Sexual Health and Risk Behaviour among East Asian Adolescents in British Columbia

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Abstract

Despite the large number of adolescents of East Asian origin in Canada, there is limited research on sexual health among this population. A first step to develop strategies for sexual health promotion for adolescents is to document the prevalence of sexual behaviours. This study thus estimated the prevalence of sexual health and risk behaviours among East Asian adolescents in grades 7 to 12, using the province-wide, school-based 2008 British Columbia Adolescent Health Survey (unweighted $N = 4,311$). Less than 10% of East Asian adolescents have ever had sexual intercourse. However, most of these sexually active adolescents have engaged in risky sexual behaviours, including multiple sexual partners and non-condom use at last intercourse. In particular, nearly half of sexually active girls reported not using a condom at last intercourse. Compared to immigrant students whose primary language at home was not English, immigrant and Canadian-born students speaking English at home were more likely to experience sexual intercourse. Among students who have never had sexual intercourse, two most common reasons for sexual abstinence were not feeling ready and waiting to meet the right person. Findings suggest the need for sexual health interventions tailored to gender and sociocultural contexts in which adolescents live.

Keywords

Youth; Immigrants; Adolescent Health Survey; Chinese; Canada

Introduction

A critical developmental task of adolescence is to learn about healthy sexual relationships and practices. Sexual exploration and experimentation are commonly recognized as part of adolescence (Amaro, Navarro, Conron, & Raj, 2002; Gowen, Feldman, Diaz, & Yisrael, 2004; Jeltova, Fish, & Revenson, 2005). Participation in sexual intercourse has become common among older adolescents. Nearly half of adolescents in grades 9 to 12 in North America reported that they have engaged in sexual intercourse (Boyce et al., 2006; Centers for Disease Control and Prevention, 2010; Saewyc, Taylor, Homma, & Ogilvie, 2008). Although many sexually active adolescents engage in safe sexual practices, the initiation of sexual intercourse may put some adolescents at greater risk of health problems. For example, between 30% and 40% of sexually active adolescents in Canada reported that they or their partner did not use a condom at last intercourse (Smith et al., 2009) and they had had at least three sexual partners (Boyce et al.; Saewyc et al.). These sexual behaviours increase the risk of acquiring a sexually transmitted infection (STI) including human immunodeficiency virus (HIV) and, experiencing unintended pregnancy.

The percentage of sexually active adolescents living in North America is lower among Asians than among other ethnic groups (Grunbaum, Lowry, Kann, & Pateman, 2000; Kuo & St Lawrence, 2006; Lowry, Eaton, Brener, & Kann, 2011; Poon & Franz, 2000; Sasaki & Kameoka, 2008; Spence & Brewster, 2010). The proportions of adolescents who reported ever having sexual intercourse were nearly 12% of East Asian students (i.e., Chinese, Korean, and Japanese) in grades 7 to 12 in the 2003 British Columbia Adolescent Health Survey (BC AHS) (Homma & Saewyc, 2008), and about 20% of Japanese American adolescents in grades 9 to 12 in the 2003 Hawaii Youth Risk Behavior Survey (Sasaki & Kameoka). Nevertheless, among sexually active adolescents, the prevalence of risky sexual behaviours among those who are Asians did not differ from that of their peers (Grunbaum et al.; Hou & Basen-Engquist, 1997; Lowry et al.; Poon & Franz). The stereotypical view of Asians as a “model minority” (Uba, 1994) and lack of recognition that culture is not static may result in sexual health risk among Asian adolescents being overlooked.

“Asians” in North America consist of diverse and heterogeneous groups who differ in sociodemographic characteristics including language, religion, home country, and immigration experience. The prevalence of sexual activity likely varies across these subgroups. It is particularly important to take into account the possible influence of culture in analyses of adolescents of Asian descent. Higher rates of sexual activity among Asian adolescents were associated with greater exposure to North American culture, such as being born in the United States (US) (Cochran, Mays, & Leung, 1991) and speaking English at home (Greenman & Xie, 2008; Schuster, Bell, Nakajima, & Kanouse, 1998). Using a combined measure of temporal and linguistic exposure to host and original cultures, a US national longitudinal study of Asian American adolescents (41% Chinese, Korean, or Japanese, 21% Filipino) showed that compared to foreign-born Asian girls speaking a language other than English at home, both their US-born English-speaking peers and foreign-born English-speaking peers were more than four times more likely to have ever had sexual intercourse (Hahm, Lahiff, & Barreto, 2006). No difference was found for US-born Asian American girls who do not speak English at home. On the contrary, a secondary

analysis of the US longitudinal survey found that among Asian Americans and Pacific Islanders (52% Filipino, 36% Chinese, Korean, or Japanese), adolescents who spoke English at home or lived longer in the US had their first intercourse at an older age when mother-adolescent interactions and maternal attitudes about teen sex were taken into account (Kao, Loveland-Cherry, Guthrie, & Caldwell, 2011).

