

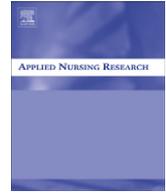
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Factors related to sexual behaviors and sexual education programs for Asian-American adolescents

Young-me Lee, PhD, *DePaul University*
Elizabeth Florez, PhD, *DePaul University*
Joseph D Tariman, PhD, *DePaul University*
Sarah P McCarter, MSN, *DePaul University*
Laren Riesche, MSN



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Young-Me Lee, PhD, RN ^{a,*}, Elizabeth Florez, PhD, RN ^{a,1}, Joseph Tariman, PhD, ANP-BC ^{a,2}, Sarah McCarter, BS ^{a,3}, Laren Riesche, MSN, RN ^{b,4}

^a School of Nursing, DePaul University, Chicago, IL 60640

^b College of Nursing, University of Illinois at Chicago, Chicago, IL 60612

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ABSTRACT

Aim: To understand the influential factors related to sexual behaviors among Asian-American adolescents and to evaluate common factors across successful sexual education programs for this population.

Background: Despite a rapid increase in cases of STIs/HIV among Asian-American populations, there remains a need for a comprehensive understanding of the influential factors related to risky sexual behaviors for this population.

Methods: An integrative literature review was conducted. Peer-reviewed articles and government resources were analyzed.

Results: Five influential factors were identified: family-centered cultural values, parental relationship, acculturation, gender roles, and lack of knowledge and information about sex and STIs. Only two sexual education programs met the inclusion criteria and provided evidence towards effectiveness: Safer Choices and Seattle Social Development Project.

Conclusions: The findings of this study indicate an urgent need for culturally sensitive sexual education programs that incorporate the identified influential factors, especially cultural values in order to reduce risky sexual behaviors among Asian-American adolescents.

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1. Introduction

Despite increased awareness and prevention efforts to reduce the prevalence of sexually transmitted infections (STIs)/HIV and teen pregnancy in the United States, disparities in STIs prevalence and teen pregnancy by race and ethnicity still exist and have become a major public health issue. Teen pregnancy rates have steadily declined for all races except American Indian/Alaska natives and Asian-Americans for whom teen pregnancy rates did not change (Centers for Disease Control and Prevention [CDC], 2014). In addition, Asian Americans reported a higher prevalence of STIs, especially chlamydia and primary and secondary syphilis, compared to Caucasians (CDC, 2012). More concerning is that Asian-Americans in the U.S. make up 1% of the total HIV/AIDS infected cases, and rates and prevalence have risen among this population (Asian & Pacific Islander American Health Forum [AANHP]). In a recent CDC report, the largest increase in HIV/AIDS diagnosed cases was among

Asian-American men who have sex with men (MSM), ages 13–24 years, which is a 255.6% increase from 2001 to 2006. In addition, the rate of HIV diagnosis for Asian-Americans has increased over time from 6.1% per 100,000 in 2005 to 6.5% per 100,000 in 2010 (CDC, 2008). Overall, compared to other racial/ethnic groups, only Asian-Americans had a significant increase in annual HIV/AIDS diagnosis rates (CDC, 2006). These statistics imply that Asian-American young adults are engaged in risky sexual behaviors, which increase their vulnerability to STIs/HIV. Despite a rapid increase in cases of STIs/HIV among Asian-American populations over the past ten years, there is still a widespread perception that these populations are at lower risk for STIs including HIV/AIDS compared to any other populations. Limited research about Asian-American health and STIs/HIV has resulted in few targeted prevention programs in response to these risky behaviors in this population.

The U.S. Census Bureau (2013) reported that Asian-American populations were estimated at 15.8 million, constituting 5.3% of the total U.S. population in 2013. Collectively, these populations are the most rapidly growing groups in the U.S., with a 43% population increase between 2000 and 2010, whereas the total U.S. population only increased by 9.7% during that same time period (U.S. Census Bureau, 2010a, 2010b). The Asian-American population consists of a diverse group of persons having origins of the original people of the Far East, Southeast Asia, or the Indian subcontinent, including: Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippines, Thailand, and Vietnam (U.S. Census Bureau, 2010a). By the year 2050, the number of U.S.

