CHAPTER 2

Sexual Risk Behaviours and Sexual Health Outcomes among Homeless Youth in Canada

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Introduction

Homeless youth are a high-risk population that experiences a range of adverse sexual health outcomes. This chapter provides an overview of the sexual health of homeless youth in Canada, describing the various factors that contribute to sexual risk behaviours and poor sexual health outcomes and offering suggestions for future research and clinical interventions. This chapter first reviews the prevalence of sexual risk behaviours and poor sexual health outcomes among homeless youth. It then examines the various determinants of sexual risk behaviours and highlights the structural barriers influencing poor sexual health in this population. The chapter concludes by examining how knowledge of these risk factors can be implemented toward the development of intervention strategies and policy changes in order to improve the sexual health of homeless youth in Canada.

Prevalence of Sexually Transmitted Infections, HIV and Pregnancy

In 2006, the Public Health Agency of Canada (PHAC) published findings from the Enhanced Surveillance of Canadian Street Youth (E-SYS), a three-year cross-sectional study examining the sexual health of homeless youth (ages 15–24) in seven urban centres across Canada (PHAC 2006a, 2006b). The goal of E-SYS was to obtain national data on the sexual health and sexual behaviours of this high-risk population in order to guide the development of disease prevention programs. To date, E-SYS is the largest and most comprehensive Canadian study of homeless youth. A summary of major E-SYS findings across the three-year study period is presented in Table 2-1.

According to E-SYS, the overall proportion of homeless youth reporting a lifetime sexually transmitted infection (STI) ranged from 20.8 percent to 26.6 percent (PHAC, 2006b). Lifetime STI prevalence was even higher in a separate sample of Montreal street youth (ages 13–25), in which 31.7 percent reported a past STI (Roy et al. 2000). These rates appear significantly higher than the STI prevalence among the general Canadian youth population (ages 15–24), which has been estimated at 4 percent (Rotermann 2005).

Table 2-1. Overview of major E-SYS findings in 1999, 2001 and 2003

	Prevalence Rates/Mean		
	1999 (*n* = 1645)	**2001 (*n* = 1427)**	**2003 (*n* = 1656)**
Sexual Health Outcomes			
Chlamydia	8.6%	11.5%	11.0%
Gonorrhoea	1.4%	1.4%	3.1%
Syphilis	—	0% (< 0.01%)	0.7%
HSV-2	—	14.2%	18.8%
Hepatitis B	2.5%	2.1%	2.3%
Hepatitis C	4.0%	3.6%	4.5%
HIV	< 1.0%	< 1.0%	< 1.0%
Sexual Behaviours			
Lifetime sexual partners*	19.0	21.5	22.5
Past STI	20.8%	22.7%	26.6%
Lifetime involvement in sex trade	20.2%	20.9%	22.6%

*Mean of male and female lifetime sexual partners is reported as no overall mean was provided.

Prevalence rates are also higher for specific STIs and HIV. In E-SYS, the prevalence of chlamydia ranged from 8.6 percent to 11.5 percent, approximately 10 times higher than the prevalence among youth in the general population (PHAC 2006a). Other Canadian studies of homeless youth have reported similar chlamydia rates of 6.6 percent (Haley et al. 2002) and 8.6 percent (Shields et al. 2004). In E-SYS, the prevalence of gonorrhea was 20 to 30 times higher than rates in the general youth population and increased significantly over the study period (PHAC 2006a). Prevalence rates were also high for hepatitis B and herpes simplex virus 2 (HSV-2), the primary cause of genital herpes. Studies in Toronto, Montreal and Vancouver have reported high HIV prevalence among homeless youth, ranging from 1.9 percent to 2.8 percent (DeMatteo et al. 1999; Marshall et al. 2008; Roy et al. 2000). Comparable data on HIV prevalence rates among youth in the general population are not available, likely because this age group makes up an extremely small proportion (approximately 3.5%) of the total number of HIV cases in Canada (PHAC 2007).

