

Social Aspects of HIV/AIDS and Aging: A Thematic Review

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RÉSUMÉ

Il manque de recherche spécifique qui décrit les aspects sociaux du vieillissement avec le virus de l'immunodéficience humaine/syndrome d'immunodéficience acquise (VIH/SIDA) au Canada, malgré une augmentation globale de la population vieillissante et l'augmentation du nombre de ceux qui vieillissent avec le VIH/SIDA. Une revue systématique de la littérature été menée en se focalisant sélectivement sur les aspects sociaux aux personnes âgées vivant avec le VIH/SIDA. Les thèmes principaux qui se dégagent dans la littérature sont l'âgisme et la stigmatisation, le sexe, la santé mentale et les soutiens sociales. On présente des recommandations sur la recherche à l'avenir, les modèles théoriques, et le programmatisation.

ABSTRACT

Little research can be found describing social aspects of aging with human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS) in Canada specifically, despite an overall increase in an aging population and increased numbers of those aging with HIV/AIDS. A systematic literature review was conducted with a selective focus on social aspects related to older adults who are living with or at risk for contracting HIV/AIDS. The primary themes that emerged in the literature are ageism and stigma, gender, mental health, and social supports. Recommendations for future research regarding prevention and education of risks for older adults and programming suitable for a wide range of audiences are presented.

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The welcome fact that, increasingly, individuals infected with human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS) are living longer lives (Emlet, 2004) is changing the face of the HIV/AIDS epidemic. In large part due to highly active antiretroviral therapy (HAART), we are now seeing more heterosexual and gay adults who are aging with HIV/AIDS (Brennan, Emlet, & Eady, 2011; Kahana & Kahana, 2001). Because this is a relatively new phenomenon in Canada and elsewhere, there has been little research that addresses the social aspects of aging with

HIV/AIDS. Although a number of excellent reviews of aging and HIV/AIDS exist, these focus either on other countries without much reference to Canada (e.g., Sankar, Nevedal, Neufeld, Berry, & Luborsky, 2011) or on medical aspects of HIV (e.g. Kearney, Moore, Donegan, & Lambert, 2010). However, there is a growing awareness that older adults not yet infected are at risk and under-educated about this risk, and also that older adults are playing a major role in caregiving for those with HIV/AIDS. Since it is well-known that the social aspects of health and aging (e.g., social networks and

social support, social and gender roles, caregiving, and access to services) can shape physical wellness and emotional well-being, it is important to develop a better understanding of research on social aspects of HIV/AIDS for the aging population in Canada. In this article, we review the evidence related to research on the social aspects of aging with HIV/AIDS and discuss theoretical and programmatic implications in the Canadian context.

Global Issues

As HIV tracking is not specifically conducted for adults over the age of 49, global rates of HIV infection among older adults are not well-known (Albone, 2011). However, the Center for Disease Control and Prevention (CDC) reported that over half of those living with AIDS will likely be over age 50 by 2017 (Wohl, 2013). As is the case in the United States, the vast majority of older Canadian adults with HIV are long-term survivors. New diagnoses and new infections among older adults, however, are also on the rise, increasing from 10.6 per cent of all new diagnoses in 1999 to 15.3 per cent in 2008 (Public Health Agency of Canada, 2010). Sexual contact has been reported to be the most common mode of transmission among newly diagnosed adults over the age of 50.

Brennan et al. (2011) have noted that, across all age groups, Aboriginal people and immigrants from HIV-endemic countries have higher rates of HIV infection than do other Canadians. In addition, the rate of infection among Aboriginal people increased by 24 per cent from 2005 to 2008, and represented 8 per cent of all new diagnoses in 2008. The situation in certain provinces is even more serious. For instance, in 2009 in Manitoba, 27 per cent of all persons affected by the virus identified themselves as Aboriginal (Manitoba Health, 2009). That same year in Saskatchewan, 79 per cent of new cases were among persons of Aboriginal origin (Saskatchewan Ministry of Health, 2009). The prevalence of HIV infection among people from HIV-endemic countries in 2008 made up 16 per cent of total infections, a rate that is 8.5 times higher than for other Canadians. According to a recent Public Health Agency of Canada (2010) surveillance report, among Canadian provinces that reported AIDS cases by ethnicity from 1998 to 2009 (full reporting was not available for Ontario and Quebec), Aboriginal women aged 40 and older represented 38 per cent of all cases (the largest proportion in this age group across all ethnic categories).

