using condoms. The demonstration of one's

attitudes towards targets is how the hypothesis argued that individuals comprehend certain variables before choosing to connect with or not participate in a conduct (Ajzen, 2002). As the hypothesis arranges conduct without unexpected conditions that limit control individually, it may help foresee future conduct coming from that individual in relation to their sexual behaviors and precautions (Ajzen, 2002).

Accessing condoms is not always feasible in some geographic areas. In California, a service known as the Condom Access Project allows adolescents between the ages of 12 and 19 to order 10 condoms, lube and health brochures online each month free of charge (Rosen, 2012). Compared to non-Latino whites, Latino adolescents have twice the risk of contracting gonorrhea and chlamydia, and four times the risk of contracting syphilis (Deardorff, et al., 2013). Many school-based health centers often provide testing and treatment of STDs, but fewer school health center centers provide students with access to condoms (The Society for Adolescent Health and Medicine, 2017). Many adolescents and young adults have reported embarrassment when purchasing condoms, and those with greater embarrassment tend to purchase fewer condoms and also purchase them less often.

The inconsistent or lack of condom use shows a relation to the rise in STD rates according to the study conducted by Paz-Bailey, et al, on the effect of correct and consistent condom use on chlamydial and gonococcal infection among adolescents. This study assessed the connection between self-reported correct and consistent condom use on chlamydia and gonorrhea transmission or infection among high-risk adolescents and young adults (Paz-Bailey, et al., 2005). It was found that the correct and consistent use of condoms provided ample protection against both chlamydia and gonorrhea (Paz-Bailey, et al., 2005). No adolescent girls were infected with gonorrhea in the event that they and their partner(s) used condoms correctly

and consistently. The study found that correct and consistent use of condoms reduced the risk of gonorrhea by 90% (Paz-Bailey, et al., 2005). The study found that correct and consistent use of condoms decreased the risk of contracting chlamydia by 60% (Paz-Bailey, et al., 2005).

Protection from chlamydia for females is naturally conceivable due to the urethral opening of the penis being the primary site from which chlamydia can be transmitted from an infected man to a woman, and the correct use of a condom could provide a barrier during sexual intercourse (Paz-Bailey, et al., 2005). If an individual and their partner are not in a monogamous relationship, it causes one or both to be more prone to transmitting an STD to another partner if condoms are not used.

Some individuals are not willing or unable to pay for condoms which has resulted in them not using or inconsistently using condoms. Condoms are fairly expensive, especially for those Latinos in the low income and socioeconomic status category. Condoms range in price per unit from \$0.20 to \$1.00 USD when bought in bulk or more if bought individually from dispensing machines (The Society for Adolescent Health and Medicine, 2017). Providing adolescents and young adults with access to free condoms in schools may improve their rates of condom use by increasing availability, eliminating cost, and decreasing embarrassment associated with purchasing condoms (The Society for Adolescent Health and Medicine, 2017). If school health centers, bathrooms, and gyms were to promote the use of safe sex and condoms, Latino adolescents and young adults would decrease the high risk rates and not have the financial cost to be concerned of when needing a condom.

**Domain 2: Sexual Health Education**

Sexual health education immensely contributes to reducing STD rates in California. Three themes that fall under this domain are: California Department of Education Acts, public schools and private schools. The California Healthy Youth Act (AB 329) became effective in January 2016 and expects schools to give all students in grades 7-12 with age-suitable sexual wellbeing training that is extensive and therapeutically exact (California School-Based Health Alliance, 2020). The law orders that educational programs must be LGBTI comprehensive so no students are excluded, paying little mind to their sex personality or sexual direction. It also expects schools to give data on STDs/HIV anticipation, pregnancy prevention, consent, and maintaining a healthy relationship to avoid partner abuse and sex trafficking (Burlingame, 2003). The first ever national measures for sexual health education in schools give clear, predictable, and direct guidance on the most important core information that is formatively suitable for students in grades K through 12 (California School-Based Health Alliance, 2020).