Unintended pregnancy is also common among homeless youth. In one Canadian study of homeless youth ages 13–25, 47.1 percent of the females reported at least one past pregnancy and 35.6 percent of the males reported having impregnated a female (Roy et al. 2000). This is markedly higher than rates from a national sample of Canadian students in grades 9 and 11, in which 3.0 percent of females reported lifetime pregnancy and 1.7 percent of males reported having impregnated a female (Boyce et al. 2006).

Sexual Risk Behaviours among Canadian Homeless Youth

Results from E-SYS and the aforementioned studies highlight that poor sexual health among homeless youth is a significant public health concern in Canada. A full discussion of the factors influencing these high rates of sexual risk behaviours will be discussed later in the chapter. Compared to youth in the general population, homeless youth are more likely to be sexually active and more likely to engage in specific sexual behaviours known to be related to negative outcomes. In Canadian studies, nearly all homeless youth (> 95%) report having ever engaged in sexual intercourse, and the average age of first intercourse was approximately 14 (PHAC 2006a; Roy et al. 2000). This is notably younger than the average age among the general population in Canada (16.8 years; Hansen et al. 2004).

Homeless youth are more likely to engage in unprotected sex than youth in the general population. Among Montreal homeless youth, 86.8 percent who had engaged in vaginal intercourse and 67.6 percent who had engaged in anal intercourse did not always use a condom (Roy et al. 2000). In an analysis of sexually active youth in E-SYS, 41–51 percent reported not using a condom with a female partner and 47–56 percent reported not using a condom with a male partner at their last sexual encounter (PHAC 2006a). These proportions are higher than those reported in two nationally representative studies of Canadian youth, in which 26.4 percent of sexually active youth who had been with multiple partners in the past year and/or who were not married reported not using a condom at last intercourse (Rotermann 2008).

Homeless youth also report high numbers of sexual partners. Across the three years of E-SYS, male youth reported an average of 21–23 lifetime sexual partners and female youth reported an average of 17–22 lifetime sexual partners. Male youth who reported same-sex sexual activity reported an average of 45 lifetime sexual partners (PHAC 2006a). Roy and colleagues (2000) found that 20.6 percent of sexually active youth reported between 6 and 20 sexual partners in the past six months, and 7.6 percent reported more than 20 sexual partners. High proportions of youth in E-SYS engaged in sexual activity with high-risk sexual partners, including partners who had an STI, partners who were involved in sex trading and partners who were under the influence of drugs during their sexual encounter. On average, 21.2 percent of homeless youth reported lifetime involvement in sex trade (PHAC 2006a). Other Canadian studies have reported similar or higher rates of lifetime sex trade involvement (25.9% and 27% respectively; Roy et al. 2000; Weber et al. 2002).

Predictors of Poor Sexual Health among Homeless Youth in Canada

In light of these findings, a substantial amount of research has been conducted examining why homeless youth demonstrate such poor sexual health. For the purpose of this chapter, risk factors for poor sexual health will be broadly broken down into multiple categories. These categories include socio-demographic factors, family environment and early life experiences and individual/psychological factors. Further, an exploration of the structural barriers associated

with street life is critical for a comprehensive understanding of why homeless youth may demonstrate poor sexual health.

Socio-Demographic Risk Factors

Gender and sexual orientation. Although both male and female homeless youth are at considerable risk for STIs, HIV and pregnancy, there are gender differences in disease prevalence as well as reported frequency and nature of sexual risk behaviours. In studies from Canada and the United States, females had higher STI prevalence rates (excluding HIV), were less likely to report consistent condom use, were more likely to report having had a sexual partner with an STI history and were more likely to report past sex trading. Males reported more frequent intercourse with regular and casual partners and more lifetime sex partners and were also more likely to have engaged in anal sex (Halcón and Lifson 2004; PHAC 2006a; Roy et al. 2000; Solorio et al. 2006; Tevendale, Lightfoot, and Slocum 2009). HIV prevalence was also higher among males than females (DeMatteo et al. 1999; Roy et al. 2000).