Asian adolescents' sexual activity, therefore, may be influenced by acculturation, broadly defined as the process of adaptation to new cultural environments by acquiring the norms, values, and behaviours of the host culture (Hahm et al., 2006). Individuals who spend more time in North America are assumed to be more acculturated. Their behaviours may be more influenced by Western norms. On the other hand, those who speak a language other than English, presumably a language of their heritage culture, may retain elements of their original culture. They may hold the more conservative values toward adolescent sexuality shared by many Asian cultures, possibly resulting in delayed sexual initiation. Both "time spent in North America" and "speaking a language other than English" have been widely used as proxy measures of acculturation. Although these proxy measures are subject to criticism because of their lack of ability to capture the complex phenomenon of acculturation and the unidirectional assumption of earlier acculturation models (Abraido-Lanza, Armbrister, Florez, & Aguirre, 2006; Hunt, Schneider, & Comer, 2004; Zambrana & Carter-Pokras, 2010), they have identified within-ethnic group differences.

Ethnocultural differences may also be observed in contraceptive behaviour. Oral contraceptives, for instance, are most widely used in Western countries (Fisher, Boroditsky, & Bridges, 1999; Mosher & Jones, 2010; Skouby, 2004). Their popularity is low in East Asian countries, due in part to male-dominated gender relations, social norms against premarital sexual activity, and misconceptions about oral contraceptives (Lee, Jezewski, Wu, & Carvallo, 2011). Condoms are the most popular contraceptive method among East Asian adult women (Sato & Iwasawa, 2006). Some researchers have found an association between acculturation and oral contraceptives. Years of stay in the US were related to increased oral contraceptive use among Asian American adult women (Ursin et al., 1999). A lower level of acculturation was associated with negative beliefs about oral contraceptive pills among Latina women (Venkat et al., 2008). A study of Korean immigrant women in the US showed that more acculturated women held more favorable attitudes toward oral contraceptives (Lee et al.). No research, to our knowledge, has explored the effect of acculturation on contraceptive use among Asian adolescents.

Previous studies have focused on adolescents who initiated sexual intercourse. The majority of adolescents, however, have never had sexual intercourse. What protects them from sexual initiation? A few studies asked adolescents to select among reasons for refraining from sexual activity; they often cite not being ready to have sex and waiting to meet the right person as reasons (Boyce et al., 2006; Smith et al., 2009). Other common reasons are fear of pregnancy or sexually transmitted infections (STIs) and perceived family disapproval (Minnesota Student Survey Interagency Team., 2007; Smith et al., 2009). Girls are more likely than boys to endorse most reasons for sexual abstinence (Minnesota Student Survey Interagency Team., 2007; Smith et al.), but more boys than girls cite lack of opportunity as a

reason (Boyce et al.; Smith et al.). This information can help us understand adolescents' attitudes toward sexual activity.

In spite of continuing efforts to document and monitor the prevalence of adolescent sexual activity, few studies have targeted Asians residing in Canada (e.g., Homma & Saewyc, 2008; Poon & Franz, 2000; Wong, Homma, Johnson, & Saewyc, 2010). Those Canadian studies used data collected about 10 or more years ago; we thus need to update information on the current Asian teen population. The purpose of this study was to document the prevalence of sexual behaviour and reasons for abstaining from sexual intercourse among East Asian adolescents in British Columbia (BC). We focused particularly on adolescents of East Asian origin because: a) East Asians account for half of the "visible minority" youth population in BC (Statistics Canada, 2008a), and b) they share common cultural or philosophical backgrounds and similar immigration histories (Jang, 2002; Yoon & Cheng, 2005). Additionally, the current study compared the prevalence of sexual activity among East Asian adolescents varying in degree of temporal exposure to Canadian culture and linguistic exposure to one's original culture.

Methods

Sample

This study was a secondary analysis of adolescents of East Asian ethnicity in the 2008 BC Adolescent Health Survey (AHS). In BC, more than half of East Asian youth are first-generation immigrants (Statistics Canada, 2008b). Data from BC allowed us to explore the heterogeneity of this group, making sexual health promotion strategies more culturally appropriate. The BC AHS is a cross-sectional, province-wide survey of students in grades 7 to 12 that has been conducted every 5 to 6 years since 1992 (Saewyc & Green, 2009; Smith et al., 2009). This paper-and-pencil anonymous survey was designed to gather information on physical and psychosocial health, and various factors that promote or compromise healthy adolescent development. Of approximately 44,000 students from 1,760 different classrooms in 50 of 59 school districts who were selected for the 2008 BC AHS sample, 29,315 students provided usable data, with an overall response rate of 66%. Each respondent was assigned sampling weights to adjust for unequal probabilities of selection and differential response rates, and to provide a provincial representation of all regular public students throughout BC. More details about the design and procedures of the BC AHS are available elsewhere (Miller, Cox, & Saewyc, 2010; Saewyc & Green).

The sample of this study included any student who selected "East Asian (e.g., Chinese, Japanese, Korean, etc.)" in the response to the question, "What is your cultural or ethnic background?" (unweighted N = 4,311). These students represent more than 48,000 students of East Asian ethnicity enrolled in BC; 53% were girls. The mean age of the sample was 15.0 years. The majority (84%) of the students selected only East Asian as their cultural or ethnic background. About half (53%) of East Asian students reported that they had lived outside of Canada; 53% reported that they spoke a language other than English at home most of the time.

