

A Review of Transgender Health in Canada

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ABSTRACT

Transgendered individuals are defined by having a gender identity different from their birth gender. These individuals form a prevalent distinct group within the Lesbian, Gay, Bisexual and Transsexual (LGBT) community that has specific health needs. The goal of the current work is to identify the health needs affecting transgendered individuals in order to guide potential health interventions to ameliorate their well-being. Transgendered individuals often experience elevated rates of social stigma, discrimination and prejudice, which can alienate them from other members of society including family members and health care professionals. This can have negative effects on their employment and socioeconomic status and may even render them targets of hate crimes. The combination of these factors can have significant ill effects on the physical and mental health of transgendered individuals. For example, high rates of depression and anxiety are observed within this population with a reported suicide attempt rate of over 30%. Transgendered individuals are also at high risk of being infected with HIV, with those having undergone the transition from male to female (MTF) being most affected. Although Canada is ahead of the curve in equal rights pertaining to the LGBT community compared to many countries worldwide that still have anti-homosexual legislation, there still exists a considerable amount of stigma around the transgendered community. There is a need to educate the population at large to combat social stigma in order to reduce discrimination, increase social support, improve access to health services and ultimately improve the physical and mental wellbeing of transgendered people.

RÉSUMÉ

Les personnes transgenres sont définies comme ayant une identité de genre différente de leur sexe de naissance. Ces personnes forment un groupe distinct au sein de la communauté des lesbiennes, gais, bisexuels et transsexuels (LGBT), ayant des besoins de santé spécifiques. Le but du travail actuel est d'identifier les besoins de santé touchant les personnes transgenres afin de guider les interventions de santé potentielles pour améliorer leur bien-être. Les personnes transgenres éprouvent souvent des taux élevés de stigmatisation sociale, de discrimination et de préjugés, ce qui peut les aliéner des autres membres de la société y compris les membres de leur famille et des professionnels de soins de santé. Cela peut avoir des effets négatifs sur leur emploi et leur statut socioéconomique et peut même les rendre cibles de crimes haineux. La combinaison de ces facteurs peut avoir des effets néfastes importants sur la santé physique et mentale des personnes transgenres. Par exemple, des taux élevés de dépression et d'anxiété sont observés dans cette population avec un taux de tentative de suicide déclaré de plus de 30%. Les personnes transgenres sont également à risque élevé d'être infectées par le VIH, celles ayant subi la transition d'homme à femme (MTF) étant les plus touchés. Bien que le Canada soit en avance dans l'égalité des droits se rapportant à la communauté LGBT par rapport à de nombreux pays à travers le monde, il existe encore une quantité considérable de stigmatisation qui entoure la communauté transgenre. Il est nécessaire d'éduquer la population dans son ensemble à lutter contre la stigmatisation sociale afin de réduire la discrimination, d'accroître le soutien social, d'améliorer l'accès aux services de santé et, finalement, d'améliorer le bien-être physique et mental des personnes transgenres.

INTRODUCTION

Society is currently advancing in an era where lesbian, gay, bisexual, and transgender individuals, collectively referred to as the LGBT community, are gaining social acceptance. While clinicians and researchers acknowledge differences within each group of individuals within the LGBT community, the LGBT populations are often combined into a single entity for research and advocacy purposes. Hence, clinicians face incomplete information about the health status and specific health needs of each distinct group [1].

The group of interest in the current work is the transgender community. Unlike the rest of the LGBT community, transgendered individuals are not defined by their sexual preferences. Instead, transgender individuals are described by their gender identity. Transgender is an umbrella term that refers to any individual whose gender identity differs from the social expectations of their physical sex. This includes many different gender statuses which are defined in Table 1, the best known being transsexuality.

Transsexualism is a more specific term where the transgendered individual identifies with the "opposite" gender assigned at birth.