One possible explanation for these gender disparities is that male and female homeless youth have different life experiences and are thus differentially predisposed to engage in certain behaviours. For example, female homeless youth are more likely than male homeless youth to report childhood sexual abuse and sexual victimization (e.g., Rew, Taylor-Seehafer and Fitzgerald 2001; Tyler et al. 2004), which are known risk factors for sexual risk behaviours such as sex trading and unprotected sex (Senn, Carey, and Vanable 2008). Further, from a sociological perspective, it has been proposed that gender-based power imbalances play an important role in determining individuals' sexual behaviours (e.g., Amaro 1995). In several studies of non-homeless females from diverse ethnic backgrounds, individuals who were low in relationship power (e.g., decision-making abilities, assertiveness, control) demonstrated an increased risk of sexual risk behaviours and poor sexual health outcomes, including unprotected sex and HIV (e.g., Bralock and Koniak-Griffin 2007; Campbell et al. 2009; Jewkes et al. 2010). This power differential may make it difficult for girls and women to assert themselves sexually and to resist coercion in sexual situations (Tyler and Johnson 2006). Future studies would benefit from investigating the ways in which gender-based power dynamics interact with factors related to homelessness to influence youths' sexual behaviour and health.

When examining HIV specifically, its relatively high prevalence among male homeless youth may be accounted for by the large proportion of HIV-positive homeless youth who identify as gay or bisexual (DeMatteo et al. 1999), since Canadian gay and bisexual males have disproportionately high HIV prevalence (PHAC 2007). The high number of male gay and bisexual youth involved in sex trading (Tyler 2009) and the higher number of sexual partners among lesbian, gay and bisexual (LGB) youth (Cochran et al. 2002) may also explain higher prevalence of HIV among LGB youth. However, there is a clear need for more research examining how sexual orientation is associated with sexual health among homeless youth.

Age. Greater age has consistently been identified as a predictor of sexual risk behaviours and poor sexual health among homeless youth (e.g., DeMatteo et al. 1999; Ennett, Federman, Bailey, Ringwalt, and Hubbard 1999; Linton et al. 2009). In E-SYS, the prevalence of gonorrhea and infectious syphilis were higher among older youth (ages 20–25) compared to younger youth (ages 15–19). Older youth had a higher prevalence of HIV infection and HSV-2 and a higher prevalence of hepatitis B and C (PHAC 2006a). Similarly, two studies of homeless youth in Toronto found that HIV prevalence was significantly higher among older youth compared to younger youth (DeMatteo et al. 1999; Linton et al. 2009). Greater age is also associated with sex trading, with one study reporting that homeless youth were 37 percent more likely to have traded sex with each additional year of age (Tyler 2009). There are several explanations for the association between older age and increased HIV risk. First, youth who are older in age have had more years and greater opportunity to engage in sexual risk behaviours and may therefore have increased exposure to HIV or other STIS (Linton et al. 2009). As all youth age, they gain more freedoms that allow them to engage in risky behaviours, and such behaviours are considered a natural part of the maturation process. However, these freedoms are likely to be exaggerated among homeless youth, who may be forced to make many decisions about their sexual behaviour without the cognitive maturity to do so (Milburn et al. 2007).

Linton and colleagues (2009) examined predictors of HIV in a Toronto sample of youth (ages 18–30) and noted that homeless youth under age 25 have an easier time accessing preventive health and social service support networks and in obtaining welfare assistance.

They indicated that, in Ontario, the network of health and social service organizations that are available to youth under 25 are not available to individuals over this age. Further, in order to receive financial assistance for unemployment through welfare agencies, individuals over age 25 require proof of address (Linton et al. 2009). Finally, there may be a lag in time between exposure to an infection or virus, seroconversion (in the case of HIV) and manifestation of symptoms. Therefore, some younger youth may be unaware that they have contracted an STI or HIV or may demonstrate negative test results (Linton et al. 2009).

