Sexual Health
http://dx.doi.org/10.1071/SH14019_CO

Corrigendum

Sexual health, vulnerabilities and risk behaviours among homeless adults. Verena Strehlau, Iris Torchalla, Isabelle Linden, Kathy Li and Michael Krausz. *Sex Health* 2014; **11**(1): 91–93. doi: http://dx.doi.org/10.1071/SH14019

The publisher wishes to advise that the following data in the Table 1 should have read 5% for 3 factors that compromise sexual health, not 50%. Please see below.

Table 1. Sexual vulnerabilities and risk factors

CI, confidence interval

Sexual health variables	Total sample		Women % (n)	Men % (n)	P-value
	% (n)	95% CI	`,		
Childhood sexual abuse	50.2 (243)	45.7–54.8%	69.8 (132)	37.6 (111)	< 0.0001
Adulthood sexual abuse	28.4 (142)	24.5-32.6%	52.6 (103)	12.8 (39)	< 0.0001
Unprotected sex with more than two partners	7.2 (36)	4.9-9.5%	10.2 (20)	5.3 (16)	0.037
Current sex work	10.4 (52)	7.9–13.4%	20.9 (41)	3.6 (11)	< 0.0001
Number of factors that compromise sexual health ^A					
0	41.0 (205)	_	16.3 (32)	56.9 (173)	< 0.0001
1	30.8 (154)	_	33.7 (66)	29.0 (88)	< 0.0001
2	22.0 (110)	_	35.2 (69)	13.5 (41)	< 0.0001
3	5.0 (25)	_	12.2 (24)	0.3 (1)	< 0.0001
4	1.2 (6)	_	2.6 (5)	0.3 (1)	< 0.0001

^AThis variable summarises the factors described in the table.

Sexual Health, 2014, **11**, 91–93 http://dx.doi.org/10.1071/SH14019

Sexual health, vulnerabilities and risk behaviours among homeless adults

Verena Strehlau^{A,B,D}, Iris Torchalla^{A,B}, Isabelle Linden^B, Kathy Li^B and Michael Krausz^{A,B,C}

Abstract. It is well known that homeless individuals are at risk for a variety of health problems, including sexually transmissible infections. Optimisation of health services for the homeless requires knowledge of their sexual health. The sexual health and sexual vulnerability factors of 500 homeless adults (196 women) were assessed in a cross-sectional survey in three Canadian cities. Our data indicate that a significant proportion of individuals and more women than men reported multiple experiences that compromise their sexual health exponentially. These findings may inform health policies related to sexuality to foster positive sexual health outcomes for all people, including marginalised populations.

Received 18 July 2013, accepted 4 February 2014, published online 26 March 2014

Background

Sexual health as a concept has evolved over the past decades by widening its original biomedical focus to include emotional, cognitive, physical and social aspects of sexual wellbeing, and a positive integration of sexuality into a person's life. 1-3 According to the US Surgeon General, sexual health 'includes the ability to understand and weigh the risks and impacts of sexual actions and to practice abstinence when appropriate. It includes freedom from sexual abuse and discrimination and the ability of individuals to integrate their sexuality into their lives, derive pleasure from it, and to reproduce if they so choose'. 2 It has been suggested that such definitions are aspirational goals rather than a reflection of most people's current conditions. 4 This may be especially true for homeless individuals, who lack the privacy of a home and whose sexual decision-making may be affected by poverty and many other vulnerabilities.

Methods

Here, we describe sexual health-related factors in a sample of 500 homeless individuals from Vancouver, Victoria and Prince George, British Columbia, Canada. Recruitment and procedures have been described in detail elsewhere. The interview assessed: demographic information; childhood sexual abuse, adult sexual abuse, current sexual risk-taking behaviours and sexually transmissible infections (STIs). We calculated a summary score for factors that compromise sexual health: childhood and adult sexual abuse, sex work and unprotected sex with more than one partner, resulting in scores of 0 to 4.

Results

Of the 500 individuals, 196 (39.2%) were women; participants ranged in age from 19–66 years, with a mean age of 37.9; 39.8% identified as Aboriginal; 63.6% had not graduated from high school; 64.5% (n=320) were single or had never married; and 2.8% (n=314) had children. Eight women reported being pregnant. Table 1 presents their sexual vulnerability factors stratified by gender.

In total, 58.9% (n=294) of the participants reported having been sexually active in the past month and 7.2% (n=36) of them had had unprotected sex with at least two persons. Significantly more women than men reported this type of behaviour. The number of instances of unprotected sex in the last 30 days varied greatly from 0 to 100 times, with a median of 3 (interquartile range Q1–Q3: 0–12). Regarding STIs, 8.2% (n=16) of the women and 7.3% (n=22) of the men reported having been diagnosed with HIV/AIDS (P=0.726, 95% confidence interval: 5.5-10.3%), and 7.1% (n=14) of the women and 3.7% (n=11) of the men had been diagnosed with at least one other STI in the past 12 months (P=0.082). When summarising sexual vulnerability factors, more than one-quarter of the participants had two or more factors, and women had a greater number of factors than men.