Keywords: Health; Discrimination; HIV; Mental health

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Table 1. Glossary of terms

Terms	Definitions
Bigender	Combined and coexisting male and female identities
Cisgender	Nontransgender; refers to those whose gender identity is aligned with their birth sex
Core gender	One's individual and core sense of being male or female, both or neither
Genderqueer	A gender identity outside the male-female binary
Gender fluid	A gender identity on a spectrum between male and female, perhaps changing over time
Gender identity	An individual's internal sense of their own gender. It is their sense of being a woman, a man, both, neither, or anywhere along the gender spectrum. A person's gender identity may be the same as or different from their birth-assigned sex
Gender spectrum	Refers to the fact that gender occurs on a spectrum, rather than as discrete categories; an individuals' sense of core gender may fall at varying points along that spectrum
Female to Male (FTM)	A transgender, transsexual, or transitioned person assigned female at birth who identifies as male or masculine
Male to female (MTF)	A transgender, transsexual, or transitioned person assigned male at birth who identifies as female or feminine
Medical transition status	The extent to which one has undergone a process of medically transitioning through use of hormones and/or surgeries to allow biological sex to more closely align with one's core gender
Social transition status	The extent to which one has changed the gender in which they live their day-to-day life to better align with their core gender; may involve changing a name, using a new pronoun, and/or changing gender-specific aspects of one's social presentation
Transgender	An umbrella term referring to those with a gender identity or expression that differs from societal norms for those of their birth sex
Transitioned people	Refers to those who identify simply as men or women with a medical history of transitioning sex, and no longer personally identify as transgender or transsexual
Transsexual	A more specific and clinical term referring to those with a gender identity "opposite to" the gender assigned at birth. Some transsexuals may simply identify as transgender or trans
Two-spirit	A term used by North American Native peoples to describe those who identify with both male and female gender roles and expressions

Within this group there exists both individuals transitioning from male to female (MTF) and those transitioning from female to male (FTM). A transgendered individual may have any sexual orientation. Therefore, there is some difficulty in measuring the sexual orientation of transgender people because some respondents may answer sexual orientation questions relative to birth sex (their own or their partner's). Some may respond according to their gender identity, and yet others may find it difficult to answer in terms of a male–female dichotomy [1-3].

The prevalence of transgendered individuals in Canada has yet to be accurately estimated. Studies conducted throughout Europe in the 1990s estimated FTM prevalence between 1:30400 and 1:104000 and MTF prevalence between 1:7400 and 1:42000 [4-6]; in other words, MTFs were 2.3 to 4 times more prevalent than FTMs. More recent estimates in the United States and countries of Latin descent have estimated a much higher prevalence of transgendered individuals ranging between 0.3% and 0.5% of the population [1, 7, 8]. If the more conservative estimate is extrapolated to 2011 Canadian census numbers, there would be approxi-

mately 100 000 transgendered individuals throughout Canada [9]. Transgendered individuals therefore represent a significant portion of the Canadian population and may require additional consideration since they have pronounced socioeconomic risks and health disparities [10, 11]. Certain notable institutions, such as the Institute of Medicine in the United States, have stated that the lack of attention to sexual and gender identity create health disparities in LGBT populations [1]. The goal of the current work is to expose the health needs of transgendered individuals in order to guide potential health interventions to ameliorate their well-being.

DETERMINANTS OF HEALTH AND HEALTH ACCESS

Transgendered individuals, whose LGBT identities often have physical manifestations, can experience elevated rates of stigmatization, discrimination and prejudice [12-15]. This stigmatization seems independent of socioeconomic status [14] and is known to lead to reduced social support, an important health determinant [16]. Many studies have found that transgender individuals have

limited social support from the general public compared to their cisgender peers [17-19] and they even have been noted to feel a lack of support from the LGB community [18, 20]. When social support was assessed in cisgender and transgender siblings, the transgender sibling perceived less social support from family than non-transgender family members [14]. Despite these adversities, studies have also found that some transgender individuals have created large and diverse social networks within the transgender community, most likely to compensate for the lack of a larger social support [21].

Additionally, studies have demonstrated that parental support is an important independent factor for well-being in a transgender individual. Higher parental support is associated with higher life satisfaction, lower perceived burden of being transgender, less at-risk sexual behavior and fewer depressive symptoms [22, 23]. Unfortunately, many transgendered individuals have had difficult upbringings with one study finding that more than half of transgender respondents had been forced to engage in sexual activities, and/or experienced violence in their homes, and/or had been physically abused [10].