* Corresponding Author: School of Nursing, DePaul University, 990 W. Fullerton Ave, Chicago, IL 60640. Tel.: +1 773 325 4105; fax: +1 773 325 7282.

E-mail addresses: ylee23@depaul.edu (Y.-M. Lee), eflorez1@depaul.edu (E. Florez),

jariman@depaul.edu (J. Tariman), smccar13@depaul.edu (S. McCarter),

stephanielaren@gmail.com (L. Riesche).

¹ Tel.: +1 773 325 4182; fax: +1 773 325 7282.

² Tel.: +1 773 325 2288; fax: +1 773 325 7282.

³ Tel.: +1 248 910 7686; fax: +1 773 325 7282.

⁴ Tel.: +1 217 766 0937.

residents who self-identify as Asian-American is projected to be 37.6 million, or 9.3% of the total population. Along with the overall increase in Asian-American populations, the Asian-American adolescents are also the fastest growing ethnic minority group in the U.S., increasing by 31% between 2000 and 2010 (Mather, Pollard, & Jacobsen, 2011).

Many Asian-Americans share unique cultural values and behaviors that influence sexual practices for adolescents of this population (Okazaki, 2002; Sabato & Silverio, 2010). Within this culture, sex and sexuality are viewed as taboo subjects. As a result, parental and adolescent communication about sex or sexuality rarely occurs in a family setting. Premarital sex is discouraged and sex is not considered an open topic for discussion. Such sexual conservatism is viewed as vital to the maintenance of family unity (Okazaki, 2002; Sabato & Silverio, 2010; Tosh & Simmons, 2007). These cultural values on sex and sexuality may place Asian-American adolescents at greater risk for compromised sexual health. Compared to White adolescents, Asian-American adolescents have less knowledge about the risk of HIV and other STIs. In addition, the Asian-American high school students reported lower condom use (48.9%) compared to other students who are Hispanic (55.2%), White (58.6%), and Black (65.7%) (Lee & Rotheram-Borus, 2009). Despite the increasing Asian-American population and increased risk of STIs/HIV prevalence among Asian-American adolescents, few studies have specifically focused on their sexual behaviors. Although several studies have examined various risk factors including parental communication, sex education, substance use, and peer influences in reducing risk for adolescents, few studies synthesize and compile published data on understanding the factors related to risky sexual behaviors for Asian-American adolescents and examine sexual education programs developed for this population.

The purpose of this integrative literature review was to understand the influential factors related to sexual behaviors among Asian-American adolescents and to evaluate common factors across successful sexual education programs for this population. The findings of the study will enhance the understanding of sexual behaviors among Asian-American adolescents and provide suggestions for future sexual education programs for Asian-American adolescents. The following research questions were addressed in this study:

- What influential factors play a central role in sexual behaviors among Asian-American adolescents?
- What are the common factors across successful sexual education programs that reduce risky sexual behaviors among Asian-American adolescents?

2. Methods

2.1. Design

An integrative literature review design was used to provide a comprehensive view of the literature regarding factors leading to increased risky sexual behaviors and effective sexual education programs for Asian-American adolescents in the U.S. As an analytical method, an integrative literature review has a broad, all-inclusive design that includes review of both experimental and non-experimental research. An integrative literature review is therefore useful in furthering understanding of risky sexual behaviors and effective sexual education programs. This integrative literature review provides a summary of previously conducted research and will play an important role in finding fundamental information to enhance the understanding of the sexual behaviors among Asian-Americans (Whittemore & Knaf, 2005).

2.2. Literature search strategies

For this literature review, a search was performed using CINAHL, PubMed, PsychInfo, and the Cochrane Library database, as well as

reliable public health resources such as the CDC Advocates for Youth, and the U.S. Department of Health & Human Services (USDHHS). Peer-reviewed articles and government resources were analyzed and evaluated to address each of the research questions proposed in the study. Multiple text combinations used in the search contained the key words: Asian-American adolescents, HIV, AIDS, STIs, pregnancy, sexuality, intervention/prevention program, sexual education program for adolescents in U.S., factors, and cultural factors.