Ethnicity. Canadian studies that have examined ethnic differences in sexual heath have primarily compared non-Aboriginal youth to Aboriginal youth (e.g., Marshall et al. 2008; Miller et al. 2006; Shields et al. 2004). Studies have consistently reported that Aboriginal youth demonstrate more sexual risk behaviours and higher prevalence rates of STIs and HIV. In Vancouver, Aboriginal homeless youth were nearly three times more likely to be HIV positive than non-Aboriginal youth (Marshall et al. 2008). In Toronto, a higher proportion of Aboriginal youth (5.0%) and black youth (4.3%) self-reported their HIV status as positive compared to white youth (3.0%; Linton et al. 2009). Further, in a cross-sectional study of homeless youth across seven Canadian urban centres, higher chlamydia prevalence was found among Aboriginal youth (13.7%) compared to non-Aboriginal youth (6.6%; Shields et al. 2004). Aboriginal individuals are more likely to experience a range of adverse health outcomes, including substance abuse, trauma, poverty and discrimination (Pearce et al. 2008). These factors, coupled with common stressors experienced by all homeless youth, may predispose Aboriginal homeless youth towards poor sexual health outcomes.

Family Environment and Early Life Experiences

Past studies have demonstrated that a large proportion of homeless youth are raised in troubled and disorganized family environments (Cauce et al. 2000; Ringwalt, Greene and Robertson 1998). Youth who have grown up in unsupportive, neglectful or abusive family environments may resort to homelessness as an escape from their adverse living situations. Once on the street, they may be more susceptible to negative influences, as they have not developed the social support, coping skills or resources to protect them from adverse health

consequences (PHAC 2006b; Tyler 2006; Tyler et al. 2004). In one qualitative study, many participants reported parental substance misuse and criminal activity (Tyler 2006). Childhood abuse and neglect are also identified as primary reasons for leaving home (Ringwalt, Greene and Robertson 1998; Tyler 2006). Across studies of homeless youth, 38–70 percent of females and 23–24 percent of males reported childhood sexual abuse, and 35–51 percent of males and females reported childhood physical abuse (Cauce et al. 2000; Molnar et al. 1998; Noell et al. 2001; Rew, Taylor-Seehafer and Fitzgerald 2001).

Childhood sexual abuse has been particularly emphasized as a risk factor for poor sexual health outcomes, including unprotected sex, high numbers of sexual partners, early age of first intercourse and sex trading (Johnson, Rew and Sternglanz 2006; Rotheram-Borus et al. 1996; Senn, Carey and Vanable 2008; Simons and Whitbeck 1991). LGB homeless youth, who report even higher rates of childhood sexual abuse compared to heterosexual homeless youth (Tyler and Cauce 2002), have been found to engage in sex trading at the same rate as heterosexual female homeless youth and at a higher rate than heterosexual male homeless youth (Gangamma et al. 2008). Childhood physical and emotional abuse are also correlates of sexual risk behaviours and poor sexual health among homeless youth, including sex trading (Greene, Ennett and Ringwalt 1999) and unintended pregnancy (Thompson et al. 2008).

Individual/Psychological Factors

Past research has demonstrated that certain cognitive, perceptual and behavioural factors may predict sexual health outcomes among homeless youth. In one study of homeless youth, Rew, Fouladi and Yockey (2002) examined the association between a range of cognitive-perceptual and behavioural factors and sexual health practices. Results of a path analysis indicated a direct link from safe sex behaviours to future time perspective (i.e., concern about future consequences), intention to use condoms and self-efficacy to use condoms. Further, an indirect association was found between safe sex behaviours and social support, connectedness, perceived health status and assertive communication. Other studies have further highlighted the importance of social support networks in reducing sexual risk behaviours such as sex trading (Ennett, Bailey and Federman 1999; Milburn et al. 2007) and unprotected sex (Tevendale, Lightfoot and Slocum 2009).