Transgender individuals, who experience violence and abuse, are often victims of hate crimes [12] which often go unreported due to the fear that they will be mistreated by law enforcement officers [24]. A study of older transgender adults found that high degrees of internalized stigma and victimization are significantly associated with poorer physical health, higher chances of disability, more depressive symptoms and higher perceived stress [19].

Transgendered individuals also face the risk of discrimination, harassment, and victimization in the healthcare setting [12]. When compared to the general public, transgendered individuals have consistently reported greater difficulty obtaining medical care. A study in Philadelphia found that 26% of respondents reported being denied medical care because they were transgender [10]. A similar study conducted in Chicago reported that 14% of the respondents had difficulty obtaining emergency care because of their transgender status [25]. The Canadian TransPULSE project noted that 29% of the transgender people surveyed were unable to obtain emergency care when needed [26]. Additionally, 21% of the transgendered individuals surveyed reported avoiding emergency care on at least one occasion because of their transgender status [26]. This perception of potential mistreatment has led over 20% of transgendered individuals to not disclose their gender identity to their physician [18, 27]. Interestingly, the concealment of gender identity was also significantly associated with impaired mental wellness; specifically, higher degrees of depressive symptomatology and perceived stress [19]. This suggests that transgender individuals have unmet medical needs due to transgender-related stigmatization, which can be further impaired by a lower socioeconomic status.

Throughout the United States, a transgender person is twice as likely to be unemployed compared to their cisgender counterpart and rates of employment discrimination are further increased among MTF relative to FTM, especially a MTF from an ethnic minority [8, 12]. These results are further corroborated by a recent telephone health survey conducted in the state of Massachusetts which found that transgendered individuals had higher unemployment and poverty rates than their cisgender peers [28]. Considerable research has linked low socioeconomic status to poor health outcomes [29, 30]; however, the Massachusetts study found few health differences between the transgender and cisgender adults despite the significant financial differences between these groups. The authors attributed this similarity between the two populations to the Massachusetts' near universal access to health care and their sampling method, since the telephone survey can only include stably housed individuals, thus possibly representing the healthiest segment of the transgender population [28]. This second argument may have merit since it is estimated that transgendered individuals are approximately twice as likely to be homeless compared to the general public throughout the United States. Additionally, homelessness and unstable housing alone are associated with suboptimal physical and mental health independent of gender identity [31, 32].

Although a similar study evaluating the socioeconomic status of transgendered individuals has yet to be conducted in Canada, the TransPULSE project has established a link between limited financial resources in the transgendered community and at-risk behavior. Initial data analysis from the surveys conducted revealed that 49% of the transgendered respondents reported an income lower than \$15,000 [33]. Additionally, the study found that a lack of financial resources, past negative experiences with health providers and lack of access to transition-related services were influencing factors for transgendered individuals to undergo non-prescribed hormone use and self-performed surgeries [34].

HEALTH REPERCUSSIONS

Overall, the current studies and statistics demonstrate that transgendered individuals often lack in many determinants of health impairing their physical and mental well-being. Resultant adverse health outcomes in transgender communities can include substance abuse [35-37], sexually transmitted infections (STI) including the human immunodeficiency virus (HIV) [33, 38] and mental health problems including suicidality [39, 40].

HIV

Systematic reviews have been conducted to observe the international burden of HIV on the transgender population; however, these reviews have focused mainly on MTF rather than FTM. A recent review found that transgender HIV data were only avail-