Background Issues: Older Adults with HIV and Older Adults at Risk

As HIV evolves from a terminal condition to one that is more often characterized as chronic, manageable, and episodic (Beaudin & Chambre, 1996; Siegel & Lekas, 2002;

Worthington, Myers, O'Brien, Nixon, & Cockerill, 2005), those living with HIV face a range of new and unique experiences and challenges as they age. The aging process has been reported to be accelerated for those living with HIV/AIDS (Deeks, 2011; Desai & Landay, 2010), leading to early onset of frailty and diminished functional performance (Desquilbet et al., 2007). The naturally weakened immune system due to aging is hypothesized to account for an increased risk of HIV among older adults (Beaulaurier, Craig, & De La Rosa, 2009; Emlet, 2004; Levy-Dweck, 2005). Both HIV- and non-HIV-related co-morbidities – as well as age-related diseases, frailty, and the underlying aging process – can have, for some individuals living with HIV, an impact on quality of life and on physical and mental well-being.

The social aspects of HIV/AIDS are equally as important as the well-researched medical and physical aspects since social issues can also shape the experience of living with HIV/AIDS. For example, ageism, loneliness, and social isolation, which may be exacerbated in the face of aging, are related to psychological distress and depression among older adults living with HIV. Grov, Golub, Parsons, Brennan and Karpick (2010) found that among HIV-positive adults over age 50, 39 per cent exhibited symptoms of major depression and that loneliness, stigma, and decreased cognitive functioning were significant predictors of depression. In turn, as Grov suggested, depression can (a) influence treatment adherence (Ware, Wyatt, & Tugenberg, 2006), (b) alter the use of social support and social networks due to fears of rejection and further marginalization (Emlet, 2007), and (c) affect HIV status disclosure with sexual partners (Frost, Parsons, & Nanín, 2007).

Older adults typically face a lack of knowledge about the contraction of HIV/AIDS infections (Beaulaurier et al., 2009; Illa et al., 2010; Orel, Stelle, Watson, & Bunner, 2010; Vance, Struzick, & Childs, 2010). Many older adults may not understand the risks of HIV/AIDS and may not realize that they are at risk for contracting the disease; moreover, older adults are more likely to go undiagnosed and untreated (Emlet, 2004, Orel et al., 2010; Paul, Martin, Lu & Lin, 2007). The lack of testing for HIV/AIDS might relate to the presumption that older adults, heterosexual and gay, are not sexually active. What's more, there is an assumption that HIV does not concern older adults so there is little knowledge that their sexual behaviours may cause increased risks of contracting HIV/AIDS (Beaulaurier et al., 2009; Illa et al., 2010).

The increasing use of medications for improving sexual performance, accompanied by the misperception that older adults are not sexually active and by a lack of educational messages targeted to this age group, might further contribute to the increased risks of older adults'

contracting HIV/AIDS (Levy-Dweck, 2005; Orel et al., 2010). Furthermore, it has been shown that older adults are less likely to consistently use condoms when engaging in sexual intercourse, which can increase their risk (Brennan et al., 2011).

Some literature refers to substance abuse issues among the aged, including, for example, substance abuse of crack cocaine, heroin, and other injectable drugs (Johnson & Sterk, 2003; Kwiatkowski & Booth, 2003; Levy, 1998). However, it is clear from the literature that this is an under-researched, under-reported, and not-well-understood population. It has been documented that 11 per cent of new infections in those over the age of 50 were due to injectable drug use in 2008 (PHAC, 2010); however, it is not known what proportion of older adults currently living with HIV are also dealing with addictions.