The California Comprehensive Sexual Health and HIV/AIDS Prevention Education Act's two primary purposes are to provide a pupil with the knowledge and skills necessary to protect his or her sexual and reproductive health from unintended pregnancy and STDs (EC 51930) and to encourage a pupil to develop healthy attitudes concerning adolescent growth and development, body image, gender roles, sexual orientation, dating, marriage, and family (EC 51930) (CDE, 2019). According to the California Department of Education (CDE) "Comprehensive sexual health education" means education regarding human development and sexuality, including education on pregnancy, family planning, and sexually transmitted diseases (EC 51931) (CDE, 2019). California Healthy Youth Act (AB 329) is age-appropriate sexual health education for students in grades 7-12. It's purpose is to provide every student with the

knowledge and skills necessary to protect their sexual and reproductive health from unintended pregnancy, human immunodeficiency virus (HIV), and sexually transmitted infections (CDE, 2019). Parent/guardian notice is required for extensive sexual health education, either toward the start of the school year or 14 days before instruction (Burlingame, 2003). Both comprehensive sexual health and HIV education are mandatory and will occur once in junior high school, 7th or 8th grade, and once in high school, 9-12th grade (CDE, 2019).

In California private schools, sexual health education may be against one's right to practice freedom of religion. For adolescents, it may be against the parents beliefs as well. If one's religious beliefs require them to recognize marriage as being the union of one man and one woman, the Child Healthy Youth Act forces adolescents and young adults to participate in something that goes directly against that belief system. Abstinence shall be taught within the context of prevention education (EC 51934 (3), however, abstinence-only education is not permitted in California public schools.

In spite of the fact that information and mindfulness have been accounted for to limitedly affect changing mentalities and conduct, there are significant parts of sexual awareness and education which may help advance one's solid educated decisions (Samkange-Zeeb, Spallek, & Zeeb, 2011). Physical education in the U.S is commonly mandatory in both junior high and high school up to the age of 18 years old or through the end of high school, and sexual education is a piece of the school educational modules throughout the same time frame in practically all states. Both adolescents and young adults should be educated on condom use, STDs and the potential health risks related to being sexually active and the best way to ensure what is in their best interest as well as other people (Samkange-Zeeb, Spallek, & Zeeb, 2011).

Schools should be seen as appropriate regions for the availability of condoms, specifically colleges, since they contain an enormous population of young adults. High schools and colleges may conceivably give the level of assurance and understanding to its students on sexual health risks and sexual education class along with access to condoms and social resources.

### **Domain 3: Planned Parenthood**

Three themes found under this domain are: services available, resources and lack of knowledge, and insurance. Planned Parenthood was founded in 1916 by Margaret Sanger, a nurse and educator whose activism changed the world with the idea that women should control their own bodies (Parenthood, P., 2015). On October 16, 1916, Sanger, her sister Ethel Byrne and activist Fania Mindell, opened the country's first birth control clinic in Brownsville, Brooklyn and women lined up to get birth control information from them until police raided the clinic nine days later (Parenthood, P., 2015). Planned Parenthood launched a versatile application in 2015 that permits patients in California to order classified chlamydia and gonorrhea testing through their cell phone and, in the event that they test positive they can get treatment through the application or at a neighborhood Planned Parenthood health center (Parenthood, P., 2015). They offer a variety of services and some specific to sexual health treatment and education. Services in this related topic such as general health care, birth control, patient education, men's services, pregnancy testing, STD testing and treatments, and women's services (Parenthood, P., 2015).

The government gives money to family planning centers, such as Planned Parenthood, with the goal that individuals who don't have medical coverage can get care at diminished rates, or at times free, contingent upon their family income at the time of their visit (Parenthood, P., 2015). Arranged Parenthood of Los Angeles offers our quality administrations at low to no cost.

Expenses are resolved on a sliding scale dependent on your salary and family size. We acknowledge Medi-Cal and we can help sign you up for FamilyPACT, a California program that covers family planning services (Silver, D., & Kapadia, F., 2017). Additionally, some private insurance plans cover some of the services available at Planned Parenthood (Parenthood, P., 2015).