Conclusions

Although the Canadian government has developed a framework to provide accessible sexual health education, ⁷ it also indicated a lack of specific sexual health strategies due to a lack of Canadian

^AUniversity of British Columbia, Department of Psychiatry, Detwiller Pavilion, 2255 Wesbrook Mall, Vancouver, BC V6T 2A1, Canada.

^BCentre for Health Evaluation and Outcome Sciences, 588-1081 Burrard Street, Vancouver, BC V6Z 1Y6, Canada.

^CSchool of Population and Public Health, University of British Columbia, James Mather Building, 5804 Fairview Avenue Vancouver, BC V6T 1Z3, Canada.

^DCorresponding author. Email: verena.strehlau@ubc.ca

92 Sexual Health V. Strehlau et al.

Ci, comidence mervar									
Sexual health variables	Total sample		Women % (n)	Men % (n)	P-value				
	% (n)	95% CI							
Childhood sexual abuse	50.2 (243)	45.7–54.8%	69.8 (132)	37.6 (111)	< 0.0001				
Adulthood sexual abuse	28.4 (142)	24.5-32.6%	52.6 (103)	12.8 (39)	< 0.0001				
Unprotected sex with more than two partners	7.2 (36)	4.9-9.5%	10.2 (20)	5.3 (16)	0.037				
Current sex work	10.4 (52)	7.9-13.4%	20.9 (41)	3.6 (11)	< 0.0001				
Number of factors that compromise sexual health	A								
0	41.0 (205)	_	16.3 (32)	56.9 (173)	< 0.0001				
1	30.8 (154)	_	33.7 (66)	29.0 (88)	< 0.0001				
2	22.0 (110)	_	35.2 (69)	13.5 (41)	< 0.0001				
3	50.0 (25)	_	12.2 (24)	0.3(1)	< 0.0001				

1.2 (6)

Table 1. Sexual vulnerabilities and risk factors
CL confidence interval

data.⁸ Position papers on sexual health discuss sexual rights in the context of human rights.³ With this in mind, one of the most concerning findings of our study are the high rates of childhood and adult sexual abuse. Childhood sexual abuse is consistently associated with a myriad of negative outcomes in adulthood⁹ including psychological sequelae such as low self-esteem, depression, and anxiety,¹⁰ sexual risk behaviours and revictimisation.^{11–13} Homelessness is associated with health inequities¹⁴ and compromises sexual health fundamentally. Homeless individuals have no access to safe or private spaces to engage in pleasurable sexual activities. They may enter into an intimate relationship exchanging sex for shelter, which, for women, often introduces or stabilises a gendered power imbalance.¹⁵ Sex workers are forced to work in public spaces, which has been shown to be associated with an increased risk of coercive unprotected sex.¹⁶

A substantial number of participants engaged in sex work. Sex work and unprotected sex with multiple partners have been identified as major risk factors for HIV-transmission. ^{17–19} Overall, few individuals reported recent unprotected sex with more than one person, confirming the data of a study among female injection drug users from Vancouver and Toronto. ²⁰ Summarising all vulnerability factors, our data indicate that a significant proportion of individuals and more women than men reported multiple experiences that compromise their sexual health exponentially.

It is difficult to imagine that positive sexual experiences free of coercion occur while living on the street. Programs that support the prevention of violence to address the high rates of sexual abuse found in our study are necessary. Housing interventions – in the sense of an unconditional prerequisite without requiring certain behaviours such as abstinence from substance use or sex work – seem absolutely essential for promoting the sexual health of homeless individuals. Housing offers a private space for living that increases the likelihood of engaging in consensual sex, decreases the risk of sexual victimisation on the streets and provides a precondition for the recovery of traumatic experiences.

Conflicts of interest

None declared.

Acknowledgement

The Health of the Homeless Survey was funded by the Provincial Health Services Authority of British Columbia (PHSA). The PHSA had no further role in study design; in the collection, analysis and interpretation of data; in the writing of the report or in the decision to submit the paper for publication.