Measures

Sexual behaviours and health outcomes—Participants were asked whether or not they had ever had oral sex. The BC AHS also asked whether or not a student had ever had sexual intercourse. Students were considered sexually active if they endorsed this question or indicated participation in sexual intercourse elsewhere in the survey. Among sexually active students, genders of lifetime sexual partners were grouped into: a) opposite-gender only, b) same-gender only, and c) both-genders. Risky sexual behaviours among sexually active students included a) early sexual initiation (first intercourse before the age of 14), b) multiple lifetime sexual partners (having three or more partners), c) multiple sexual partners during the past year (having two or more partners), and d) substance use before last intercourse. The survey asked about contraceptive methods that they or their partner used at last sexual intercourse. Examples of contraceptive methods included condoms, birth control pills, the patch, and emergency contraception. Response options also included withdrawal, “no method was used,” and “not sure.” Students were asked how many times they have been pregnant or gotten someone pregnant, and a self-reported history of having ever been diagnosed with a sexually transmitted infection.

Reasons for sexual abstinence—For those who were not sexually active, the BC AHS asked reasons for not having sexual intercourse. Respondents could select one or more reasons. Examples were “I’m not ready,” “Some of my friends would disapprove,” “Most students in my school don’t have sexual intercourse,” “I don’t want to get pregnant/cause a pregnancy,” “No one has asked me to/haven’t had the chance” and “I’m waiting until I meet the right person.”

Cultural exposure—To determine if the prevalence of sexual activity differed among adolescents who varied in degree of temporal exposure to Canadian and linguistic exposure to East Asian cultures, students were divided into four groups based on their responses to the following questions: “How long have you lived in Canada?” and “How often do you speak a language other than English at home?” Students were regarded as Canadian-born if they indicated having lived in Canada all their life. Other students were referred to as immigrants although some students in this group may have been born in Canada or have obtained Canadian citizenship at birth. Each student in both the Canadian-born and immigrant groups was then categorized into either a) speaking a language other than English at home most of the time or b) speaking a language other than English at home never or sometimes. For the purpose of convenience, the former was referred to as speaking a heritage language at home, and the latter as speaking English at home. The vast majority (95.4%) of students who spoke a language other than English at home most of the time were single-ethnic East Asians; thus, this was used as a proxy measure of exposure to East Asian cultures. Consequently, four groups of East Asian adolescents were created: a) immigrants speaking a heritage language at home, b) immigrants speaking English at home, c) Canadian-born speaking a heritage language at home, and d) Canadian-born speaking English at home.

Analysis

All analyses were stratified by gender, and conducted using SPSS Complex Samples version 18.0 to adjust for complex sampling designs and weighted data. Descriptive analyses

included frequency of sexual behaviours and reasons for sexual abstinence, with their 95% confidence intervals. Chi-square tests were used to examine differences in prevalence estimates between genders and among adolescents varying in degrees of cultural exposure. We also assessed the association between sexual behaviours (oral sex, sexual intercourse, condom use, and birth control pill use) and cultural exposure by using logistic regressions controlling for age.

To ensure the quality of these estimates, we determined whether any data needed to be suppressed based on the coefficient of variation (CV). Following the guidelines used by Statistics Canada (2007), the quality level of the estimate was considered acceptable when the CV was less than or equal to 16.5%. The CV in the range of 16.6% and 33.3% indicated a marginal level of acceptability (i.e., a high level of sampling error); thus caution should be exercised when interpreting the data. Data were suppressed when the CV exceeded 33.3%.

Results

Sexual Behaviours and Reasons for Sexual Abstinence, by Gender

Sexual behaviours—A low percentage of East Asian adolescents had ever engaged in sexual activity (Table 1). About one in ten boys and girls reported ever having had oral sex. Engaging in sexual intercourse was also uncommon, with less than 10% of boys and girls reporting having done so. Of all East Asian students, 3.7% of boys and 3.5% girls reported that they had ever engaged in oral sex but never had sexual intercourse. Thus, about 13% of students had ever been exposed to risk of STI/HIV acquisition. Among those who had sexual intercourse, the majority reported only heterosexual intercourse. Small proportions of sexually active adolescents reported having only same-gender sexual partners or partners of both genders.

Some sexually active East Asian adolescents had engaged in sexual behaviours that increase the risk of STIs or unintended pregnancy. Sexual initiation before the age of 14 was reported by 17% – 19% of sexually active adolescents (Table 1). Among those who had had sexual intercourse, approximately 30% of students reported three or more sexual partners in their life. Likewise, 41% of boys and 36% of girls had had sexual intercourse with multiple partners during the past year. About one in four sexually active adolescents reported drinking alcohol or using drugs before they had sexual intercourse the last time.

Contraceptive use—To protect themselves from STIs or unwanted pregnancy, some adolescents used condoms or other contraceptive measures. Among those who had had sexual intercourse, girls were less likely than boys to report condom use at last intercourse (Table 1). Nearly 30% of sexually active adolescents reported using birth control pills. Of these, 36.3% of boys and 52.9% of girls reported that they did not use a condom at last intercourse. About 20% of sexually active boys and 30% of sexually active girls did not use either a condom or birth control pills. While more than half of students used these reliable methods, about one in five boys and one in four girls relied on withdrawal. Nearly 7% of sexually active adolescents indicated the use of emergency pills, which implied a failure or complete lack of contraceptive measures. Between 8% and 9% of students reported that no method was used to prevent pregnancy. Although the 2008 BC AHS asked about other

contraceptive measures (e.g., depo provera, the ring), the number of students who reported using these methods was so small that stable estimates could not be computed.