Findings from Tevendale, Lightfoot and Slocum's (2009) study provided additional evidence for the importance of social support and future time perspective as protective factors among homeless youth. Specifically, having positive expectations for the future was associated with fewer sex partners, and, among females, having a mentor (i.e., an individual to go to for support and guidance) reduced the risk of having unprotected sex. In terms of future time perspective, the authors suggested that youth who have future-oriented goals (e.g., family, career) may be less inclined to engage in certain sexual risk behaviours as they might interfere with their long-term goals. Conversely, individuals without such goals may be less concerned with the long-term implications of their actions. Other protective factors that emerged from this study include goal setting and decision-making skills, which presumably assist youth to manage stress and make more health-conscious and future-oriented decisions. In addition, self-esteem appeared to reduce the likelihood of engaging in unprotected sex among females (Tevendale, Lightfoot and Slocum 2009).

Although homeless youth demonstrate elevated rates of mental health problems (Cauce et al. 2000), limited research has examined their association with sexual health in this population. One study demonstrated that depressive symptoms were a risk factor for sex trading among homeless youth (Tyler 2009). Another study found that conduct disorder, which is highly prevalent among homeless youth (Cauce et al. 2000), is associated with a range of HIV-risk behaviours including sex trading, multiple sexual partners and drug use (Booth and Zhang 1997). Emotional dysregulation models have been applied to explain various risk behaviours among homeless youth, including substance use (MacLean, Paradise and Cauce 1999) and self-mutilation (Tyler et al. 2003). However, future studies are needed to examine the impact of emotional dysregulation on sexual health in this population.

Substance use is also a key variable to explore when examining the sexual health of homeless youth. According to E-SYS, among injection and non-injection drug users, 36.3 percent reported sex trading in the past three months. Compared to non-injection drug users, injection drug users were more likely to have had sex with a high-risk partner, to have been involved in sex trading, to have had unprotected sex during their last sexual encounter and to have had more lifetime sexual partners. Similarly, a study of homeless youth

in Vancouver found that the use of non-injection crack and crystal methamphetamine increased the odds of engaging in survival sex (i.e., sexual activities to meet subsistence needs such as acquiring food, shelter or money) 3.45 and 2.02 times, respectively (Chettiar et al. 2010). These findings are consistent with US studies of homeless youth showing that substance use is associated with sex with multiple partners, inconsistent condom use and lifetime involvement in sex trade (Greene, Ennett and Ringwalt 1999; Halcón and Lifson 2004; Solorio et al. 2008). Substance use is also associated with higher STI rates among homeless youth (PHAC 2006a). In E-SYS, the prevalence of chlamydia and gonorrhea was higher among crystal methamphetamine users compared to non-users, and the prevalence of genital herpes was significantly higher among youth who reported any (injection or non-injection) drug use compared to no drug use. Compared to non-injection drug users, injection drug users were more likely to have had an STI (PHAC 2006a).

Although the higher prevalence of STIS among injection drug users may be partially accounted for by intravenous transmission, other important contextual variables likely account for sexual risk behaviours and poor sexual health among drug users in general relative to non-drug users. Drug users may engage in sexual risk behaviours such as sex trade as a means of obtaining drugs or money to purchase drugs (Tyler and Johnson 2006). Further, being under the influence of drugs may increase vulnerability to sexual coercion or assault. In a qualitative study, Bungay and colleagues (2010) reported that gendered power dynamics diminished the sexual safety of women who used crack cocaine. Specifically, the women reported that men waited for them to be in a position of heightened vulnerability while under the influence of drugs to sexually assault or coerce them.

Structural Barriers

Homeless youth face significant barriers to obtaining stable housing. Many landlords will not rent to youth who are on welfare, and alternative and affordable housing options such as single-room occupancy hotels are often viewed as unsafe by youth. Additionally, such accommodations may be considered undesirable by youth, as single-room occupancy hotels are often viewed as a last resort and the domain of adults who are homeless (Krüsi et al. 2010). Youth who

engage in substance use are particularly disadvantaged in finding stable housing, as the majority of shelters require abstinence, often an unfeasible task for youth with competing needs. Collectively, structural and societal barriers, such as the presence of enforcement-based policies and a lack of affordable options, make finding stable housing for street-involved youth extremely challenging (Krüsi et al. 2010).