able for countries with male-predominant HIV epidemics; this included the USA, five Latin American countries, six Asia-Pacific countries and three European countries. The pooled HIV prevalence was 19.1% for the 11 066 MTF individuals recruited worldwide [41]. According to the calculated odds ratio, an MTF is 48.8 times more likely to be infected with HIV compared to all adults of reproductive age. Interestingly, the odds ratio did not differ between low and middle-income countries compared to high-income countries [41]. In addition, research comparing MTF sex workers with male and female sex workers in the same neighborhoods has consistently found higher HIV prevalence in transgender individuals. A meta-analysis conducted by Operario et al. (2008) found an HIV prevalence of 27.3% in MTF sex workers, 14.7% in MTF who aren't engaging in sex work, 15.1% in male sex workers and 4.5% in female sex workers [42]. There is still very little data on HIV prevalence in FTM individuals. Past studies suggest HIV prevalence between 0% and 3% [43]. In a more recent retrospective analysis of HIV status in attendees at sexually transmitted disease clinics in San Francisco from 2006 to 2009, HIV infection rates were similar for FTM (10%) and MTF (11%) [44]. Nevertheless, the vast majority of FTMs were found to engage in at least one high-risk sexual behavior in the prior 3 months (93.3%); however, the nature of the behaviors was not specified [45].

MTF transgendered individuals' high HIV prevalence may be due to their practice of having multiple casual sexual partners and engaging in unprotected receptive anal intercourse which has a high probability of HIV transmission [43, 46]. As shown with black male homosexuals in the USA, individual-level risks and sexual practices are insufficient to explain disease burdens in populations at high risk for HIV infection [47]. The crucial driver of sustained HIV incidences are network level risks, particularly the HIV prevalence in the subgroups of interest [47].

In Canada, the TransPULSE project found an HIV prevalence of 0.6% in FTM and 3% in MTF [33]. The authors noted that although these numbers are much lower than the international HIV prevalence, they are still higher than the national average. The lower HIV prevalence could be due to the high proportion of transgendered individuals who had not had a sexual partner within the last year (25% FTM and 51% MTF) and relatively low high-risk sexual experiences (7% FTM and 19% MTFs). However, conclusions on the actual HIV prevalence in transgendered Ontarians were not possible because of the wide confidence intervals associated with the data collected and the high proportion of trans people who had never been tested for HIV (46%) [33].

MENTAL HEALTH

The *Diagnostic and Statistical Manual of Mental Disorders* 5th edition (*DSM-5*), which was published in 2013, reclassified trans-

gendered people from "gender identity disorder" to "gender dysphoria". This is a step towards social acceptance, as transgenderism is no longer identified as a pathological condition. However, the classification continues to stigmatize transgender people with a "mental disorder" classification that is dependent on "clinically significant distress or impairment" [48].

Two nationwide studies conducted in the United States found that rates of depression, anxiety, and overall psychological distress were disproportionately higher in transgendered individuals in comparison to cisgender women and men [19, 49]. The majority of transgendered individuals suffer from at least one mental illness, the most common being anxiety and/or perceived stress (52%), depression (43%), and adjustment disorder (26%) with regular alcohol use also being common (65%) [19, 38, 50]. Approximately one third of transgendered respondents (30.1% and 32%) in two separate studies had attempted suicide [10, 38].

In Canada, the TransPULSE Project has estimated that 36% of transgendered Ontarians had suicidal thoughts over the past year, and that 10% had attempted suicide in that time. Moreover, a young age and experiencing discrimination and lack of social support were found to be associated with a heightened risk of suicidal tendencies. Medical transition status also heavily influenced suicidality, with the most vulnerable being those who were planning their transition, but had not yet begun [51].

ADVOCACY

In summary, transgendered people are a distinct subgroup within the population that requires attention to address the stigmatization against these individuals in order for them to seek the proper help to ameliorate their mental health and other health issues, such as HIV. Therefore, changes are needed at the sociopolitical level to provide the optimal medical interventions.