Planned Parenthood Central coast clinics provide 25,739 visits for sexually transmitted diseases and gives more than 200 adolescents and young adults evidence based sexual health education and more than 7,600 with resources they have to settle on the best choices about their sexual and reproductive health (Silver, D., & Kapadia, F., 2017). In 2019, the 19 Planned Parenthood Los Angeles clinics saw over 237,000 patients and set up 2 high school wellness centers. Among the people who were seen, 84% receive family planning services, and 78% are living at or below the federal poverty level (Planned Parenthood).

### **Discussion**

The Latino population is more prone to STDs due to outstanding factors such as socioeconomic status, lack of healthcare (insurance and knowledge), and access to resources (Williams, A., & Chesson, H., 2018). These factors are present in both Latino adolescent parents as well as the adolescents and young adults themselves. For the adolescent population, their parent(s) may fall under one of these outstanding factors and not understand what STDs are or what the benefit of condom use is. For young adults 20-24 years old, as college students and/or working individuals, they may not have insurance benefits or access to the resources and treatment they need (Kirby, D., & Brown, N., 1996). Condoms should be readily available to students free of cost at secondary schools and college campuses in California. Although college campuses do provide students with condoms at the on-campus health centers if the student asks,

they should be more accessible in schools gyms and bathrooms so the students don't always have to only go to the health center. Students may add campus health insurance to their tuition for an additional cost if they do not have personal insurance or prefer to not use their personal insurance (Kirby, D., & Brown, N., 1996).

Utilizing resources available at Planned Parenthood and through sexual health education in school beginning in 7th grade through 12th grade and if a student decides to take a related class in college (Parenthood, P., 2015). With the Child Healthy Youth Act in place as of 2016, junior high and high schools in the California education system requires that students receive comprehensive sex education at least once in middle school, and once in high school. Parents can opt their kids out but unless it is in writing, students are automatically enrolled. Planned Parenthood provides services and resources from Northern to Southern California on STDs and condom use. Patient education is also another service offered and many do not know these services or resources available to them. Epidemiologic assessments attempt to evaluate the guarded effect of condoms by taking a look at the threat of STD transmission among condom users with non users who are partaking in sexual interactions. (Gallo, Steiner, Warner, et al, 2007). The reluctance of adolescents and young adults to use condoms is another factor adding to the rising STD rates. A few studies on adolescents and young adults have declared that condoms were seen to be difficult to use with a new or even existing partner while some being unfamiliar with regularly using condoms, cut down stirring satisfaction, and besides, embarrassing to begin and finish their sexual encounter. (Samkange-Zeeb, Spallek, & Zeeb, 2011).

The mindfulness of language barriers is a crucial part for this population due to some of the individuals and young adults being from another country or their first language was not English (Harling, G., et al., 2013). Translating material on condom labels, resources brochures

and information provided to them, along with sexual health education in schools that may have an international student, allows these adolescents and young adults to better understand STDs and condom use. Providing them with an interpreter at appointments while visiting Planned Parenthood, or wherever it may be that they seek medical treatment is beneficial to them and their health (Silver, D., & Kapadia, F., 2017).

### **Strengths and Limitations**

The articles chosen showed how the decrease in condom use, sexual health education in private versus public schools, and Planned Parenthood contribute to the rise in STD and how to potentially reduce the rates in California Latino adolescents and young adults. This review had an adequate distribution of statistics and information across the three domains discussed. The review also included articles identifying barriers that increase health disparities within Latino adolescents and young adults. The span of publications over the years including the most up to date articles and reports were beneficial to conducting this literature review. The articles provided sufficient data on sexual health education in public schools, especially the California Department of Education Acts established in 2016 (CDE, 2019).

The review also included barriers that were found to hinder gathering information for the conduction of this literature review. Major barriers found include: exclusion of other ethnic groups (i.e African-American/Black, Asian/Pacific Islander, and White), limited data available on sexual health education in private schools, and articles and reports may not generalize the Latino population.