Finally, when mid-life adults with HIV/AIDS become unable to care for themselves, it is often their partners (who may be HIV-positive themselves) or their older-aged parents who provide emotional, organizational and physical support (Uphold, Shehan, Bender, & Bender, 2012). According to Knodel and Saengtienchai (2005), in Thailand more than half of all adults living with AIDS live with or near their parents at the terminal stage of the illness, and their older-aged parents care for them, providing a crucial informal safety net. However, due to the added strain of becoming a caregiver, older-aged adults often suffer adverse physical, psychological, and economic consequences; consequently, older adults who are caregivers in this situation also need support. Although caregiving for those with HIV and AIDS is not a focus of this article, the topic deserves more attention in subsequent research.

Methodology

A literature search (Whittemore & Knafl, 2005) was conducted with a focus on the social aspects of living with HIV either (1) as a person aging with HIV or (2) as an older person at risk of contracting HIV. The primary search was conducted through Scopus, a multidisciplinary database which includes social sciences (e.g., 5,300 indexes), physical sciences, health sciences, and life sciences. The primary terms used for every subsequent search included *HIV*, *AIDS*, *older*, *elderly*, and *aging*. A second level of terms was then added to this base with the results listed in parentheses: *stigma* (22), *support and social* (47); *social* (115); *support* (112); *psycho-social* (19); *gender and women* (106), *gender and men* (575). These specific terms were derived through a review process by the authors, applying their expertise in the area, as well as through reviews by other researchers conducting work on social aspects of HIV and other conditions (e.g., neurological decline and dementia).

Duplicate terms were then removed leaving a total of 263 research articles, of which seven authors were found to be seminal in their contribution to this area: Emler, Jacobson, Kahana & Kahana, Sankar, and Vance. References were not searched prior to 2007; therefore, all references were from 2007 to 2012. We then excluded those articles that focused exclusively on physical or medical aspects of HIV and retained articles falling under the following inclusion criteria: (a) primarily developed countries, (b) qualitative and quantitative research, and (c) English language; we did not include press releases and editorials. This resulted in a total of 62 published articles. Additional references were utilized, as appropriate, from a manual search of reference lists from the selected papers.

The literature search revealed key themes that are explored in this article: (1) gender and sexuality issues delineating gay men, heterosexual men, and heterosexual women (not usually separated as lesbian and heterosexual in the literature); (2) ageism and stigma about HIV/AIDS in a multi-layered context; (3) changes in psychosocial function and mental health associated with aging with HIV/AIDS; and (4) social networks and support from formal and informal sources.

Findings

Gender and Sexuality

Men

The evidence related to social aspects of HIV and older men can be divided into two emerging categories – straight and gay men – although predominantly the literature on older men and HIV focuses on gay men who are aging with HIV (Masten, 2007). Lyons, Pitts, Grierson, Thorpe, and Power (2010) noted that generally older gay men living with HIV/AIDS say they are faring quite well, yet they rated more poorly in terms of economic security and heightened co-morbidity when compared with other age groups and straight men. One of the key concerns mentioned by Lyons et al. (2010) was that of double stigmatization: being gay and having HIV. In fact, it might be hypothesized that with the low life expectancy in previous decades for gay men with HIV, aging in itself continues to be seen as a success and something to celebrate. According to Murray and Adam (2001), there may be a protective factor in their gay men's optimism and sense of self that impacts their perception of well-being: a high level of commitment to being gay and experiencing belonging in the gay community, with a resulting self-esteem and life satisfaction. While most studies include being over age 50 as "aging" in the HIV literature, Murray and Adam's (2001) study included men over age 40 in his sample. The concept of aging in the gay community

associated with those who are living with HIV may be linked with notions of survival and celebration.

Older gay men were more likely to receive support from extended family, and yet both young and old experienced a significant lack of support from professional service providers evidenced either in their lack of awareness of issues related to HIV/AIDS, or through stigmatizing responses about being gay or living with HIV/AIDS (Murray & Adam, 2001). Across the literature documenting older gay men's experiences, informal social supports and a sense of community mediated these types of responses that appear to sharply impact other younger populations at risk.