At the international level, there is a large amount of variation: many countries have anti-homosexual legislation while others have decriminalized same-sex activity, which Canada did officially in 1969. In the United States, same-sex sexual activity was illegal with sodomy being a criminal offense in all 50 states prior to 1961 [52]. Nevertheless, Canada remains ahead of the curve when it comes to accepting the LGBT community by legalizing same-sex marriage, same-sex adoption and anti-discrimination legislation throughout the country. This acceptance is still lacking in many countries such as the United States where same-sex marriage is recognized at the federal level, but not in 13 of the 50 states. This lack of legislation in support of sexual and gender identity can lead to stigmatization of these individuals that differ from the norm. There have been attempts to provide further legislative support by protecting gender expression rights under the Canadian Human Rights Act. For example, a proposed Bill C-279

would include gender identity as a prohibited ground of discrimination under the Act and it would also amend the Criminal Code to include gender identity as a distinguishing characteristic protected under section 318 [53]. Although the House of Commons has passed this bill in October 2013, there is a history of opposition to giving transgendered individuals these rights. Bill C-389 (a bill nearly identical to C-279) was dismissed by an election call despite being passed in the House of Commons in February 2011 [54]. More recently, Senator Don Plett virtually abolished Bill C-279 in early 2015 by proposing an amendment that would prevent MTFs from entering female washrooms, branding these individuals as “sexual predators” [55].

This demonstrates that even the most forward-thinking countries require social changes to promote any possible political changes and ultimately advance the well-being of the transgender people. The TransPULSE project has produced a series of recommendations to improve the health of Canada’s transgender population. These include policy advocacy, service provisions, access to transition care, and fostering accepting families and communities [51]. Education must be utilized in order to instruct policy makers, health practitioners, teachers and the general public to help reduce stigma towards transgendered people. For instance, the Amsterdam Gender Identity Clinic developed guidelines for the diagnosis and clinical management of children and youth with gender dysphoria [56, 57]. Pubertal suppression with gonadotropin-releasing hormone analog (GnRHa) therapy is suggested in pubertal children (i.e., Tanner stage 2 or 3) following the diagnosis of gender dysphoria. Suppressing puberty gives the transgendered individual more time to determine if they want to undergo a full transition to their perceived gender. If a full-transition is required, cross-sex hormones (androgens for FTM and estrogens for MTF individuals) are then gradually introduced to induce the physical changes of the desired gender. A study looking at the clinical management of gender dysphoria in Vancouver agreed with this approach, with the added condition that the medical treatment is to be given in collaboration with transgender-competent mental health professionals [58].

CONCLUSION

In conclusion, transgendered people are a distinct Canadian subpopulation comprising of an estimated 100 000 individuals. Transgendered individuals differ from the social norms by having a gender identity different from their birth gender. Consequentially, they experience elevated rates of stigmatization, prejudice and discrimination leading to a lack of social and parental support. These factors lead to an increase in victimization, which is associated with poorer physical and mental health. Transgendered status is associated with a very high rate of HIV infection, with MTF being particularly affected, and mental illness with depression and anxiety being the most common. Furthermore,

transgendered people experience barriers to health care access due to their lower socioeconomic status and social stigmatization. Although Canada has taken many steps at the sociopolitical level in order to accept and protect the rights of transgendered individuals, interventions are still required to educate the population and provide the optimum health services to this vulnerable population.