Research has found that not having a regular, safe place to stay has implications for the sexual health of homeless youth. In one study, male and female homeless youth who had ever spent the night in public places or with strangers engaged in a greater number of sexual risk behaviours (e.g., no condom use, sex with a high-risk partner) than those who had not experienced such circumstances (Ennett et al. 1999). Additionally, in a Vancouver study examining housing status and sexual risk among street-involved youth, youth living on the streets were more likely to report inconsistent condom use than were youth who were stably housed (i.e., in an apartment, house or single-room occupancy hotel), adjusting for sociodemographic and drug-related variables (Marshall, Kerr, Shoveller, Patterson et al. 2009). On the streets, there is likely limited access to sexual health resources such as condoms that might be available in shelters. However, despite greater amenities in shelters versus sleeping on the streets, youth living in a shelter had more sexual partners in the past six months compared to youth who were stably housed. The authors posited that high turnover rates at shelters and sharing of unstable sleeping quarters may encourage multiple sexual partnerships (Marshall, Kerr, Shoveller, Patterson et al. 2009).

The context of street life may also limit homeless youth's access to social and health services, which may influence sexual health practices (Kelly and Caputo 2007; Marshall, Kerr, Shoveller, Montaner et al. 2009). In Canada, not having a fixed address makes it challenging to get a provincial health card, which may lead to denied access to health services (Kelly and Caputo 2007). Additionally, street-involved youth may fear discrimination and may distrust adult service providers, creating further barriers to accessing services (Geber 1997). For youth who are not utilizing health care and social services, it may be difficult to obtain contraceptives, information regarding safe sex skills and the social support systems to encourage safe sex behaviours (Rew, Chambers and Kulkarni 2002). Enforcement-based policies resulting in the criminalization of street youth may also strongly contribute to sexual risk behaviours in this population (Marshall, Kerr, Shoveller,

Montaner et al. 2009). For example, in a study of female homeless crack users, individuals described using dangerous, secluded locations, such as alleys, for drug use in order to avoid detection by police. These locations often increased their vulnerability to sexual assault (Bungay et al. 2010). Furthermore, homeless youth who are engaging in illegal activity such as sex trading or illicit drug use may fear contact with police or social service agencies and thus be deterred from accessing health care services (Chettiar et al. 2010; Kelly and Caputo 2007).

Duration of homelessness has consistently shown associations with increased sexual risk (Milburn et al. 2005; Rew, Fouladi, and Yockey 2002; Rew et al. 2008). The longer youth remain homeless, the more likely they are to become part of marginalized subcultures that may encourage increasingly dysfunctional risk behaviours (Tyler et al. 2001). For example, youth who had been homeless for more than one year engaged in more sexual risk behaviours and fewer safer-sex behaviours than those who were homeless for less than six months (Rew et al. 2008). Given that many homeless youth enter the streets as a result of family conflict and poor social support, they are likely to form new social networks involving other homeless youth (PHAC 2006b). Although these networks may be beneficial in providing youth with the social support they previously lacked, they may also lead youth to engage in risky behaviours. Homeless youth often become embedded in criminal street networks and gain exposure to criminal mentors who pass on information and skills that facilitate criminal involvement. This form of mentorship may also promote and normalize behaviours such as sex trading or survival sex (Hagan and McCarthy 1997).