There is a clearly defined need in the literature to educate and prevent HIV/AIDS in the straight male population in general (Emlet, Gerkin, & Orel, 2009; Ory, Zablotsky, & Crystal, 1998; Sankar, Luborsky, Rwabuhemba, & Songwathana, 1998). Emerging themes in Emlet et al. included the need for a change in the awareness of professionals about HIV, policy change in relation to service provision and support, and program development that caters to the needs and interests of older populations.

Women

Women all over the world are uniquely vulnerable to HIV infection and face gender-specific barriers to receiving health care and support should they become infected. Literature as it relates to women rarely focused on lesbians, with the exception of Carroll, Linde, Mayer, Lara, and Bradford (1999). Women are considered vulnerable because they are more likely to experience poverty, stigma, and reduced access to health care; as well, the majority of women's infections stem from heterosexual sex, the sex trade, and injectable drug use (Jacobs & Kane, 2010; Keigher, Stevens, & Plach, 2004). Gender inequality is further complicated by age, race, and class inequalities, coupled with a lack of education and gender-specific interventions contributing to women's greater vulnerability to some of the negative implications of HIV infection. Older women also face a specific risk of contracting HIV/AIDS due to physiological changes as they enter the post-menopausal phase of their lives. As women get older, they experience a thinning of the vaginal wall, which increases their risk of contracting HIV/AIDS and other sexually transmitted infections (Emlet, 2004; Illa et al., 2010; Levy-Dweck, 2005). The literature that discussed older women and HIV predominantly referred to the general lack of awareness among women that they might belong to any risk category.

Some women are, however, more at risk of HIV infection than others. In the United States, HIV is racialized: data collected in 2000 indicated that 80 per cent of

women infected with HIV were African-American and Hispanic (Keigher et al., 2004). Moreover, women who were infected with HIV were more likely to be living in poverty, be unemployed, and have lower levels of education than those who were not infected. In addition, older women who are living with HIV in the United States lack housing security and access to health care coverage (Keigher et al., 2004). The literature made clear that older U.S. women perceived themselves removed from being at risk, providing strong evidence that they could benefit from targeted education and prevention campaigns.

Ageism and the notion that older women should not be sexually active, coupled with the potential for a lack of sexual assertiveness, are barriers faced by older women (Jacobs & Kane, 2010). Moreover, many older women do not perceive themselves to be at risk for contracting HIV due to a lack of knowledge not only about sexuality but also about HIV. Jacobs and Kane (2010) measured the relationship between HIV-related stigmatizing behaviour (i.e., reluctance to discuss HIV and high-risk sexual behaviour, fear of disclosure, perceptions of low risk) and prevention behaviours, and found the former to reduce the likelihood of engaging in HIV-prevention behaviours.

Ageism and Stigma

Stigma is a complex reality where ageism, beliefs about HIV, gender, values regarding sexuality, addictions, and mental health can combine to create a negative daily lived experience. Stigma is arguably as much an issue for older adults as it is for younger people, yet in one conceptual framework on HIV/AIDS-related stigma (Parker & Aggleton, 2002), age was not included as a specific category of stigmatization and discrimination. Other researchers have suggested that stigma about sex and age can prevent education from being offered and inhibit the flow of information about the risk of HIV in older adults for those yet unaffected by it (Emlet, 2006; Sankar et al., 2011). According to Levy-Dweck (2005) and Pointdexter and Shippy (2010), however, it is likely that older adults living with HIV/AIDS face even more discrimination, fear of contagion, lack of support, and fear of rejection. Stereotypes about aging and a general lack of information may limit older adults from receiving the medical, educational, and psychosocial support needed to combat HIV/AIDS. Those who are living with HIV may experience ongoing daily stigma resulting in a decreased quality of life and a deepening social isolation (Vance, Struzick, & Masten, 2008). Levy-Dweck (2005) suggested that many older adults with HIV/AIDS could become targeted for violence because of their HIV status, although it is unclear whether this would be different for younger counterparts. It was similarly clear from the literature that

prevention and education geared to uninfected but likely at-risk older adults was almost non-existent, based on false assumptions of their low level of sexual activity and exposure to risk environments (Hillman, 2011).