2.3. Analytic strategy

For the first research question, identifying influential factors related to sexual behaviors among Asian-American adolescents, articles were reviewed to find relevant information that addressed factors playing an essential role in risky sexual behaviors of this target population (Figure 1). The inclusion criteria used in this search were:

- A study population that included Asian-American adolescents
- Published between 2004 and 2015
- Statistical acknowledgement of high risk sexual behavior
- Identification of factors that influence sexual behaviors among Asian-American adolescents

Throughout the initial search process, a total of 122 articles were found. Of the 122 articles, 18 articles met the inclusion criteria and addressed factors related to sexual behaviors of Asian-American adolescents. Major findings addressed in each article were highlighted to create a list of factors as an initial sorting process. The listed factors were reviewed to identify the recurrence of themes understanding sexual behaviors among Asian-American adolescents. Through this analysis and synthesis, the researchers were able to first group similar factors into a preliminary list and then group similar factors into a final list, which demonstrated a common understanding of sexual behaviors within this group.

To answer the second research question, sexual education programs reported by Advocates for Youth in 2012 and the USDHHS in 2014 were reviewed. Those programs listed were found to be effective at preventing teen pregnancy, HIV, and STIs for adolescents (Advocates for Youth, 2012; USDHHS, 2014). The inclusion criteria used to select the evidence-based programs were as follows:

- Greater than 10% Asian-American study participants
- Total number of study participants greater than 200
- Intervention programs reported to be effective for Asian-American adolescents
- Intervention programs incorporated at least one factor identified in this study
- Intervention programs focused on reducing STIs/HIV transmission and pregnancy in adolescent populations

Only five programs of the 45 programs listed in *Advocates for Youth* (2012) and *USDHHS* (2014) recruited Asian-American adolescents. Of those five programs, only two sexual educational programs met the inclusion criteria. Information about these two programs was compiled into a matrix that recorded the purpose of the program, research design/sample/setting, theoretical framework, description of the interventions, program outcomes on behavior changes, and factors related to sexual practice (Table 1).

3. Findings

3.1. Factors related to sexual behaviors among Asian-American adolescents

Five factors were identified that can help understand sexual behaviors among Asian-American adolescents: family-centered cultural values; parental relationship; acculturation; gender roles; and lack of knowledge and information about sex and STIs.

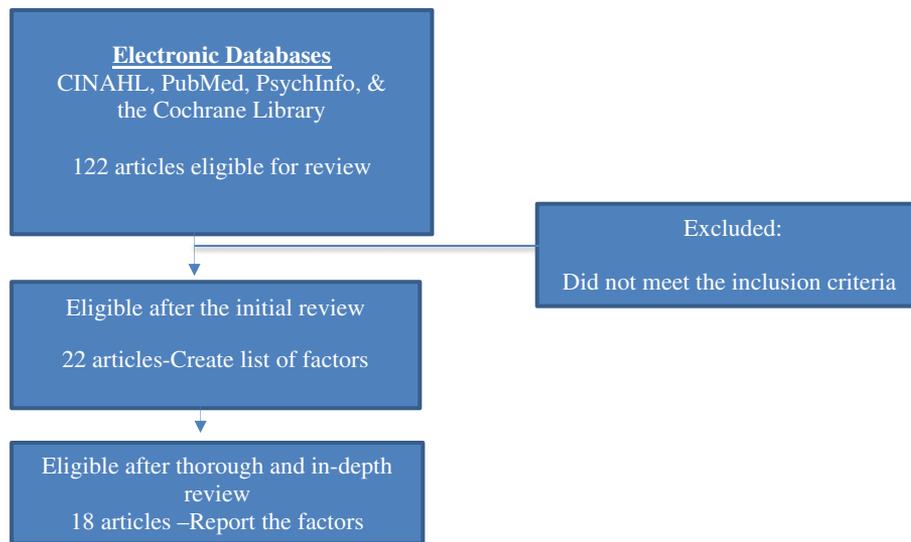


Figure 1. Literature search process and results.