A small proportion of sexually active East Asian adolescents reported pregnancy involvement or a history of STI diagnosis. About 7% of boys reported having gotten someone pregnant; about 9% of girls reported having ever been pregnant. STI diagnosis history was reported by 7% of boys and 5% of girls.

As described above, sexual activity was not prevalent among East Asian adolescents. However, among those who initiated sexual intercourse, the prevalence of risky sexual behaviours was high. Nearly 70% of sexually active boys and three in four (74%) sexually active girls reported that they had ever engaged in one or more risky sexual behaviours, including: a) sexual debut before the age of 14, b) having at least three lifetime sexual partners, c) having at least two sexual partners in the past year, d) substance use before last intercourse, e) not using a condom at last intercourse, and f) pregnancy involvement.

Reasons for Sexual Abstinence—The BC AHS asked those students about their reasons for not having sexual intercourse, and students could choose one or more options from 12 possible reasons. Overall, girls were more likely than boys to endorse most reasons, with some exceptions (Table 2). “Nobody has asked me to/I haven’t had the chance” was cited as reasons for abstinence more frequently by boys than by girls. “Most students in my school don’t have sex” and “I’m waiting to meet the right person” were not different by gender.

For both boys and girls who had never had sexual intercourse, “I’m not ready” and “I’m waiting to meet the right person” were two of the most common reasons. Male adolescents endorsed “I don’t want to get an STI” more frequently than “I don’t want to get pregnant/cause a pregnancy”. On the other hand, among girls, fear of pregnancy was more frequently cited than fear of an STI.

Sexual Behaviours and Reasons for Sexual Abstinence, by Cultural Exposure

Sexual behaviours—The prevalence of oral sex and sexual intercourse appeared to differ by years of residence in Canada and primary language spoken at home. For instance, 8.9% of East Asian immigrant boys who spoke a heritage language at home reported having had oral sex compared with 14.2% of Canadian-born East Asian boys speaking English at home. Percentages of students who reported experience with oral sex were 10.1% and 11.3%, respectively, for Canadian-born boys speaking a heritage language at home and immigrant boys speaking English at home. Less than 10% of boys whose primary home language was not English reported having had sexual intercourse (8.0% for immigrant boys and 7.4% Canadian-born boys); more than one in ten boys speaking English at home reported having done so (10.8% for immigrant boys and 10.2% Canadian-born boys). Among East Asian girls, 7.5% of Canadian-born girls who spoke a heritage language at home reported ever having had oral sex compared with 15.4% of their English-speaking counterparts. Among immigrant girls, 10.1% of those speaking a heritage language at home and 12.7% of those speaking English at home reported lifetime oral sex. The percentages who reported having had sexual intercourse were 8.5% and 5.1%, respectively, for immigrant girls and Canadian-

born girls whose primary home language was not English, compared with 10.5% and 12.9%, respectively for immigrant girls and Canadian-born girls whose primary home language was English.

Because of the increased prevalence of sexual activity with increased age, we performed logistic regression analyses controlling for age. Compared to immigrant boys who spoke a language other than English at home, the two groups of Canadian-born boys were more likely to report that they had ever had oral sex (Table 3). Immigrant boys speaking English at home and Canadian-born boys speaking English at home were more likely than immigrant boys speaking a heritage language at home to report having had sexual intercourse. Compared to immigrant girls who spoke a heritage language at home, Canadian-born girls speaking English at home were about 2.5 times more likely to report having had oral sex and having had sexual intercourse (Table 3). Likewise, immigrant girls speaking English at home had higher odds of having had oral sex and having had sexual intercourse than immigrant girls whose primary home language was not English. The two groups of girls speaking a heritage language at home did not significantly differ in the prevalence of oral sex and sexual intercourse.

Contraceptive use—The low prevalence of having had sexual intercourse prevented us from comparing contraceptive use among sexually active youth by the four categories of cultural exposure. Instead, we used two separate measures of cultural exposure (temporal and linguistic). As shown in Table 4, condom use at last intercourse did not differ by either years of stay in Canada or primary home language among either gender. Birth control pill use at last intercourse was associated with neither temporal or linguistic exposure among sexually active boys. Canadian-born sexually active girls were more likely than their immigrant peers to report that they had used birth control pills at last intercourse. Speaking a heritage language at home was associated with lower odds of using birth control pills.

Reasons for sexual abstinence—Among East Asian boys who have never had sexual intercourse, there were some significant differences in the frequency with which students endorsed reasons for sexual abstinence by years of stay in Canada and primary home language (Table 5). Higher percentages of Canadian-born boys speaking a heritage language at home, compared to their immigrant counterparts endorsed “Someone in my family would disapprove”, “Some of my friends would disapprove”, “Most students in my school don’t have sexual intercourse”, and “My friends don’t have sexual intercourse”. Canadian-born boys who spoke English at home were more likely than immigrant boys speaking a heritage language at home to endorse “Most students in my school don’t have sexual intercourse”.