Physicians may inadvertently play a role in maintaining stigma – about both HIV and aging – as they do not consistently ask individuals of all ages for full sexual histories, and they may not feel comfortable discussing sexuality with older adults (Jaquescoley, 2008). Some older adults are not willing to disclose sexual information, especially if it will be viewed as inappropriate by their physician, their culture, and their social circles (Illa et al., 2010). Health care providers can play an important role with patients aging with HIV to promote overall health and wellness (Vance, 2010). For instance, addressing the psychosocial aspects relevant to patients who are aging with HIV, and promoting positive coping strategies to build resilience, can have a lasting impact.

Psychosocial Function and Mental Health

Depression

Older adults who have been diagnosed with HIV/AIDS face a number of health and biochemical stressors including fatigue, increased substance use, and sleep disturbances (Vance et al., 2010). They may also face a number of psychological changes, compounded as they age, that can affect their way of life. Depression is common in older adults in general (Jaquescoley, 2008), and an older adult who has been diagnosed with HIV/AIDS faces an increased risk of being diagnosed with depression (Sankar et al., 2011). Grov et al. (2010), for example, observed that depression and stress are specifically linked to physical health outcomes, especially for HIV patients.

Cognition

Along with depression, cognitive problems are associated with HIV/AIDS and older age (Levy-Dweck, 2005; Sankar et al., 2011). *HIV-associated neurocognitive disorder* (HAND) is the term used for the spectrum of neurological deficits seen, which can range from asymptomatic cognitive impairment (ANI) to minor neurocognitive disorder (MND) and HIV-associated dementia (HAD) (Antinori et al., 2007). Although HAD has lessened considerably with the introduction of combination antiretroviral therapies, ANI and MND persist. Cognitive functioning in many areas can be affected, including speed of information processing, psychomotor functioning, memory, concentration, and attention, reasoning, perseveration, and initiation (Vance, 2010). In particular, rates of impairment in executive functions are thought to have increased in the presence of HAART,

relative to other areas of cognitive function (Heaton, 2011). This increase in impairment is important because executive function is a strong predictor of a person's ability to perform daily tasks such as managing complex medication regimens (Heaton et al., 2004), navigation, and driving (Marcotte et al., 2004). Limited cognitive abilities can also be accompanied by co-morbidities such as hypertension, heart disease, high cholesterol, side effects of HIV/AIDS medications, coping problems, fatigue, and sleep disturbances (Hardy & Vance, 2009).

Hardiness and Resilience

Another psychological aspect that emerged in the literature review and which may affect how older adults deal with HIV/AIDS is the concept of hardiness or resilience. While the notion of resilience was first used in the context of children who had experienced maltreatment (Hermann et al., 2011), resilience applies to a person's adaptation throughout the life course, and shares similar properties to hardiness when understood as the capacity of individuals or communities to overcome damaging effects of adversity (Grotberg, 1997). In the gerontological literature, hardiness and resilience have been used as inter-related constructs to explain how people age successfully in the face of experiencing traumatic events and chronic diseases (Vance et al., 2008). Hardy people tend to direct their internal and external resources towards promoting well-being, and rely on coping strategies that are problem-focused, thereby facilitating coping in stressful situations and promoting positive quality-of-life outcomes. Although the role of hardiness/resilience has not been extensively studied in older adults living with HIV, Vance et al. (2008) put forward hypotheses that consider hardiness as both a state that develops and fluctuates over time in response to life events, and as a stable trait inherent in the individual.