3.1.1. Family centered cultural values

Family-centered cultural values commonly shared by many Asian-Americans provided the background to enhance the understanding of sexual behaviors among Asian-American adolescents. In many Asian cultures, family is viewed as the basis of the individual's identity. Family solidarity and mutual dependence between family members are

encouraged (Hahm, Lee, Ozonoff, & Amodeo, 2007; Kao, 2006; Okazaki, 2002). The family is considered a natural and spontaneous support system, which is characterized by natural attachment and reciprocal obligations among family members (Kao, 2006; Kao, Loveland-Cherry, Guthrie, & Caldwell, 2011). Family loyalty, strong and supportive family relationships, harmony, and respect are highly valued. This traditional

Table 1
Summary of the STI/HIV prevention programs selected for this review.

Program & Purpose	Design/Sample/Setting	Theoretical Framework	Description of Program	Program Outcomes on Behavior Changes	Factors related to Sexual Practice
Safer Choices To implement a STI/HIV and teen pregnancy prevention program.	Experimental design including treatment and control groups in 20 schools. Recruited 9th and 10th grade youth N = 3869 at baseline; N = 3058 at final follow-up. Recruited multiethnic populations including: White (30%), Hispanic (27%), African American (17%), Other (8%), and Asian-American youth (18%).	Social learning theory, Social influence theory, and Models of School Changes	Twenty sessions, each lasting one class period, divided over two years. Program aimed at reducing HIV/STI and teen pregnancy by increasing knowledge, attitudes, and perceptions about abstinence and condom use. Pre- and post-tests and follow-up at seven months, 19 months, at 31 months after the intervention.	Delayed initiation of sexual intercourse only among Hispanic youth. Increased use of effective contraception and increased condom use. Reduced incidence of unprotected sex and reduced number of sexual partners without the use of condoms. Increased HIV testing among students who heard an HIV-positive speaker.	No significant differences reported for Asian-American Students. Provided information to increase knowledge on sex and STI/HIV. Parent communication enhanced safe sexual behavior.
Seattle Social Development Project To examine the long term effects on sexual behavior, pregnancy, STIs.	School-based program Quasi-experimental design including treatment and control groups in 18 public schools. Recruited elementary grades 1 through 6, N = 643 at baseline; N = 598 at follow-up at age 18; N = 349 at age 21. Recruited multiethnic populations including: White (44%), African American 26%), Native American (5%), and Asian-American youth (22%). School-based program.	The social development model	The elementary students in grades one through six received educations from a teacher who had five days of in-service training. Parents also received 5 sessions of curriculum training. Program aimed at reducing nonviolent crime, substance use, sexual activity, pregnancy, bonding to school, school achievement, and school dropout/suspension/expulsion. The program outcomes were measured in grades 1 through 6, at age 18 and at age 21.	Delayed initiation of sexual intercourse. Increased condom use. Reduced number of sexual partners without the use of condoms. Reduced rates of teen pregnancy and birth. Increased rate of STI testing among African-Americans and Asian-Americans.	No significant differences reported for Asian-American students. Family bonding reduced risky health behaviors.

family unity reinforces sexually conservative behaviors of young Asian-Americans including adolescents. As a result, premature sexual activity of adolescents is viewed as an embarrassment, a shame, and a threat to a family harmony (Hahm, Lahiff, & Barreto, 2006). Discussions of sexuality, sex, and sexual expression were discouraged and avoided in public and even regarded in Asian-American homes as a taboo subject (Hahm et al., 2006; Kao, 2006). This contributes to Asian-American adolescents having less parent-initiated sex education, and making adolescents reluctant and uncomfortable in discussing sexuality and sexual information with their parents (Kao, 2006; Kim, 2009). In evaluating the relationship between traditional family support and condom use, a recent study revealed that there was no relationship between these two variables among Asian-American adolescents while the family support was strongly related to condom use in African American adolescents and white adolescents (Gillmore, Chen, Hass, Kopak, & Robillard, 2011). Gillmore et al. (2011) reported that positive family bonding on sexual behaviors did not help protect Asian-American adolescents from engaging in risky sexual activities. Based on the review, family centered cultural values commonly shared by many Asian-American adolescents play a major role in influencing unsafe sexual behaviors among this population.