Survival sex is a sexual risk behaviour that appears strongly linked to the context of street life (Greene, Ennett and Ringwalt 1999). In a recent study of Canadian street youth, only 10 percent were working a consistently paid job, and these formal positions offered considerably less income than illicit activities, such as selling drugs or trading sex (Benoit, Jansson and Anderson 2007). Gwadz and colleagues (2009) qualitatively examined homeless youths' initiation into the street economy, including sex trading. The authors identified five factors that influenced youths' involvement in these illicit activities: (1) social control (i.e., decreased attachment to conventional society and increased attachment to unconventional society), (2) barriers to the formal economy (i.e., no fixed address, educational deficits,

perceived stigma and past incarceration), (3) benefits to street economy (i.e., immediate financial support, emotional gratification, sense of empowerment, independence and flexibility), (4) severe/immediate economic need (i.e., need for food, clothing and shelter) and (5) active recruitment into the street economy by predatory adults or homeless peers. In another qualitative study, Tyler and Johnson (2006) found that, although youth generally did not want to engage in sex trading, most did so in a desperate attempt to gain access to resources they deemed necessary for survival (i.e., money, shelter, food, drugs). Further, in some circumstances, youth's involvement in sex trading was involuntary. A number of youth stated that they likely would not have traded sex if not for pressure from others. Furthermore, several youth explained that although they did not engage in sex trading, they had friends who did. Evidently, sex trading is considered a relatively normative behaviour among homeless youth and therefore a viable strategy for fulfilling subsistence needs (Gwadz et al. 2009; Tyler and Johnson 2006).

Limitations and Future Directions

When describing the current status of sexual health among homeless youth in Canada, several limitations are noteworthy. First, for certain sexual risk behaviours and STIs, incidence rates are more likely to be reported than prevalence rates, making cross-study comparisons inappropriate. Furthermore, there is a lack of large-scale Canadian studies comparing the sexual health in homeless youth to youth in the general population. E-SYS (PHAC 2006a, 200b) provides detailed information regarding the sexual health of homeless youth in Canada; however, findings are only released once every few years, provide retrospective data and do not statistically compare homeless youth to the general population. In addition, E-SYS does not compare the sexual health of homeless youth on important socio-demographic variables such as ethnicity or sexual orientation, which are known correlates of sexual risk (Halcón and Lifson 2004; Tyler 2009). Studies that do examine ethnicity typically use broad and often dichotomous ethnic categories and do not provide a detailed exploration of sexual health differences among individuals of varying ethnicities. Given the considerable ethnic diversity in most urban centres in Canada, ethnic differences in sexual health outcomes should be better addressed in the literature. Future large-scale studies of Canadian

homeless youth should consider examining socio-demographic risk factors, including detailed information on youths' ethnic identities and comparative data from normative youth samples, in order to ascertain how much more at risk this population is relative to youth in the general Canadian population.

Another limitation of this literature is that certain sexual health variables may be strongly correlated, which could potentially lead to inaccurate reporting of results. For example, many studies examine sex trading as a dichotomous variable without assessing the number of sexual partners youth have had within the context of sex trading versus outside of sex trading. Therefore, if an individual has traded sex with multiple sexual partners, this may increase the overall sample mean of lifetime sexual partners and give the impression that high numbers of sexual partners are common to all homeless youth. Another example is the reporting of age at first intercourse. Given that many homeless youth experience childhood sexual abuse (Molnar et al. 1998; Rew, Taylor-Seehafer and Fitzgerald 2001; Rew et al. 2001), it is possible that they are reporting age of childhood sexual abuse rather than age of first consensual intercourse. This could decrease the overall mean and give the impression that most youth first engaged in consensual intercourse at a young age.

Gender biases in reporting of sexual risk behaviours may also limit the research in this area. For example, as a result of social norms and expectations, males may be less likely than females to report certain behaviours (e.g., involvement in sex trading) whereas females may be less likely than males to report other behaviours (e.g., high numbers of lifetime sexual partners). Throughout the literature, males consistently report higher numbers of sexual partners than females (e.g., Halcón and Lifson 2004; PHAC 2006a). However, in theory, if males are engaging in sexual behaviours with female partners, then males and females should report roughly similar numbers of sexual partners. It is possible that these differences may be partially due to the fact that many homeless male youth identify as gay or bisexual; however, this is not clarified in the literature. Although these concerns are important to underscore, there is ample evidence to demonstrate that homeless youth, in general, are a very high-risk population who engage in a wide range of sexual risk behaviours. Nevertheless, future studies should make efforts to clearly differentiate sexual health variables and avoid reporting bias in order to ensure that an accurate picture of homeless youth is being presented.