The synergistic effects of aging with HIV may deplete hardiness reserves which can in time be replenished by resources such as social support or spirituality. Aging with HIV may also give older adults additional life experiences that will help them cope with the disease. Alternatively, it may be that those who age with HIV are hardier to begin with, and that this is the key to their survival. Vance et al. (2008) also stated that studies have shown that adults with high levels of hardiness show stronger immune systems, and hardy older adults may find ways to improve their life satisfaction while living with HIV. Although HIV-related barriers may impact the development of characteristics necessary for successful aging, older adults can take steps to promote personal successful aging and improve their quality of life. Active engagement with life, maximization of high cognitive and physical functioning, adopting health-promoting behaviours, and practicing spirituality in

the context of the developmental process are all ways that older adults can age successfully.

Social Networks and Support

Social networks have proven to be very important both for older adults and for people living with HIV (Roger, Migliardi, & Mignone, 2012; Sankar et al., 2011). To an older adult who has been diagnosed with HIV/AIDS, social networks and social supports are key adjuncts for improving their quality of life while coping with the disease and likely contribute to successful aging with HIV/AIDS. Older adults in general are more likely to live alone than are younger age groups, and therefore they are more likely to experience loneliness and decreased social support (Emlet, 2004). Consequently, older adults with HIV/AIDS not linked to care and services may experience heightened isolation and potential exclusion (Groves et al., 2010). Because HIV/AIDS research in older adults is scarce, little is known about how to provide services to older adults living with HIV/AIDS. Subsequently, few services are available for these individuals. Most HIV/AIDS education is tailored to a younger population, and much of the materials provided are not age-appropriate for older adults (Levy-Dweck, 2005). Because physicians and other health care providers play an essential role in HIV/AIDS prevention, they should pay special attention to the growing older population contracting this disease (Paul et al., 2007).

Shippy and Karpiak (2005), in examining the size and composition of informal social support networks of adults aged 50 and older living with HIV and AIDS in New York City, measured the individuals' access and utilization of formal health and social services. Most of the study participants lived alone and reported that their needs for support went unmet; 79 per cent reported that their instrumental support needs went unmet while 57 per cent reported unmet emotional support needs. Additionally, 40 per cent of the participants felt that it was difficult to access formal services: they lacked knowledge on where to go or felt that the services were geared towards younger adults. These older adults living with HIV/AIDS were reluctant to disclose their HIV status to friends and family. This sense of being stigmatized (or feeling at risk of being stigmatized) became a barrier to accessing supports from religious institutions or community seniors centres, for example; consequently, Shippy and Karpiak highlighted the need for more HIV/AIDS services and for community-based organizations to provide them.

Other researchers also reported a need for additional services and training, and for the perspectives of older adults to be considered when these programs are implemented (Beaulaurier et al., 2009). Services and

efforts should focus on reducing HIV-related stigma and loneliness, which can help to reduce depression and improve perceived health (Groves et al., 2010). Although programs targeted to older adults are rare, some programs have been specifically tailored to that population with HIV/AIDS. One example is the *No One Is Immune* program, which was designed to prevent AIDS in the older U.S. population (Orel et al., 2010). The program consists of prevention and education initiatives designed specifically for older adults, and it attempts to motivate older adults to seek HIV testing. Orel et al. (2010) argued that prevention and education are the most effective strategies to fight against HIV/AIDS until a cure for the disease is found. Other researchers (e.g., Ibanez-Carrasco, 1997/98) have argued that safe-sex programs are culturally biased and limited in the way that they approach diverse populations living with HIV/AIDS.

Conclusion

This review has revealed gendered differences in the experiences of older adults living with HIV/AIDS, as well as the complexities around ageism and stigma and their influence on HIV prevention, social support, and care. Although older adults in general can be affected by ageism and stereotyping, those living with HIV/AIDS face the additional stigma that may be associated with HIV. It appears that gay and straight men and women do experience service provision differently as a result of gender. These layers of stigmatization work together to put older adults at greater risk of infection, as a result of false assumptions that older adults are no longer sexually active. The experiences of shame and stigma can lead to increased isolation which, according to some research, can lead to poor access to care and lack of adherence to treatment programs, among other issues. Ageist assumptions and stigma must be resolved through increased research and education.