REFERENCES

1. Institute of Medicine. The health of lesbian, gay, bisexual, and transgender people: building a foundation for better understanding. The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding. The National Academies Collection: Reports funded by National Institutes of Health. Washington (DC): National Academies Press; 2011.
2. Garofalo R, Deleon J, Osmer E, Doll M, Harper GW. Overlooked, misunderstood and at-risk: exploring the lives and HIV risk of ethnic minority male-to-female transgender youth. *The Journal of adolescent health* : official publication of the Society for Adolescent Medicine. 2006;38(3):230-6. doi: 10.1016/j.jadohealth.2005.03.023.
3. Austin SB, Conron K, Patel A, Freedner N. Making sense of sexual orientation measures: findings from a cognitive processing study with adolescents on health survey questions. *Journal of LGBT health research*. 2007;3(1):55-65.
4. Wilson P, Sharp C, Carr S. The prevalence of gender dysphoria in Scotland: a primary care study. *The British journal of general practice* : the journal of the Royal College of General Practitioners. 1999;49(449):991-2.
5. Weitz C, Osburg S. Transsexualism in Germany: empirical data on epidemiology and application of the German Transsexuals’ Act during its first ten years. *Archives of sexual behavior*. 1996;25(4):409-25.
6. Bakker A, van Kesteren PJ, Gooren LJ, Bezemer PD. The prevalence of transsexualism in The Netherlands. *Acta psychiatrica Scandinavica*. 1993;87(4):237-8.
7. Gates W. How many people are lesbian, gay, bisexual, and transgender? How many people are lesbian, gay, bisexual, and transgender? Williams Institute, UCLA School of Law. Los Angeles (CA): Williams Institute, UCLA School of Law; 2011.
8. Reisner SL, Biello K, Rosenberger JG, Austin SB, Haneuse S, Perez-Brumer A, et al. Using a two-step method to measure transgender identity in Latin America/the Caribbean, Portugal, and Spain. *Archives of sexual behavior*. 2014;43(8):1503-14.
9. Statistics Canada. Population and dwelling counts, for Canada, provinces and territories, 2011 and 2006 censuses 2011 [internet] Government of Canada [Updated 2014 January 1; cited March 11, 2015]. Available from: <http://www12.statcan.ca/census-recensement/2011/dp-pd/hltfst/pd-pl/Table-Tableau.cfm?LANG=Eng&T=101&S=50&O=A>.
10. Kenagy GP. Transgender health: findings from two needs assessment studies in Philadelphia. *Health & social work*. 2005;30(1):19-26.
11. Reisner SL, White JM, Bradford JB, Mimiaga MJ. Transgender Health Disparities: Comparing Full Cohort and Nested Matched-Pair Study Designs in a Community Health Center. *LGBT health*. 2014;1(3):177-84.
12. Kane MD. Social movement policy success: Decriminalizing state sodomy laws, 1969–1998. *Journal of homosexuality*. 2003;8:331-4.
13. Grant JM, Mottet LA, Tanis J, Harrison J, Herman JL, Keisling M. Injustice at every turn : A report of the National Transgender Discrimination Survey. Injustice at every turn : A report of the National Transgender Discrimination Survey. National Center for Transgender Equality, and the National Gay and Lesbian Task Force. Washington (DC): National Center for Transgender Equality, and the National Gay and Lesbian Task Force; 2011.
14. Lombardi EL, Wilchins RA, Priesing D, Malouf D. Gender violence: transgender experiences with violence and discrimination. *Journal of homosexuality*. 2001;42(1):89-101.
15. Factor RJ, Rothblum ED. A study of transgender adults and their non-transgender siblings on demographic characteristics, social support, and experiences of violence. *Journal of LGBT health research*. 2007;3(3):11-30.
16. Sugano E, Nemoto T, Operario D. The impact of exposure to transphobia on HIV risk behavior in a sample of transgendered women of color in San Francisco. *AIDS and behavior*. 2006;10(2):217-25.