Compared with non-sexually active immigrant girls whose primary language at home was not English, their Canadian-born peers speaking a heritage language at home were more likely to cite perceived family disapproval, perceived peer disapproval, fear of an STI, and fear of pregnancy. Likewise, Canadian-born girls who spoke English at home were more likely to endorse lack of readiness, perceived peer disapproval, a fear of STI, a fear of pregnancy, a lack of opportunity, and waiting to meet the right person. Waiting until marriage was cited less frequently by Canadian-born girls speaking English at home than by heritage-language speaking immigrants and Canadian-born girls. About 60% of Canadian-

born girls who spoke English at home endorsed fear of pregnancy and waiting to meet the right person compared with less than half of immigrant girls speaking English at home. These findings are presented in Table 5.

Discussion

This is one of few studies to document the prevalence of sexual activity among adolescents of East Asian heritage in North America and reasons for refraining from sexual intercourse among non-sexually active adolescents. The use of data from a province-wide survey including a large number of East Asian participants provided stable prevalence estimates in BC and allowed us to examine the heterogeneity within this group. We found that prevalence of sexual behaviour, including contraceptive practice, and reasons for abstinence differed by cultural exposure.

Among BC adolescents of East Asian heritage in grades 7 to 12, the percentage of students who had ever had sexual intercourse was lower than 10%. This was lower than the provincial rate of 22% (Smith et al., 2009). The lower prevalence of sexual initiation among Asian adolescents in BC was consistent with previous study findings (Homma & Saewyc, 2008; Kuo & St Lawrence, 2006; O'Sullivan, Cheng, Harris, & Brooks-Gunn, 2007; Sasaki & Kameoka, 2008). Similarly, East Asian students had a lower rate of lifetime oral sex experience (about 11%) compared with the entire population of 7th to 12th graders (26%; Smith et al.). A few studies have reported that Asian young people were less likely than other ethnic groups to engage in oral sex (Baldwin, Whiteley, & Baldwin, 1992; Kaiser Family Foundation, Hoff, Greene, & Davis, 2003; Schuster et al., 1998). In summary, Asian youth are more likely to delay sexual activity. However, it should be remembered that while the vast majority of East Asian adolescents reported postponing sexual involvement, approximately 70% of sexually active East Asian adolescents reported having engaged in one or more types of risky sexual behaviours. Sexual initiation may place those adolescents at risk for exposure to STIs and HIV or unwanted pregnancy if they engage in risky sexual practice such as having multiple sexual partners and unprotected sex.

Gender Differences

No gender differences were observed in frequency of sexual behaviours, with one exception: East Asian girls were less likely than East Asian boys to use a condom at last intercourse. The rate of condom use among East Asian girls was also lower than the overall female provincial rate of 61% (Smith et al., 2009). Asian young people in North America have been found to be less knowledgeable about STI/HIV transmission and protection than other ethnic groups (Franz & Poon, 2000; Kaiser Family Foundation et al., 2003; Meston, Trapnell, & Gorzalka, 1998) and less likely than non-Latino Whites to have talked about HIV/AIDS with parents (Hou & Basen-Engquist, 1997). This lack of knowledge may contribute to the relatively low prevalence of consistent condom use among East Asian female students. However, knowledge acquisition is not sufficient to change condom use behaviour. Condom use requires not only knowledge and awareness of STI/HIV and pregnancy but also accessibility, practice skills, negotiation abilities, and relationship power balances. For example, women who propose using a condom more likely to be perceived to be

promiscuous or less sexually active by East Asian men than by men of European descent (Conley, Collins, & Garcia, 2000). Traditional gender role expectations and cultural taboos about discussing sexual topics may put East Asian girls in a difficult position to persuade their male partners to use condoms.

While the prevalence of most sexual practices was similar between gender groups, boys and girls who are not sexually active may have different reasons for abstinence. Among East Asian students who have never had sexual intercourse, girls were more likely than boys to endorse most reasons for not having had intercourse, which is consistent with other studies (Boyce et al., 2006; Minnesota Student Survey Interagency Team., 2007; Smith et al., 2009). Despite the different endorsement rates, “not being ready to have sex,” “waiting to meet the right person,” and “waiting until marriage” were frequently cited by both boys and girls, as shown in past research (Boyce et al.; Smith et al.). Many East Asian students appear to decide against having sexual intercourse until they feel ready physically, emotionally, and socially.

Differences by Cultural Exposure

The low rates of sexual activity among adolescents of East Asian descent may be explained by cultural expectations regarding sexual behaviour (Hou & Basen-Engquist, 1997; Kuo & St Lawrence, 2006; Okazaki, 2002). In many Asian cultures, open discussion about sexual topics has been traditionally considered inappropriate (Chan, 1994). Sexual intercourse during adolescence or before marriage also has been viewed as unacceptable, bringing shame or dishonor to the family. The influence of sexual conservatism may also be inferred from our finding that compared with immigrants and Canadian-born students whose primary language at home was English, immigrants who spoke another language at home were less likely to engage in oral sex and sexual intercourse. Moreover, immigrant youth who speak a heritage language at home may be more likely to feel an association with their culture of origin than with Western culture, which is more liberal about sexual values. Linguistic cultural exposure may be more powerful in maintaining and influencing adolescents' values about sexual behaviours than temporal exposure. Language is an essential tool for learning about culture; for those who speak a language other than English at home, this could indicate the maintenance of strong cultural connections to one's family and ancestors. Phinney and colleagues (Phinney, Romero, Nava, & Huang, 2001) found that parental cultural maintenance had a positive effect on their adolescents' ethnic language proficiency, which in turn was associated with higher levels of adolescents' ethnic identity.