The literature review evidenced significant challenges to HIV prevention among older adults. HIV prevention programs must make more efforts to reach older adults and raise their awareness about risk. Tailoring programs specifically for this population would be a major step in the right direction. Furthermore, the apparent neglect by health care providers to provide a full range of services to older adults, including HIV testing and discussions (likely due to the beliefs that older adults do not engage in sexual activity and thus are not at risk for HIV), needs to be reversed.

In terms of social support and care of people living with HIV/AIDS, the literature review highlighted the importance of addressing the psychosocial aspects of people who are aging with HIV/AIDS. The research

suggested the lasting impact of promoting positive coping strategies to build resilience. It is believed that behaviours and practices related to health can be modified in a way that places those living with HIV/AIDS and those at-risk for it at lower risk. However, in the absence of programs and services specifically designed for an older population, this change is unlikely to occur. The review also provided evidence that older adults living with HIV/AIDS are more likely to live alone, consequently increasing the need for health, social, and community supports. Both the health and social sectors must better tailor programs to be accessible and meet the needs of older adults living with HIV/AIDS if this population is to be helped. As Jacobson (2011) has suggested, interventions for older adults should be developed at the intrapersonal, interpersonal, community, and institutional as well as policy levels.

The lack of attention to HIV/AIDS and aging has contributed to a lack of understanding about the risks of aging with HIV, as well as limiting professionals' knowledge regarding program development, education and prevention, and service provision. Thus, research linking social aspects of HIV and aging to prevention and education, particularly within a Canadian context, has become an imperative. Within the Canadian context, the demographic trends show an increasingly aging population and a growing Aboriginal population, both of whom are at increased risk of contracting HIV/AIDS. Of particular concern is that despite the growing evidence of disproportionate HIV risk among Aboriginal populations, this review found no research on the experience of HIV and aging in Aboriginal populations in Canada.

Aside from highlighting the lack of research on social aspects of HIV and aging in Canada, this article is particularly relevant in that it identifies the growing significance of HIV in an aging population to the public health and health care sectors, and provides a systematic overview of the evidence. This article further suggests the need for research that may provide empirical evidence to better guide public health interventions, as well as to foster better-directed health care and social support.

References

- Albone, R. (2011). Why global HIV targets must include people over 49. *Ageing and Development, 29*, 6–8.
- Antinori, A., Arendt, G., Becker, J. T., Brew, B. J., Byrd, D. A., Cherner, M., et al. (2007). Updated research nosology for HIV-associated neurocognitive impairment. *Neurology, 69*, 1789–1799.
- Beaudin, C. L., & Chambre, S. M. (1996). HIV/AIDS as a chronic disease: Emergence from the plague model. *American Behavioral Scientist, 39*, 684–706.
- Beaulaurier, R. L., Craig, S. L., & De La Rosa, M. (2009). Older Latina women and HIV/AIDS: An examination of sexuality and culture as they relate to risk and protective factors. *Journal of Gerontological Social Work, 52*(1), 48–63.
- Brennan, D., Emlet, C., & Eady, A. (2011). HIV, sexual health, and psychosocial issues among older adults living with HIV in North America. *Ageing International, 36*, 313–333.
- Carroll, N., Linde, R., Mayer, K., Lara, A. M., & Bradford, J. (1999). Developing a lesbian health research program: Fenway Community Health Center's Experience and Evolution. *Journal of the Gay and Lesbian Medical Association, 3*(4), 145–152.
- Deeks, S. G. (2011). HIV Infection, inflammation, immunosenescence, and aging. *Annual Review of Medicine, 62*, 141–155.
- Desai, S., & Landay, A. (2010). Early immune senescence in HIV disease. *Current HIV/AIDS Reports, 7*, 4–10.
- Desquilbet, L., Jacobson, L. P., Fried, L. P., Phair, J. P., Jamieson, B. D., Holloway, M., Margolick, J. B., & Multicenter AIDS Cohort Study. (2007). HIV-1 infection is associated with an earlier occurrence of a phenotype related to frailty. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences, 62*(11), 1279–1286.
- Emlet, C. A. (2004). HIV/AIDS and aging: A diverse population of vulnerable older adults. *Journal of Human Behaviour in the Social Environment, 9*(4), 45–63.
- Emlet, C. A. (2006). "You're awfully old to have this disease": Experiences of stigma and, ageism in adults 50 years and older living with HIV/AIDS. *The Gerontologist, 46*(6), 781–790.
- Emlet, C. A. (2007). Experiences of stigma in older adults living with HIV/AIDS: A mixed-methods analysis. *AIDS Patient Care and STDs, 21*, 740–752.
- Emlet, C. A., Gerkin, A., & Orel, N. (2009). The graying of HIV/AIDS: Preparedness and needs of the aging network in a changing epidemic. *Journal of Gerontological Social Work, 52*(8), 803–814.
- Frost, D. M., Parsons, J. T., & Nanín, J. E. (2007). Stigma, concealment and symptoms of depression as explanations for sexually transmitted infections among gay men. *Journal of Health Psychology, 12*, 636–640.
- Grotberg, E. M., Bain, B., Janzen, H.L., Patterson, J.G., Stewin, L.L., & Yu, A. (1997). The International Resilience Project: Findings from the research and the effectiveness of interventions. In Bain, B. et al. (Eds.), *Psychology and Education in the 21st Century: Proceedings of the 54th Annual Convention of the International Council of Psychologists* (pp. 118–128). Edmonton, AB: IC Press.
- Grov, C., Golub, S. A., Parsons, J. T., Brennan, M., & Karpick, S. E. (2010). Loneliness and HIV-related stigma explain depression among older HIV-positive adults. *AIDS Care, 22*(5), 630–639.