### **Public Health Implications**

As a variety of factors are reviewed to examine the cause for reducing the rise of STD rates in the Latino adolescent and young adult population, some implications may be able to potentially assist with this. Increasing access to condoms in a variety of locations to target the population such as schools, both colleges and high schools along with their gyms, bathrooms, and health centers. Planned Parenthood always provides free condoms and access to resources at both mobile clinics and across their facilities. Medical providers should effectively bolster and support the right and predictable utilization of dependable contraception and condoms by adolescents and young adults who are explicitly dynamic or thinking about sexual interaction (American Academy of Pediatrics, 2001). Some of the factors influencing the increase in STD rates and lack of condom use include an effective method to tailoring resources, services, and access to the population, specifically language appropriate in both English and Spanish.

Furthermore, tailoring culturally appropriate resources and sexual health services to the Latino community for accessibility through mobile app, online, and in person facilities. With easy accessibility, it will no longer prevent them from becoming more knowledgeable on STD and willing to obtain the treatments or condoms they need. Preventing the STD rates in Latinos to continue rising over the upcoming years is a crucial implication although health disparities in the Latino adolescent and young adult population contribute immensely to the rise (Harling, G., et al., 2013). The focal point of much discussion, with specific debate encompassing the demand for sexual education for the appropriate age groups and condom accessibility for adolescents and young adults in schools, gyms, health centers, medical offices, and bathrooms depending on the location. The obligation of males just as females in counteracting undesirable STDs ought to be emphasized as well (American Academy of Pediatrics, 2001). Providers should be effectively

associated with network programs coordinated toward this objective and tailor the appropriate needs of the populations in their geographic area. Providers can effectively help bring issues to light among guardians and networks that creating condoms accessible to adolescents and young adults does not build the rate of immature sexual action and that condoms, notwithstanding their confinements, can diminish rates of unintended sexually transmitted diseases (Williams, A., & Chesson, H., 2018).

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**Table 1. Chlamydia Rates in California from 2014-2018 by Age Group and Ethnicity**

<b>Age Range</b>	<b>Cases in 2014</b>	<b>Cases in 2018</b>	<b>Total increase (2014-2018)</b>
15-19	34,625	41,758	7,133
20-24	65,359	80,415	15,056
<b>Ethnicity</b>			
Latino	53,528	54,326	798

Table shows the rise in Chlamydia rates in California from 2014-2018 in adolescents (15-19 years old) and young adults (20-24 years old) according to the California Department of Public Health.

**Table 2. Gonorrhea Rates in California from 2014-2018 by Age Group and Ethnicity**

<b>Age Range</b>	<b>Data 2014</b>	<b>Data 2018</b>	<b>Total increase (2014-2018)</b>
15-19	5,643	7,000	1,357
20-24	12,056	17,549	5,493
<b>Ethnicity</b>			
Latino	11,947	20,553	8,606

Table shows the rise in Gonorrhea rates in California from 2014-2018 in adolescents (15-19 years old) and young adults (20-24 years old).

**Table 3. Syphilis Rates in California from 2014-2018 by Age Group and Ethnicity**

<b>Age Range</b>	<b>Data 2014</b>	<b>Data 2018</b>	<b>Total increase (2014-2018)</b>
15-19	5,643	7,000	1,357
20-24	12,056	17,549	5,493
<b>Ethnicity</b>			
Latino	11,947	20,553	8,606

Table shows the rise in Syphilis rates in California from 2014-2018 in adolescents (15-19 years old) and young adults (20-24 years old).