3.1.2. Parental relationship

Many studies consistently report the importance of the parental relationship in enhancing protective sexual behaviors among adolescents, such as delaying age of sexual initiation, increasing condom use, and decreasing unplanned pregnancies and STIs/HIV rates (Manlove, Logan, Moore, & Ikramullah, 2008; Marsiglia, Parsai, & Kulis, 2009; Roche, Ahmed, & Blum, 2008). In addition, there is widespread agreement that parents should be involved in the sexual education process for their children (Manlove et al., 2008; Roche et al., 2008). Adolescents have also reported that they would prefer to receive sexual education from their parents rather than other sources (Somers & Surmann, 2004). However, some studies reported an opposite finding: most adolescents, including Asian-American adolescents, perceived their parents to be reluctant to speak about sex and sexuality (Kao, 2006; Kao et al., 2011; Kim, 2009). The reluctance may be strongly related to the Asian culture that emphasizes family values, obedience to parents, and sexual innocence until marriage (Kao, 2006; Kao et al., 2011; Kim, 2009; Okazaki, 2002). Within this cultural milieu, parents provide strong messages to their children about abstinence, rarely discussing sex and contraceptives. Thus, many Asian-American adolescents were afraid of being punished if they talked about their sexual activities to their parents.

Kim (2009) examined Asian-American women's perceptions and interpretations of their parents' direct and indirect communication about sexuality during adolescence; the majority of the participants stated that their parents did not provide any direct communication about sexuality as they were growing up. Sexuality discussions were taboo and uncomfortable topics that were avoided in their homes. Many Asian-American parents perceived premarital sexual activity as bad, shameful, and morally reprehensible, therefore, Asian-American adolescents were less willing to discuss the topic with their parents (Kim, 2009). Lee et al. (2013) also reported similar findings that many Asian-American parents felt discomfort in educating their Asian-American adolescents on sexual health topics. Asian-American adolescents stated that school was their major source of sex education and parents were the least reported source of sex education (Lee et al., 2013). Kao et al. (2011) examined the effect of parental influences on risky sexual behaviors among Asian-American adolescents; results reported that there was no relationship between Asian-American mothers' sexual discussion and adolescents' maternal connectedness. The findings implied that there might be unclear sexual expectancy or lack of trust between mother and adolescents (Kao et al., 2011). Previous studies indicate that a strong relationship and connection with parents serve as a strong protective factor for adolescents (Manlove et al., 2008; Marsiglia et al., 2009). However, Asian-American adolescents adopted into a traditional family

perspective and obligations to their parents may be inhibited in developing a relationship with their parents to have open discussion about sex and sexuality.

3.1.3. Acculturation

Acculturation is "the process of psychological and behavioral change that individuals and groups undergo as a consequence of long-term contact with another culture" (Zea, Asner-Self, Birman, & Buki, 2003, p. 108). Through acculturation, attitudes and norms of the new culture can be adopted. Level of acculturation has been correlated with both positive and negative health outcomes for immigrants as some immigrants may retain or lose health protective behaviors from their country of origin or may adopt healthier or unhealthy habits from the new country. Therefore, it is necessary to examine how acculturation influences sexual health behaviors of Asian-American adolescents. Kao et al. (2011) examined level of acculturation, maternal influences, and age of sexual initiation among Asian-American Pacific Islanders (AAPI). Acculturation was measured using two variables: adolescents' length of U.S. residency and whether English was spoken at home. The researchers found that acculturation influenced AAPIs' interactions with their mothers, their perception of their mothers' sexual expectations, and decisions to initiate sexual intercourse. Among more acculturated AAPI adolescents, perceptions of maternal connectedness were related to their own perceptions of their mothers' sexual expectancies and decisions to delay sexual intercourse (Kao et al., 2011).

Contrary to these findings, other researchers have reported that acculturation results in earlier sexual behaviors (Hahm et al., 2006; Meston & Ahrold, 2010; Tong, 2013). More acculturated Asian-American adolescents, based on length of exposure to American society and exposure to English language at home, resulted in earlier initiation of sexual intercourse (Tong, 2013). Similarly, Hahm et al. (2006) found that more acculturated adolescents (foreign-born adolescents who spoke English at home) had the highest rates of sexual intercourse. Meston and Ahrold (2010) found that acculturation had a stronger effect on women than men; and maintaining heritage culture predicted older age of sexual activity initiation whereas acculturation with mainstream culture predicted more casual sexual behavior.