To our knowledge, the current study was the first attempt to investigate whether reasons for sexual abstinence varied across levels of cultural exposure. Canadian-born boys speaking a language other than English at home were more likely than their immigrant counterparts to list external influences for not having had sex. One possible explanation is that perceived social isolation at school experienced by immigrant East Asian adolescents, especially newcomers (Li, 2009), may be related to less frequent endorsement of peer influences as a reason for sexual abstinence. However, for girls, percentages of endorsing “most students don't have sex” and “friends don't have sex” did not differ by cultural exposure. Some researchers found that male adolescents were more likely than girls to report perceived peer

pressure for sexual initiation (De Gaston, Weed, & Jensen, 1996; Nahom et al., 2001). Adolescents' decisions about sexual abstinence may be influenced by the intersection of culture and gender.

Among East Asian girls who reported never having had sexual intercourse, avoiding an STI and pregnancy was generally endorsed more frequently by Canadian-born students than by immigrant students. While it appears to be an important reason for abstinence for all four groups of girls, more Canadian-born girls were concerned about the risk of contracting an STI or getting pregnant. As shown in a study of young Asian women in Canada (Brotto, Chik, Ryder, Gorzalka, & Seal, 2005), those who had spent more years in Canada had more knowledge about sexual health. Canadian-born girls may thus be more aware of STI and pregnancy risks than immigrant girls. STIs or teen pregnancy prevention might be a less important reason for immigrant girls using a heritage language at home than for Canadian-born girls using English at home. Instead, they were more likely to endorse postponing sexual initiation until marriage. This reason was also endorsed more frequently by Canadian-born girls using a heritage language at home than by Canadian-born girls using English at home. Our finding implies that East Asian female adolescents who speak a heritage language at home may be likely to hold conservative sexual values.

Contraceptive Use

Contraceptive use, particularly methods other than condoms, among Asian adolescents in North America has not been well-documented. In this study, birth control pills were the second most common method to prevent pregnancy, followed by withdrawal and emergency contraception. But this percentage was lower than the provincial average of 46% (Smith et al., 2009). A reason for the lower rate may be cultural. In qualitative studies with East Asian women living in BC, the majority of whom were adults, many expressed fear or distrust of oral contraceptive use (Wiebe, Sent, Fong, & Chan, 2002; Wiebe, Janssen, Henderson, & Fung, 2004; Wiebe, Henderson, Choi, & Trouton, 2006). Fear of weight gain, infertility, and being regarded as promiscuous were the main concerns about oral contraceptives, which were primarily mentioned by Chinese-speaking women (Wiebe et al., 2002). Overall, East Asian women tended to have negative beliefs and attitudes about birth control pills. Cultural influences on oral contraceptive use were also inferred in our study, as sexually active girls who were born in Canada or primarily spoke English at home were more likely to use oral contraceptives. Those girls with higher levels of exposure to Canadian culture may have more positive beliefs and attitudes toward birth control pills, as shown by previous studies with Asian American and Latino adult women (Lee et al., 2011; Ursin et al., 1999; Venkat et al., 2008). In addition, Canadian-born or English-speaking East Asian girls may be more likely than their immigrant or heritage-language-speaking peers to have more acculturated mothers, which may increase accessibility to or familiarity with oral contraceptives. For health care providers who work with East Asian adolescents, it is important to understand potential cultural effects on attitudes and behaviour related to contraceptive use. Furthermore, we should not neglect the fact that about one in four sexually active East Asian students reported that they did not use reliable methods to prevent pregnancy such as condoms and birth control pills. There may be difficulty getting access to sexual health information and services because of a cultural bias or linguistic barrier.

Limitations

There are several limitations to this study. First, the BC AHS did not include adolescents who did not attend regular public schools. Students in ESL (English as a Second Language) programs also were not included in the survey. East Asian adolescents in ESL, who were likely to be new immigrants or international students, may have different rates of sexual behaviour. Second, as with any self-reported data concerning sensitive topics, some responses may have been inaccurate. Sexual experience was potentially under-reported given that teen sexual activity is generally considered inappropriate in East Asian cultures. Third, some estimates were marginal in the level of data accuracy, due in part to the small size of sexually active East Asian students.

Another limitation is the measure of exposure to Canadian or East Asian cultures. We used the length of time that students have spent in Canada and primary language spoken at home as a proxy measure. These variables may or may not reflect the actual degree of cultural exposure. For example, Canadian-born students using English at home who are very interested in their heritage cultures may talk with East Asians or read books in English to learn about these cultures. Additionally, this study did not take into account potential differences by country of origin. Prevalence rates of sexual experience may differ within the group “East Asian” students, which consisted of those of Chinese, Korean, and Japanese heritage. However, those differences may result from differences in generational status rather than country of origin. Some studies showed higher proportions of risky behaviours among Japanese American adolescents than Chinese American adolescents (Choi, 2008; Nagasawa, Qian, & Wong, 2001). However, when generational status was controlled for, there were no longer any differences between Chinese Americans, who were more likely to be immigrants or second generation, and Japanese Americans, most of whom were third- or higher generation.