**Table 4. Number of Articles Distributed by STD Type**

<b>STD</b>	<b>Article Count n= 14</b>
<b>Sexually Transmitted Diseases (Mix)</b>	n= 10
<b>Chlamydia</b>	n= 2
<b>Gonorrhea</b>	n= 1
<b>Syphilis</b>	n= 1

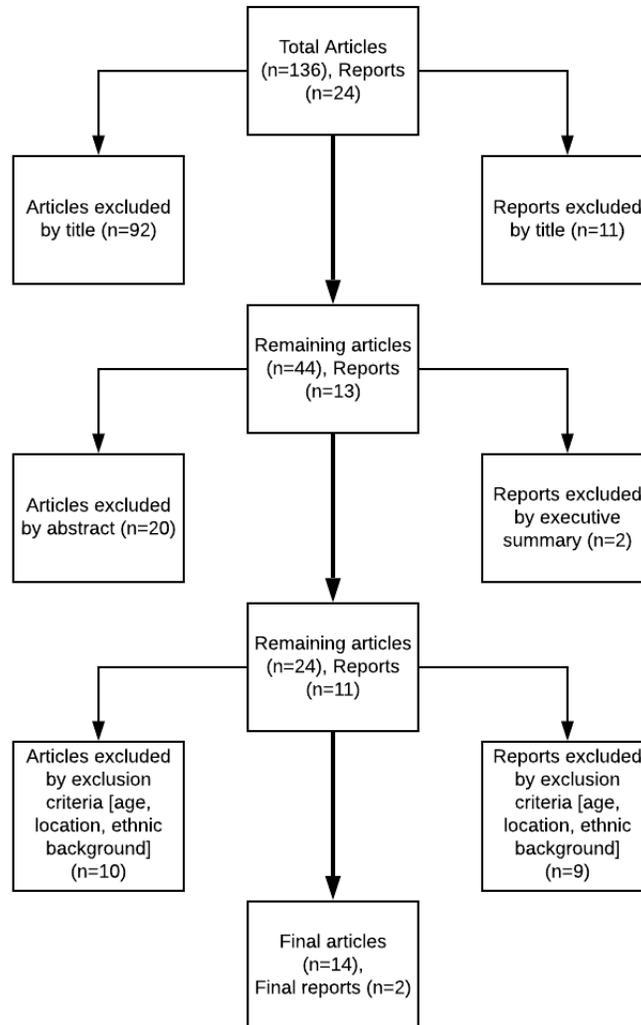
Table shows the number of articles distributed by STD type. The total number of articles analyzed was 14. Ten articles covered all STD types specifically the three in this literature review. Two articles covered only Chlamydia. One article covered only Gonorrhea. One article covered only Syphilis.

**Table 5. Number of Articles Distributed by Age Group**

<b>Age group</b>	<b>Article Count n= 14</b>
<b>Latino Adolescents 10-19 years old</b>	n= 6
<b>Latino Young Adults 20-24 years old</b>	n= 8

Table shows the number of articles distributed by age group. The total number of articles analyzed was 14. Six articles on Latino adolescents between 10-19 years old. Eight articles on Latino young adults between 20-24 years old.

**Figure 1. Flow Chart of Articles Included in Systematic Literature Review.**



Full description of image

Stage 1: Total Articles (n=136), Reports (n=24) flows to two different options.

- Articles excluded by title (n=92) or
- Reports excluded by title (n=11)

Stage 2: Remaining articles (n=44), Reports (n=13). Flows to two different options

- Articles excluded by abstract (n=20)
- Reports excluded by executive summary (n=2)

Stage 3 Remaining articles (n=24), Reports (n=11) flows to two different options

- Articles excluded by exclusion criteria [age, location, ethnic background] (n=10)
- Reports excluded by exclusion criteria [age, location, ethnic background] (n=9)

Stage 4 Final articles (n=14), Final reports (n=2)

Diagram of relevant articles, criteria for exclusion of articles, and final article count. Initial selection included 136 articles and 24 reports. Exclusions by title included 92 articles and 11 reports. Exclusions by abstract or executive summary included 20 articles and 2 reports. Exclusions by criteria of age, location and ethnic background included 10 articles and 9 reports. Total articles included were 14 and total reports included was 2.