3.1.4. Gender roles

In Asian culture, men and women have different roles. Traditionally, Asian men are dominant and authoritarian, so the father is viewed to be superior in all matters. Asian women are placed in lower positions of authority. This difference in gender roles creates clear sexual division of labor between men and women (Okazaki, 2002; Talibani & Hasanali, 2000). Asian women have more responsibilities in the caretaking needs of family members while Asian men play a major part in paid labor outside of the home. Therefore, women are often heavily dependent upon men for money and resources and often assume the subservient role in relationships with men. This cultural expectation for women's inequality and submissiveness may provide men with more power and control over the types and the frequency of sexual behaviors (Okazaki, 2002; Talibani & Hasanali, 2000). As a result, Asian women are expected to abstain from open discussion about sexual behaviors and cannot negotiate sexual behaviors with their sex partners, possibly placing women at risk of STIs (Okazaki, 2002; Talibani & Hasanali, 2000). Asian-American adolescents are taught early in life about the different gender roles shared by the Asian culture. Due to this conservative cultural background, many Asian-American female adolescents are still reluctant to discuss reproductive health with their mothers and are even more uncomfortable to discuss this topic with their father. At the same time, Asian-American female adolescents are repeatedly exposed to American norms of gender roles through interactions with peers and at school (Kim, 2009; Lee et al., 2013). Several studies reported significant sexual behavior differences between Asian-American males and females (Kim, 2009; Lee et al., 2013; Gillmore et al., 2011; Kao, Guthrie, & Loveland-Cherry, 2007). In particular, females were less likely than

males to use condoms consistently (Gillmore et al., 2011; Kao et al., 2008). Tong (2013) also found that Asian-American females tended to lose their virginity earlier than Asian-American males. Researchers who investigated the maternal role in discussing sex with their daughters found that the majority of Asian mothers did not have reproductive health conversations with their daughters because of embarrassment, lack of knowledge about contraception or STIs, and fear that such talks would encourage earlier initiation sexual behaviors (Kao et al., 2007). Mothers also felt that the ideal time to have a discussion about sex was after marriage, with the expectation that daughters would remain abstinent before marriage (Kao et al., 2007).

3.1.5. Lack of knowledge and information on sex

The lack of appropriate knowledge and information regarding protective sexual behaviors was found to be a strong indicator associated with an increased chance of involvement in the risky sexual behaviors among Asian-American adolescents. According to the study by Zhao, Lai, and Flores (2012), Asian-American adolescents believed that their knowledge on sexual health was lacking compared with other adolescent groups. The study indicated that Asian-American adolescents need more education and conversation with health care providers on sex, contraception, STIs, and pregnancy in a place where their privacy is protected from their parents (Zhao et al., 2012). Study participants preferred to have sex education in a private location where they are able to conceal their sexual activities from their parents. Another study reported that Asian-American females were the least likely to use birth control to prevent pregnancy compared to other ethnic groups. More concerning, Kao (2006) reported that Asian-Americans were the least likely to perceive themselves as at risk for STIs and the least likely to seek sexual and reproductive health care. Significantly lower rates of being tested for HIV and STIs were found in this population than the rest of the U.S. population despite reporting similar rates of risk behaviors (Kao, 2006; Zaidi et al., 2005). As made apparent by the previous studies, Asian-American adolescents had significantly less knowledge on sexual health and protective sexual behaviors (Kim, 2009; TD et al., 2005; Zaidi et al., 2005). This renders Asian-American adolescents more vulnerable and at increased risk for engaging in unprotected sex and to the negative health outcomes such as STIs/HIV and teen pregnancy.

3.2. Successful interventional programs

In response to the increased rates of teen pregnancy and STIs/HIV, numerous sex education programs have been developed for adolescents (Advocates for Youth, 2012; USDHHS, 2014). However, this literature review identified only five sex education programs that provided evidence to support effectiveness and had recruited Asian-American adolescents along with other ethnic groups. Of the five programs identified, two sex education programs met the inclusion criteria: Safer Choices, and Seattle Social Development Project (SSDP), also called Raising Healthy Children.