Conclusions

Among East Asian adolescents in grades 7 through 12 attending regular public schools in BC, prevalence of sexual intercourse and oral sex were very low. Particularly, students who reported speaking a heritage language at home had lower rates than those who did not. However, once East Asian students initiated sexual intercourse, many of them engaged in unsafe sexual practices. Our findings support the need for sexual health education and services for East Asian adolescents. Safe sexual practices need to be an intervention focus.

Sexual health promotion strategies may need to be tailored to gender and sociocultural contexts in which adolescents live. This study is unique in that we analyzed whether the intersection of gender and cultural exposure had an effect on East Asian adolescent’s understanding of sexual health. Healthcare professionals need to recognize the heterogeneity of East Asian adolescents and potential ethnocultural and gender influences on sexual behavior and decision-making. Differing levels of contact with Canadian and East Asian cultures were associated with sexual experience, contraceptive use, and reasons for sexual abstinence. These findings indirectly point to the effects of cultural factors that may keep adolescents from initiating sexual activity and accessing sexual health information and other services. It is important to understand cultural reasons underlying sexual health and risk

practices. In clinical settings, lengths of residence in Canada and primary language spoken at home are useful in briefly assessing adolescents' cultural backgrounds. Although gender and culture appear to be key to understanding sexual health among East Asian adolescents in Canada, adolescent sexuality is too complex to be explained by only two factors. Future research should explore more factors that may influence sexual activity and decisions on abstinence among this population.

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Table 1

Prevalence Estimates of Sexual Behaviours by Gender

(weighted N)	Boys, % (22,601)	Girls % (25,507)
Ever had oral sex	11.0 [9.7, 12.5]	11.8 [10.3, 13.4]
Ever had sexual intercourse	9.1 [7.8, 10.6]	9.7 [8.4, 11.3]
Ever had oral sex only (never had intercourse)	3.7 [2.9, 4.7]	3.5 [2.7, 4.5]
Among those who had ever had sexual intercourse		
(weighted N)	(2,001)	(2,441)
Gender of sexual partners, lifetime		
Same-gender only or both-genders	9.7 ^M [6.4, 14.5]	11.2 ^M [7.7, 16.0]
Early sexual initiation, < 14 years	18.5 [13.9, 24.2]	16.8 [12.6, 22.0]
3+ sexual partners, lifetime	30.5 [24.4, 37.4]	26.6 [21.0, 32.9]
2+ sexual partners, past year	41.1 [34.0, 48.5]	36.0 [29.7, 42.9]
Substance use before last intercourse	22.8 [17.7, 28.7]	24.1 [18.8, 30.4]
Condom use at last intercourse ^I	67.4 [59.6, 74.3]	52.8 [45.7, 59.7]**
Contraception methods used at last intercourse		
Birth control pills ^I	28.9 [22.0, 37.0]	29.4 [23.4, 36.2]
Emergency contraception ^I	6.7 ^M [3.5, 12.5]	6.8 ^M [3.9, 11.8]
Withdrawal ^I	19.6 [14.3, 26.3]	25.3 [19.7, 31.8]
No method was used	8.4 ^M [5.5, 12.8]	9.3 ^M [6.0, 14.0]
Dual contraceptive use		
Neither condoms or birth control pills	22.4 [16.9, 29.0]	31.7 [25.0, 39.2]
Used condoms, not birth control pills	48.7 [40.5, 57.0]	38.9 [32.4, 45.9]
Used birth control pills, not condoms	10.5 ^M [6.1, 17.5]	15.6 [11.3, 21.0]
Both condoms and birth control pills	18.4 [13.3, 25.0]	13.8 ^M [9.8, 19.2]
Pregnancy involvement	6.9 ^M [4.4, 10.5]	8.8 ^M [5.4, 14.0]
STI diagnosis history	6.6 ^M [4.1, 10.7]	4.8 ^M [2.8, 8.2]
1+ risky sexual behaviours ²	69.5 [61.7, 76.4]	73.6 [66.4, 79.8]

Note. 95% confidence intervals are in brackets.

^I May be used together with other methods

² Reported one or more behaviours such as 1) starting sexual intercourse before 14, 2) having 3+ sexual partners in life, 3) having 2+ sexual partners in past year, 4) using alcohol or drugs before last intercourse, 5) not using a condom at last intercourse, and 6) having ever been pregnant or gotten someone pregnant

^M Should be interpreted with caution due to high levels of error

**
 $p < 0.01$.

Table 2

Reasons for Sexual Abstinence Among Non-sexually Active Adolescents by Gender

(weighted N)	Boys, % (18,811)	Girls, % (21,878)
I don't want to have sex	18.7 [16.8, 20.8]	43.7 [41.4, 45.9] ***
Not ready	42.3 [39.7, 45.0]	62.2 [59.6, 64.7] ***
Family would disapprove	29.3 [26.9, 31.9]	45.4 [42.9, 47.9] ***
Friends would disapprove	13.0 [11.3, 15.0]	28.8 [26.7, 31.0] ***
Most students don't have sex	15.3 [13.6, 17.3]	13.4 [11.8, 15.1]
Friends don't have sex	15.7 [13.9, 17.6]	21.0 [19.1, 23.0] ***
Religious/spiritual beliefs	9.0 [7.5, 10.7]	15.1 [13.3, 17.1] ***
To avoid an STI	29.2 [26.7, 31.8]	44.5 [42.1, 47.0] ***
To avoid pregnancy	22.4 [20.2, 24.7]	53.3 [50.8, 55.9] ***
Nobody has asked me to	30.7 [28.5, 33.0]	19.3 [17.5, 21.1] ***
Waiting to meet the right person	51.4 [48.7, 54.1]	53.4 [50.5, 56.2]
Waiting until marriage	31.0 [28.5, 33.6]	43.4 [41.0, 45.9] ***

Note. 95% confidence intervals are in brackets. Students could choose one or more options

 $p < 0.001$.