Appendix

Article	Purpose	Methodology	Primary Results	Conclusion	Public Health Implications
<p>Condom Use by Adolescents</p> <p>(American Academy of Pediatrics, 2013)</p>	<p>Condom education and availability programs have been shown to have modest effects on condom use, although there is no evidence that these programs contribute to increased sexual activity among adolescents.</p>	<p>Studies review current pregnancy, STD, and HIV infection rates; recent changes in condom use by adolescents and factors affecting condom use; type of condom use.</p>	<p>Pediatricians are urged to actively support and encourage the correct and consistent use of reliable contraception and condoms by adolescents who are sexually active.</p>	<p>Research is encouraged to identify methods to increase correct and consistent condom use by sexually active adolescents and to evaluate effectiveness of strategies to promote condom use.</p>	<p>For effectiveness, condom availability programs should be developed through a collaborative community process and accompanied by comprehensive sexual health education.</p>
<p>Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior</p> <p>(Ajzen, 2002)</p>	<p>Conceptual and methodological ambiguities surrounding the concept of perceived behavioral control among condom use are clarified.</p>	<p>A case study measuring perceived behavioral control needed to incorporate self-efficacy as well as controllability items that are carefully selected to ensure high internal consistency such as condom use.</p>	<p>Perceived control over performance of a behavior can account for considerable variance in intentions and actions.</p>	<p>This view of the sexual control component in the theory of planned behavior implies that measures of perceived behavioral control should contain items that assess self-efficacy as well as controllability</p>	<p>Higher behavioral control may effect reducing STD rates while the increase in condom use and sexual health education benefits adolescents and young adults.</p>

Article	Purpose	Methodology	Primary Results	Conclusion	Public Health Implications
<p>The effectiveness of condoms for the prevention of sexually transmitted diseases</p> <p>(Alfonsi, &amp; Shlay, 2005)</p>	<p>Summarizes recent studies that assess the association between condom use and the prevalence of various STDs.</p>	<p>Methodological issues have impacted the performance of valid studies on condom effectiveness including being unable to determine consistency and correctness of use or the infection status of partners.</p>	<p>Non use is a significant factor affecting condom use failure, but consistent and correct use of condoms is an important strategy in reducing STD risk.</p>	<p>Not using condoms can result in STDs that cause pelvic inflammatory disease, infertility, and cancer.</p>	<p>Implementing the correct and consistent use of condoms with known consequences of STDs.</p>
<p>Sex education in California public schools</p> <p>(Burlingame, 2003)</p>	<p>School districts determine which curriculum to use, what classes to teach these subjects in, what grades to teach them in, and whether to teach sexual health education at all.</p>	<p>Report is based on data from a survey of sexual health education and HIV/AIDS prevention education in grades 6 through 12 in California public schools.</p>	<p>STD prevention must be taught once in middle school and once in high school with up-to-date material.</p>	<p>Schools should ensure that their programs abide by the Education Code and should not allow inappropriate, inaccurate, or biased information in sexual health education classes in response to pressure.</p>	<p>Parents and community members should become informed about their local school's sexual health education and prevention education.</p>

Article	Purpose	Methodology	Primary Results	Conclusion	Public Health Implications
<p>Comprehensive Sexual Health &amp; HIV/AIDS Instruction</p> <p>(CDE, 2019)</p>	<p>Requires CA school districts to provide students with integrated, comprehensive, accurate, and unbiased comprehensive sexual health and HIV prevention education at least once in middle school and once in high school.</p>	<p>CA school districts must provide comprehensive sexual health education consisting of age-appropriate instruction earlier than 7th grade using instructors trained in the appropriate courses.</p>	<p>All outside consultants and guest speakers shall have expertise in comprehensive sexual health education</p>	<p>The law requires that both comprehensive sexual health and HIV prevention education are taught once in middle school and once in high school.</p>	<p>Comprehensive sexual health education refers to education regarding human development and sexuality, including education on pregnancy, contraception, and STDs.</p>
<p>California Parents' Preferences and Beliefs Regarding School-Based Sex Education Policy. Perspectives on Sexual and Reproductive Health</p> <p>(Constantine, Jerman, &amp; Huang, 2007)</p>	<p>Parents were asked about their sex education policy preferences, the importance of teaching selected topics at different grade levels and reasons for their preferences.</p>	<p>A random digital survey of 1,284 California parents was conducted in 2006.</p>	<p>89% of parents reported a preference for comprehensive sex education, and 11% for abstinence-only education.</p>	<p>High levels of support for comprehensive sexual health education across CA's diverse regions and demographic subgroups suggest that this support may be generalizable to communities and school districts.</p>	<p>Parents are key stakeholders in the outcomes of these debates but their views have been less thoroughly considered.</p>