3.2.1. Safer Choices

Safer Choices, a two-year school-based comprehensive program, is designed to reduce risk behaviors and increase protective behaviors to prevent STIs/HIV and pregnancy for 9th and 10th grade students of all racial/ethnic backgrounds (Coyle, Basen-Engquist, Kirby, Parcel, Banspach, Collins, et al., 2004; Coyle, Basen-Engquist, Kirby, Parcel, Banspach, Harrist, et al., 1999; Kirby et al., 2004). The program addresses five essential elements of education: a) school organization, b) curriculum and staff development, c) peer resources and school environment, d) parent education, and e) school-community linkages. The students enrolled in Safer Choices attended 20 sessions that were evenly divided over two years. Students participated in various activities targeted at building communication skills, delaying the initiation of sex, and promoting condom use by sexually active participants. To enhance communication about sex and sexuality, the program developed a school health protection

council, a peer team, and educational activities targeted for parents, such as presentations by speakers that were HIV-positive. An evaluation of the Safer Choices program found that within different subgroups of high school students including Asian-American students, the students in the experimental groups reported delayed initiation of sexual intercourse, increased use of condoms and contraception, and increased knowledge on STIs (Kirby et al., 2004). Additionally, there was increased communication between students and parents on abstinence and condom use to prevent STIs and pregnancy, among the experimental group compared with the students in the control group (Kirby et al., 2004). However, of the 18% Asian-American student participation population, the researchers did not explain how the aforementioned outcomes were specifically effective for this group, while they indicated that the Latino adolescents and African-American adolescents had positive health outcomes. The Safer Choices program pointed out the importance of knowledge and communication with parents for adolescents to enhance protective sexual behaviors.

3.2.2. SSDP

SSDP is a multiple-year elementary school-based intervention that targets youth in grades 1 through 6 so as to increase bonding to school and family as a protective measure against school failure, delinquency, drug abuse, teen pregnancy, risky sexual behaviors, and violence (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Hill et al., 2014; Lonczak, Abbott, Hawkins, Kosterman, & Catalano, 2002). The SSDP is a school-based program grounded in the belief that every teacher makes a difference in the life of a child, that every child can succeed, and that the family is an important partner in learning (Hawkins et al., 1999). The program also includes child skill development in communication, negotiation, conflict resolution, and refusal skills. Parents are trained in behavior management, academic support, and skills to reduce risks for drug use (Hawkins et al., 1999). Hawkins et al. (2008) conducted research in eight elementary schools with first-grade students to examine long-term effects of the SSDP program. A total of 808 elementary students were recruited and placed into either the experimental or control group where they remained throughout grades 1 to 6. Students in both groups were followed up for fifteen years to measure functioning in school, work, and community, and also mental health problems, risky sexual behaviors, substance misuse, and crime between ages 24 and 27. The experimental group participants demonstrated less early-onset problem behavior, better school bonding, higher academic achievement in adolescence, less adolescent risk behaviors, and better educational, occupational, mental health outcomes (Hawkins, Kosterman, Catalano, Hill, & Abbott, 2008). In addition, two additional studies found the SSDP intervention to be effective (Hill et al., 2014; Lonczak et al., 2002). Both studies reported a significant increase of condom use and a decreased incidence of lifetime STIs diagnosis in the intervention group, specifically African-Americans and Asian-Americans compared to the control groups (Hill et al., 2014; Lonczak et al., 2002). Family bonding between parents and adolescents played a central role in making this program successful.