Table 3

Age-adjusted Odds Ratios for Oral Sex and Sexual Intercourse, by Cultural Exposure

Primary language at home	Immigrants		Canadian-born	
	Heritage	English	Heritage	English
Boys				
(weighted N)	(8,989)	(4,050)	(2,594)	(6,870)
Ever had oral sex	Ref.	1.54 [0.98, 2.42]	1.79 * [1.02, 3.14]	2.36 *** [1.64, 3.39]
Ever had sexual intercourse	Ref.	1.65 * [1.03, 2.62]	1.43 [0.77, 2.65]	1.82 ** [1.20, 2.76]
Girls				
(weighted N)	(10,368)	(3,761)	(3,441)	(7,835)
Ever had oral sex	Ref.	1.66 * [1.06, 2.60]	1.11 [0.61, 2.01]	2.34 *** [1.58, 3.47]
Ever had sexual intercourse	Ref.	1.73 * [1.07, 2.79]	0.98 [0.48, 1.99]	2.58 *** [1.71, 3.88]

Note. Ref = reference group; 95% confidence intervals are in brackets.

*
 $p < 0.05$.

**
 $p < 0.01$.

 $p < 0.001$.

Table 4

Age-adjusted Odds Ratios for Contraceptive Use at Last Intercourse Among Sexually Active Students, by Cultural Exposure

	Condoms	Birth control pills
Boys		
Canadian-born ^a	1.08 [0.53, 2.21]	1.41 [0.74, 2.72]
Speak a heritage language at home ^b	1.02 [0.55, 1.92]	1.09 [0.54, 2.22]
Girls		
Canadian-born ^a	1.11 [0.63, 1.98]	2.00 * [1.08, 3.73]
Speak a heritage language at home ^b	1.00 [0.54, 1.85]	0.37 ** [0.18, 0.77]

Note. 95% confidence intervals are in brackets.

^aReferent: immigrants

^bReferent: speak English at home

* $p < 0.05$.

** $p < 0.01$.

Table 5

Reasons for Sexual Abstinence Among Non-sexually Active East Asian Adolescents by Cultural Exposure
(Percentage and 95% Confidence Intervals)

	Immigrants		Canadian-born		
Primary language at home	Heritage	English	Heritage	English	
Boys					
(weighted N)	(7,571)	(3,264)	(2,191)	(5,512)	
Family would disapprove	26.9 [23.0, 31.1]	26.2 [21.3, 31.6]	37.5 [30.3, 45.4]	33.0 [28.3, 38.2]	*
Friends would disapprove	10.0 [7.8, 12.7]	13.9 [10.2, 18.7]	19.8 [14.2, 26.9]	15.0 [11.5, 19.3]	**
Most students don't have sex	11.7 [9.3, 14.7]	13.1 [9.6, 17.8]	22.1 [16.3, 29.3]	20.1 [16.5, 24.2]	***
Friends don't have sex	12.7 [10.2, 15.8]	16.5 [12.5, 21.4]	23.2 [17.0, 30.8]	16.9 [13.6, 20.9]	*
Girls					
(weighted N)	(8,912)	(3,074)	(3,081)	(6,457)	
Not ready	58.9 [54.6, 63.0]	61.3 [54.6, 67.6]	67.6 [60.9, 73.7]	67.7 [63.4, 71.7]	*
Family would disapprove	42.2 [38.4, 46.1]	45.7 [39.3, 62.2]	56.3 [49.2, 63.2]	47.0 [42.7, 51.4]	**
Friends would disapprove	23.5 [20.6, 26.6]	27.6 [22.1, 33.9]	37.8 [31.4, 44.6]	34.1 [30.2, 38.3]	***
To avoid an STI	38.2 [34.4, 42.1]	42.0 [36.1, 48.2]	53.6 [46.8, 60.2]	52.8 [48.4, 57.1]	***
To avoid pregnancy	48.3 [44.3, 52.4]	49.1 [42.6, 55.7]	63.6 [56.0, 70.6]	60.6 [56.1, 64.9]	***
Nobody has asked me to	17.0 [14.4, 19.9]	16.9 [12.8, 21.9]	21.3 [16.4, 27.1]	23.6 [20.2, 27.4]	*
Waiting to meet the right person	49.5 [45.6, 53.4]	49.1 [42.2, 56.1]	57.5 [50.9, 63.9]	62.0 [57.4, 66.4]	***
Waiting until marriage	47.6 [43.5, 51.7]	40.4 [34.4, 46.7]	50.4 [43.9, 56.9]	38.2 [34.0, 42.5]	**

Note. 95% confidence intervals are in brackets. Students could choose one or more options. Only statistically significant results are presented.

*
 $p < 0.05$.

**
 $p < 0.01$.

 $p < 0.001$.