Finally, it is important to highlight that various studies define 'youth' differently, making it difficult to draw direct comparisons between studies. For example, the Linton and colleagues (2009) study defined youth as ages 18–30, whereas other studies have used age groupings of 15–24 (PHAC 2006a) and 13–25 (Roy et al. 2000). Thus, although many studies indicate that they are using youth samples, it is unlikely that the same populations are being compared across studies. Future research would benefit from developing more consistent guidelines as to what age groups constitute youth.

Implications for Intervention Strategies and Policy Changes

Canadian homeless youth demonstrate elevated rates of sexual risk behaviours compared to youth in the general population, placing them at risk for a host of adverse sexual health outcomes. An examination of the risk factors for poor sexual health within this population highlights the complexity of this problem. Homeless youth represent a group of individuals who have experienced inordinate life stressors. Many use homelessness as an escape from a family environment that is unsupportive, neglectful and abusive. Once on the streets or in shelters, homeless youth become immersed in a culture that promotes high-risk behaviour as a normative way of life. Without adequate social support, coping skills and access to education and health care, these youth are vulnerable to a range of poor health outcomes.

Effective interventions to reduce aversive sexual health consequences among homeless youth in Canada must be based upon comprehensive models that take multiple factors into account. Harm reduction strategies are effective ways to prevent risk for poor sexual health and should be applied in both school systems and community-based programs (PHAC 2006b). These strategies should include information on the importance of safe sex strategies and condom use, as well as behavioural skills training to ensure that youth are aware of how to use condoms correctly and consistently. This type of intervention should be accessible through community-based programs to ensure that homeless youth are receiving this information regardless of whether or not they are attending school. At the school level, prevention programs can be applied, not only by enforcing sexual education programs, but also by identifying youth who may be at an increased risk of leaving their homes and applying

individualized interventions to prevent them from becoming homeless. Community-based programs should also include outreach services that provide STI screening and treatment programs to prevent transmission of STIs (PHAC 2006b). These programs should adopt youth-friendly, sex-positive policies that reduce barriers to traditional health care environments (e.g., using street-based STI testing as part of outreach services) (Marshall, Kerr, Shoveller, Montaner et al. 2009). Incorporating these preventative activities into the health care strategy for street-involved youth could increase health care utilization and uptake beyond traditionally mandated programs.

Changes at the structural and policy levels must also be considered in the development of effective sexual health interventions for homeless youth. Policy changes promoting safe, affordable and harm-reduction focused, as opposed to abstinence-requiring, housing options would allow for easier access to a fixed address. Marshall, Kerr, Shoveller, Patterson and colleagues (2009) proposed that future policies should implement rent and subsidy programs that provide safe and stable housing for homeless youth. Increased housing opportunities would help to improve barriers to formal employment, potentially reducing youths' involvement in the street economy, including sex trading (Gwadz et al. 2009). Given that many youth desire to be part of the formal economy but face significant barriers in obtaining employment, vocational counselling, job training programs and transitional support services would also help to re-connect youth with conventional society and encourage alternatives to the street economy. Overall, there is a clear emphasis in the literature for the need to target structural barriers preventing youth from accessing essential resources including housing, education, employment and health care (Zerger, Strehlow and Gundlapalli 2008).

In conclusion, homeless youth are at increased risk for a variety of sexual risk behaviours and poor sexual health outcomes. These sexual risk behaviours occur in a social context including lack of housing, formal employment and financial resources, low social support, mental health problems and other psychological outcomes related to their marginalization. Sufficient literature exists on the risk factors affecting homeless youth to create much-needed preventative and supportive interventions to decrease sexual health risk. These interventions should include strategies at the individual and structural levels to improve poor sexual health outcomes in this vulnerable population.

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