0.3(1)

< 0.0001

2.6(5)

References

- 1 Edwards WM, Coleman E. Defining sexual health: a descriptive overview. Arch Sex Behav 2004; 33(3): 189–95. doi:10.1023/B: ASEB.0000026619.95734.d5
- 2 US Surgeon General. The Surgeon General's call to action to promote sexual health and responsible sexual Behavior. Rockville, MD: US Department of Health and Human Services, Office of the Surgeon General and Office of Population Affairs; 2001. Available online at: http://www.surgeongeneral.gov/initiatives/prevention/strategy/reproductive-sexual-health.pdf [verified March 2014].
- 3 World Health Organization (WHO). Defining sexual health. Report of a technical consultation on sexual health 28–31 January 2002, Geneva. Geneva: WHO; 2006. Available online at: http://www.who.int/ reproductivehealth/publications/sexual_health/defining_sh/en/index. html [verified February 2014].
- 4 Sandfort TGM, Ehrhardt AA. Sexual health: a useful public health paradigm or a moral imperative? Arch Sex Behav 2004; 33(3): 181–7. doi:10.1023/B:ASEB.0000026618.16408.e0
- 5 Krausz RM, Clarkson AF, Strehlau V, Torchalla I, Li K, Schuetz CG. Mental disorder, service use, and barriers to care among 500 homeless people in 3 different urban settings. Soc Psychiatry Psychiatr Epidemiol 2013; 48(8): 1235–43. doi:10.1007/s00127-012-0649-8
- 6 Bernstein DP, Stein JA, Newcomb MD, Walker E, Pogge D, Ahluvalia T, et al. Development and validation of a brief screening version of the Childhood Trauma Questionnaire. Child Abuse Negl 2003: 7: 169–90.
- 7 Public Health Agency of Canada, (PHAC). Canadian guidelines for sexual health education. Ottawa: PHAC; 2008. Available online at: www.phac-aspc.gc.ca/publicat/cgshe-ldnemss/pdf/guidelines-eng.pdf [verified May 2013].
- 8 Public Health Agency of Canada (PHAC). Canadian sexual health indicators survey pilot test and validation phase: final technical report. Ottawa: Centre for Communicable Diseases and Infection Control, Infectious Disease Prevention and Control Branch, PHAC; 2012. Available online at: www.creces.uqam.ca/Page/Document/Sexual_Health_Indicators_Survey_EN_Web.pdf [verified February 2014].

^AThis variable summarises the factors described in the table.

Sexual health in the homeless Sexual Health

9 Finkelhor D, Browne A. The traumatic impact of child sexual abuse: a conceptualization. Am J Orthopsychiatry 1985; 55(4): 530–41. doi:10.1111/j.1939-0025.1985.tb02703.x

- 10 Lalor K, McElvaney R. Child sexual abuse, links to later sexual exploitation/high-risk sexual behavior, and prevention/treatment programs. *Trauma Violence Abuse* 2010; 11(4): 159–77. doi:10.1177/1524838010378299
- Arriola KRJ, Louden T, Doldren MA, Fortenberry RM. A metaanalysis of the relationship of child sexual abuse to HIV risk behavior among women. *Child Abuse Negl* 2005; 29(6): 725–46. doi:10.1016/ j.chiabu.2004.10.014
- 12 Senn TE, Carey MP, Vanable PA. Childhood and adolescent sexual abuse and subsequent sexual risk behavior: evidence from controlled studies, methodological critique, and suggestions for research. Clin Psychol Rev 2008; 28(5): 711–35. doi:10.1016/j.cpr.2007.10.002
- 13 Whitbeck LB, Hoyt DR, Yoder KA. A risk-amplification model of victimization and depressive symptoms among runaway and homeless adolescents. Am J Community Psychol 1999; 27(2): 273–96. doi:10.1023/A:1022891802943
- 14 Dunn JR. Housing and health inequalities: review and prospects for research. *Housing Stud* 2000; 15(3): 341–66. doi:10.1080/ 02673030050009221

15 O'Grady B, Gaetz S. Homelessness, gender and subsistence: the case of Toronto street youth. *J Youth Stud* 2004; 7(4): 397–416. doi:10.1080/1367626042000315194

93

- 16 Shannon K, Strathdee SA, Shoveller J, Rusch M, Kerr T, Tyndall MW. Structural and environmental barriers to condom use negotiation with clients among female sex workers: implications for HIV-prevention strategies and policy. *Am J Public Health* 2009; 99(4): 659–65. doi:10.2105/AJPH.2007.129858
- 17 Kilmarx PH. Global epidemiology of HIV. Curr Opin HIV AIDS 2009; 4(4): 240–6. doi:10.1097/COH.0b013e32832c06db
- 18 Dosekun O, Fox J. An overview of the relative risks of different sexual behaviours on HIV transmission. *Curr Opin HIV AIDS* 2010; 5(4): 291–7. doi:10.1097/COH.0b013e32833a88a3
- 19 Strathdee SA, Sherman SG. The role of sexual transmission of HIV infection among injection and non-injection drug users. *J Urban Health* 2003; 80(4): iii7–14.
- 20 Spittal PM, Bruneau J, Craib KJP, Miller C, Lamothe F, Weber AE, et al. Surviving the sex trade: a comparison of HIV risk behaviours among street-involved women in two Canadian cities who inject drugs. AIDS Care 2003; 15(2): 187–95. doi:10.1080/09540120310 00068335