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17. Frost DM, Parsons JT, Nanin JE. Stigma, concealment and symptoms of depression as explanations for sexually transmitted infections among gay men. *Journal of health psychology*. 2007;12(4):636-40.
18. Davey A, Bouman WP, Arcelus J, Meyer C. Social support and psychological well-being in gender dysphoria: a comparison of patients with matched controls. *The journal of sexual medicine*. 2014;11(12):2976-85.
19. Fredriksen-Goldsen KI, Kim H-J, Emler CA, Muraco A, Erosheva EA, Hoy-Ellis CP, et al. The Aging and Health Report: Disparities and Resilience among Lesbian, Gay, Bisexual, and Transgender Older Adults: Seattle: Institute for Multigenerational Health; 2011.
20. Fredriksen-Goldsen KI, Cook-Daniels L, Kim HJ, Erosheva EA, Emler CA, Hoy-Ellis CP, et al. Physical and mental health of transgender older adults: an at-risk and underserved population. *The Gerontologist*. 2014;54(3):488-500.
21. Factor RJ, Rothblum ED. Exploring gender identity and community among three groups of transgender individuals in the United States: MTFs, FTMs, and genderqueers. *Health Psychology Review*. 2008;17:235-53.
22. Lombardi EL. Integration within a transgender social network and its effect upon members' social and political activity. *Journal of homosexuality*. 1999;37(1):109-26.
23. Simons L, Schrager SM, Clark LF, Belzer M, Olson J. Parental support and mental health among transgender adolescents. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*. 2013;53(6):791-3.
24. Wilson EC, Iverson E, Garofalo R, Belzer M. Parental support and condom use among transgender female youth. *The Journal of the Association of Nurses in AIDS Care : JANAC*. 2012;23(4):306-17.
25. Xavier J, Simmons R. The executive summary of the Washington Transgender Needs Assessment Survey 2012 [Internet] Gay and Lesbian Activist Alliance [cited March 7, 2015]. Available from: <http://www.glaa.org/archive/2000/tgneedsassessment1112.shtml>.
26. Kenagy GP, Bostwick WB. Health and Social Service Needs of Transgender People in Chicago. *International Journal of Transgenderism*. 2005;8(2-3):57-66.
27. Bauer GR, Scheim AI, Deutsch MB, Massarella C. Reported emergency department avoidance, use, and experiences of transgender persons in Ontario, Canada: results from a respondent-driven sampling survey. *Annals of emergency medicine*. 2014;63(6):713-20.
28. Sharek DB, McCann E, Sheerin F, Glacken M, Higgins A. Older LGBT people's experiences and concerns with healthcare professionals and services in Ireland. *International journal of older people nursing*. 2014.
29. Conron KJ, Scott G, Stowell GS, Landers SJ. Transgender health in Massachusetts: results from a household probability sample of adults. *American journal of public health*. 2012;102(1):118-22.
30. Adler NE, Boyce T, Chesney MA, Cohen S, Folkman S, Kahn RL, et al. Socioeconomic status and health. The challenge of the gradient. *Am Psychol*. 1994;49(1):15-24.
31. Quon EC, McGrath JJ. Subjective socioeconomic status and adolescent health: a meta-analysis. *Health psychology : official journal of the Division of Health Psychology, American Psychological Association*. 2014;33(5):433-47.
32. Hwang SW, Tolomiczenko G, Kouyoumdjian FG, Garner RE. Interventions to improve the health of the homeless: a systematic review. *American journal of preventive medicine*. 2005;29(4):311-9.
33. O'Campo P, Kirst M, Schaefer-McDaniel N, Firestone M, Scott A, McShane K. Community-based services for homeless adults experiencing concurrent mental health and substance use disorders: a realist approach to synthesizing evidence. *Journal of urban health : bulletin of the New York Academy of Medicine*. 2009;86(6):965-89.
34. Bauer GR, Travers R, Scanlon K, Coleman TA. High heterogeneity of HIV-related sexual risk among transgender people in Ontario, Canada: a province-wide respondent-driven sampling survey. *BMC public health*. 2012;12:292.
35. Rotondi NK, Bauer GR, Scanlon K, Kaay M, Travers R, Travers A. Nonprescribed hormone use and self-performed surgeries: "do-it-yourself" transitions in transgender communities in Ontario, Canada. *American journal of public health*. 2013;103(10):1830-6.
36. Hotton AL, Garofalo R, Kuhns LM, Johnson AK. Substance use as a mediator of the relationship between life stress and sexual risk among young transgender women. *AIDS education and prevention : official publication of the International Society for AIDS Education*. 2013;25(1):62-71.