Article	Purpose	Methodology	Primary Results	Conclusion	Public Health Implications
<p>Self-Reported Condom Use is Associated With Reduced Risk of Chlamydia, Gonorrhea, and Trichomoniasis</p> <p>(Gallo, Steiner, Warner, et al., 2007)</p>	<p>To evaluate the association between self-reported condom use and prevalent and incident chlamydia, gonorrhea, and trichomoniasis.</p>	<p>Prospective study of 414 males attending a sexually transmitted infection (STI) clinic. Condom use and STI status were assessed at enrollment and at 4 follow-up visits.</p>	<p>Self-reported condom use was more closely correlated with incident than prevalent STI.</p>	<p>Consistent condom use was associated with reduced risk of contracting and transmitting an STD.</p>	<p>Research on condom effectiveness should focus on incident STD outcomes, where the temporal relationship between condom use and infection is clearer.</p>
<p>Socioeconomic disparities in sexually transmitted infections among young adults in the United States: examining the interaction between income and race/ethnicity</p> <p>(Harling, et al., 2013)</p>	<p>STD risk is expected to be associated with income, since lower income is associated with less access to preventative information and healthcare, and increased used of sex for economic purposes and as a coping mechanism.</p>	<p>Examined the pattern of socioeconomic patterns in STD infection amongst young adults in a nationwide US study, and determined how these patterns varied by race/ethnicity.</p>	<p>STD diagnosis was independently associated with both racial/ethnic identity and low income.</p>	<p>Both economic and racial/ethnic factors should be considered in deciding how to target STD prevention efforts in the US. Particular focus may be warranted for poor, racial/ethnic minority adolescents and young adults.</p>	<p>Tailoring to the minority race/ethnic populations can increase their use of condoms and awareness.</p>

Article	Purpose	Methodology	Primary Results	Conclusion	Public Health Implications
<p>Condom Availability in Schools: A Practical Approach to the Prevention of Sexually Transmitted Infection/HIV and Unintended Pregnancy</p> <p>(The Society for Adolescent Health and Medicine, 2017)</p>	<p>Encourage schools to make condoms available to students as part of efforts to decrease rates of STIs and unplanned pregnancy in adolescents and young adults.</p>	<p>Review of the literature related to effectiveness of condoms, barriers to condom use among adolescents, and condom availability programs in schools in the United States.</p>	<p>Health professionals are in a position to use credibility, and their expertise to move forward policies that support adolescents and young adults to inform on policy change.</p>	<p>Local laws and politics can be a barrier to making condoms available in schools, health care providers should advocate locally, nationally, and globally for the provision of condoms in schools.</p>	<p>Changes that are recommended in this review require professionals to engage in advocacy beyond the typical individual patient encounter.</p>
<p>Condom availability programs in US schools</p> <p>(Kirby, Brown, 1996)</p>	<p>School condom availability programs have been promoted as a promising approach for increasing condom use among students, for reducing the risk of HIV, STDs, and unintended pregnancy.</p>	<p>Telephone survey was conducted in 1995 of key individuals at school condom programs across the United States.</p>	<p>At least 431 public schools in 50 U.S. school districts made condoms available--2.2% of all public high schools and 0.3% of high school districts.</p>	<p>Providing condoms in baskets or bowls allows students to obtain as many condoms as they want, confidentially and anonymously, without needing permission or required counseling.</p>	<p>Program implementation should be a greater commitment to replicating these effective programs in other alternative schools for high-risk adolescents and young adults.</p>