4. Discussion

In this integrative literature review, five major factors influencing sexual behaviors among Asian-American adolescents were identified. Influencing factors included: family centered values, parental relationship, acculturation, gender roles, and lack of the information and knowledge about sex and STIs/HIV. Those factors contribute to the increased risk of contracting STIs/HIV or getting pregnant. It is essential to consider such influencing factors when developing a sexual education program for this population. Asian cultural values reinforce sexually conservative behaviors of young Asian-Americans, limit sex education and open discussions with parents, and prohibit sexual activities for females until marriage. These cultural values contribute to the reasons that this population hides their sexual activities from their parents and health care providers, potentially resulting in risky sexual behaviors. Thus, the impact of cultural values significantly related to sexual

behaviors must be addressed in future education and intervention programs. In addition, any intervention program targeting Asian-American adolescents should limit parental involvement but should inform parents about the sexual education that their children will have; should disseminate sexual information in ways that protects adolescents' privacy, and should acknowledge the strong social stigma about sexuality that is still shared in the Asian-American community.

Only two successful and effective programs were included in this review: Safer Choices and SSDP. The two programs were developed for the general adolescent population and included Asian-American adolescents. Reported findings demonstrated an increase in knowledge regarding sex, STIs/HIV transmission and pregnancy, among the participants. The programs also reported increased use of condoms, reduced frequency of sexual intercourse, and delayed onset of sexual intercourse. While the two programs were found to be effective at reducing risky behaviors across a variety of ethnic groups (Hill et al., 2014; Kirby et al., 2004; Lonczak et al., 2002), no differences were reported specifically for Asian-American adolescents.

The Safer Choices program integrated two influencing factors (knowledge and parent communication) and SSDP integrated only one influencing factor (family bonding). Although the two programs included parent communication and family bonding related to sexual behaviors as program outcomes, there was no report on how Asian-American students responded to these elements. Thus, it is difficult to determine whether these two selected programs are effective for this study population. In addition, the SSDP was developed for elementary children and not for adolescents, however, previous studies found earlier interventions focused on young children deter future risky sexual behaviors (Hawkins et al., 2008; Hill et al., 2014). There are many sexual education programs targeting African-American and Latino adolescents, but this review found that there are no sexual education programs specifically targeting Asian-American adolescents. Based on the factors identified in this study related to sexual behavior of Asian-American adolescents, new sexual education programs should address the cultural influences of this population on their sexual behavior.

Over the past fifty years, various sexual education programs were developed with an aim to reduce risky sexual behaviors among adolescents, however, there were no programs developed specifically for Asian-American adolescents. This limited our evaluation to only sexual education programs implemented for various racial/ethnic groups rather than programs created to address specific factors that influence only Asian-American adolescent sexual behaviors. Another limitation is that there were very few published research studies that examined cultural values and gender roles associated with sexual behaviors, which Asian-American adolescents commonly share. More literature on influencing factors concerning sexual behaviors for this population may help to identify better sexual education strategies.

5. Conclusion and Implications

Due to cultural values that view sex as a taboo subject, many Asian-American adolescents had limited information and knowledge about sex and STIs/HIV compared with other adolescent groups. In addition, many Asian-American adolescents were afraid to tell the truth about their sexual activities because they did not want to disappoint or embarrass their parents. Thus, health care providers should be aware of and understand cultural values and relationships that exist between Asian parents and adolescents. Health care providers should also provide necessary information on sexual health, contraception, STIs, and pregnancy to this group of adolescents in the place where their privacy is protected from their parents. In addition, health care providers should take into consideration the five sexual behavior influencing factors found in this study, especially gender roles, when providing sexual health education to the Asian-American adolescents. Having gender separate sexual education programs for Asian-American adolescents may be a good option

to help create an open environment that enhances active discussion and participation.

In summary, this study identified five influencing factors related to sexual behaviors among Asian-American adolescents including: family centered values, parental relationship, acculturation, gender roles, and lack of the information and knowledge about sex and STIs/HIV. This study found that many Asian-American adolescents still hold Asian cultural values, which discourage adolescents from having open discussions about sexual health related issues and concerns with their parents. Those culturally related factors contribute to potentially increased risky sexual behavior among this population, contradicting general perceptions that Asian-Americans are model minorities practicing safe sexual behaviors (Ghosh, 2003). Such general beliefs result in limited research on sex-related topics and may preclude the development of sexual education programs for Asian-American adolescents. The findings indicate an urgent need for culturally sensitive sexual education programs that incorporate the influencing factors identified in this study in order to reduce risky sexual behaviors among Asian-American adolescents.

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