37. McCabe SE, West BT, Hughes TL, Boyd CJ. Sexual orientation and substance abuse treatment utilization in the United States: results from a national survey. *Journal of substance abuse treatment*. 2013;44(1):4-12.
38. Kecojovic A, Wong CF, Schrager SM, Silva K, Bloom JJ, Iverson E, et al. Initiation into prescription drug misuse: differences between lesbian, gay, bisexual, transgender (LGBT) and heterosexual high-risk young adults in Los Angeles and New York. *Addictive behaviors*. 2012;37(11):1289-93.
39. Skerrett DM, Kolves K, De Leo D. Suicides among lesbian, gay, bisexual, and transgender populations in Australia: an analysis of the Queensland Suicide Register. *Asia-Pacific psychiatry : official journal of the Pacific Rim College of Psychiatrists*. 2014;6(4):440-6.
40. Clements-Nolle K, Marx R, Katz M. Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. *Journal of homosexuality*. 2006;51(3):53-69.
41. Clements-Nolle K, Marx R, Guzman R, Katz M. HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. *American journal of public health*. 2001;91(6):915-21.
42. Baral SD, Poteat T, Stromdahl S, Wirtz AL, Guadamuz TE, Beyrer C. Worldwide burden of HIV in transgender women: a systematic review and meta-analysis. *The Lancet Infectious diseases*. 2013;13(3):214-22.
43. Operario D, Soma T, Underhill K. Sex work and HIV status among transgender women: systematic review and meta-analysis. *Journal of acquired immune deficiency syndromes*. 2008;48(1):97-103.
44. Herbst JH, Jacobs ED, Finlayson TJ, McKleroy VS, Neumann MS, Crepaz N, et al. Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review. *AIDS and behavior*. 2008;12(1):1-17.
45. Stephens SC, Bernstein KT, Philip SS. Male to female and female to male transgender persons have different sexual risk behaviors yet similar rates of STDs and HIV. *AIDS and behavior*. 2011;15(3):683-6.
46. Kenagy GP, Hsieh CM. The risk less known: female-to-male transgender persons' vulnerability to HIV infection. *AIDS care*. 2005;17(2):195-207.
47. Baggaley RF, White RG, Boily MC. HIV transmission risk through anal intercourse: systematic review, meta-analysis and implications for HIV prevention. *International journal of epidemiology*. 2010;39(4):1048-63.
48. Millett GA, Peterson JL, Flores SA, Hart TA, Jeffries WL, Wilson PA, et al. Comparisons of disparities and risks of HIV infection in black and other men who have sex with men in Canada, UK, and USA: a meta-analysis. *Lancet*. 2012;380(9839):341-8.
49. American Psychiatric Association Diagnostic and statistical manual of mental disorders : DSM-5 [Internet] American Psychiatric Publishing [Cited March 7, 2015]. Available from: <http://dsm.psychiatryonline.org/book.aspx?bookid=556>.
50. Bockting WO, Miner MH, Swinburne Romine RE, Hamilton A, Coleman E. Stigma, mental health, and resilience in an online sample of the US transgender population. *American journal of public health*. 2013;103(5):943-51.
51. Reisner SL, White JM, Mayer KH, Mimiaga MJ. Sexual risk behaviors and psychosocial health concerns of female-to-male transgender men screening for STDs at an urban community health center. *AIDS care*. 2014;26(7):857-64.
52. Bauer GR, Pyne J, Francino MC, Hammond R. La suicidabilité parmi les personnes trans en Ontario : Implications en travail social et en justice sociale. *Review service sociale*. 2013;59(1):35-62.
53. Garrison, R. Bill C-279: An act to amend the Canadian Human Rights Act and the Criminal Code (gender identity) 2013[Internet] Open Parliament [cited March 11, 2015]. Available from: <https://openparliament.ca/bills/41-1/C-279/>.
54. Siksay, B. Bill C-389: An act to amend the Canadian Human Rights Act and the Criminal Code (gender identity and gender expression) 2013 [Internet] Open Parliament [cited March 11, 2015]. Available from: <https://openparliament.ca/bills/40-2/C-389/>.
55. Page J. Bill C-279: Bathroom amendment may make it easier for sexual predators 2015 [Internet] Montreal Gazette [updated March 4, 2015, cited March 11, 2015]. Available from: <http://montrealgazette.com/life/bill-c-279-bathroom-amendment-may-make-it-easier-for-sexual-predators>.
56. de Vries AL, Cohen-Kettenis PT. Clinical management of gender dysphoria in children and adolescents: the Dutch approach. *Journal of homosexuality*. 2012;59(3):301-20.
57. Kreukels BP, Cohen-Kettenis PT. Puberty suppression in gender identity disorder: the Amsterdam experience. *Nature reviews Endocrinology*. 2011;7(8):466-72.
58. Khatchadourian K, Amed S, Metzger DL. Clinical management of youth with gender dysphoria in Vancouver. *The Journal of pediatrics*. 2014;164(4):906-11.