Article	Purpose	Methodology	Primary Results	Conclusion	Public Health Implications
<p>The effect of correct and consistent condom use on chlamydial and gonococcal infection among urban adolescents</p> <p>(Paz-Bailey, et al., 2005)</p>	<p>To evaluate the relationship between self-reported correct and consistent condom use and chlamydial and gonococcal infection.</p>	<p>Cross-sectional study of 509 adolescent girls tested for Chlamydia and gonorrhea infection by urine nucleic acid amplification tests.</p>	<p>Condom errors were reported by 316 of 442 participants who had reported using a condom at least once in the previous 3 months.</p>	<p>Findings indicate that assessing both correctness and consistency of use is important for evaluation of condom effectiveness.</p>	<p>Condoms must be used correctly and consistently to achieve their protective effect.</p>
<p>Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents: a systematic review of published literature</p> <p>(Samkange-Zeeb, Spallek, &amp; Zeeb, 2011)</p>	<p>Systematic review to determine awareness and knowledge of school-going male and female adolescents.</p>	<p>Studies were selected if they reported on the awareness and/or knowledge of one or more STD among school-attending adolescents.</p>	<p>The studies reported low levels of awareness and knowledge of sexually transmitted diseases in which adolescents' sex education is important for STD prevention.</p>	<p>Findings on condom use and knowledge does not always translate into behavior change and the school setting plays an important role.</p>	<p>The school setting offers an effective way to access adolescent populations universally, comprehensively and uniformly.</p>
<p>Planned Parenthood Is Health Care, and Health Care Must Defend It: A Call to Action</p> <p>(Silver, &amp; Kapadia, 2017)</p>	<p>Planned Parenthood provides affordable access to comprehensive sexual and reproductive health care services as well as accurate sexual education from highly skilled and</p>	<p>Between 2011 and 2012, before Affordable Care Act mandated increases in Medicaid reimbursement rates physicians did not accept new Medicaid patients.</p>	<p>33% of primary care physicians (PCPs) and 22% of obstetrician gynecologists reported to not accept new Medicaid patients.</p>	<p>Community health centers are present in more than 9000 communities, approximately 25% of communities with demonstrated primary health care need still do not have a CHC.</p>	<p>Community health centers present in communities with a high risk, low income Latino population would be beneficial to lowering the STD risk and treatment rates.</p>

Article	Purpose	Methodology	Primary Results	Conclusion	Public Health Implications
	<p>trained clinicians and counselors.</p>				
<p>Recent Changes in Prevention Funding to Areas With High Racial and Ethnic Disparities in Sexually Transmitted Disease Rates</p> <p>(Williams, &amp; Chesson, 2018)</p>	<p>Examine changes in federal sexually transmitted disease funding allocations to areas with high racial/ethnic disparities in sexually transmitted diseases</p>	<p>Analyze funding allocations in years before and after the implementation of the funding formula in 2014 and calculate the percentage change in funding to areas with high racial/ethnic disparities in STDs.</p>	<p>Funding for STD prevention allocated by CDC was \$0.42 per capita in 2012 to 2013 and ranged from \$0.15 to \$2.33 across project areas.</p>	<p>Metropolitan areas tend to have higher absolute and lower relative racial/ethnic disparities in STDs compared with non-metropolitan areas.</p>	<p>Implementing the funding formula can reduce racial/ethnic disparities in STDs by increasing prevention resources.</p>
<p>Latino youths' sexual values and condom negotiation strategies</p> <p>(Deardorff, et al., 2013)</p>	<p>Young Latinos in the United States are at high risk for STDs and are less likely than other youth to use condoms.</p>	<p>Cross-sectional data collected in 2003–2006 from 571 Latino women and men aged 16–22 in the San Francisco Bay Area were used to examine associations between sexual values.</p>	<p>Among women, sexual comfort and comfort with sexual communication were positively associated with frequency of direct communication to foster condom use. Among both sexes, the importance that respondents placed on premarital female virginity was negatively associated.</p>	<p>Researchers designing interventions to influence Latino youths' sexual decision making and behaviors should consider including program components that address sexual values.</p>	<p>Considering the value of adding specific program components that address sexual values to assess their influence on Latino youths' sexual decision making and behaviors.</p>