- Hardy, D. J., & Vance, D. E. (2009). The neuropsychology of HIV/AIDS in older adults. *Neuropsychology Review*, 19, 263–272.
- Heaton, R. K. (2011). HIV-associated neurocognitive disorders before and during the era of combination antiretroviral therapy: Differences in rates, nature, and predictors. *Journal of Neurovirology*, 17, 3–16.
- Heaton, R. K., Marcotte, T. D., Mindt, M. R., Sadek, J., Moore, D. J., Bentley, H., et al. (2004). The impact of HIV-associated neuropsychological impairment on everyday functioning. *Journal of the International Neuropsychological Society*, 10(3), 317–331.
- Hermann, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? *Canadian Journal of Psychiatry*, 56, 258–265.
- Hillman, J. (2011). A call for an integrated biopsychosocial model to address fundamental disconnects in an emergent field: An introduction to the special issues on sexuality and aging. *Aging International*, 36, 303–312.
- Ibanez-Carrasco, J. F. (1997/98). Explorations and border-crossings: The risks of safer sex discourse. *Trans/forms: Insurgent Voice in Education*, Fall, 8–41.
- Illa, L., Echenique, M., Saint Jean, G., Bustamante-Avellaneda, V., Metsch, L., Mendez-Mulet, L., et al. (2010). Project ROADMAP: Reeducating Older Adults in Maintaining AIDS Prevention: A secondary intervention for older HIV-positive adults. *AIDS Education & Prevention*, 22(2), 138–147.
- Jacobs, R., & Kane, M. (2010). HIV-related stigma in mid-life and older women. *Social Work in Health Care*, 49, 68–89.
- Jacobson, S. (2011). HIV/AIDS interventions in an aging U.S. Population. *Health & Social Work*, 36(2), 149–156.
- Jaquescoley, E. (2008). Behavioral prevention study gauges HIV/AIDS and depression in the older US population. *AIDS Care*, 20(9), 1152–1153.
- Johnson, W. A., & Sterk, C. E. (2003). Late-onset crack users: An emergent HIV risk group. *Journal of Acquired Immune Deficiency Syndromes*, 33(2 Suppl), S229–S232.
- Kahana, E., & Kahana, B. (2001). Successful aging among people with HIV/AIDS. *Journal of Clinical Epidemiology*, 54(12), 53–56.
- Kearney, F, Moore, A. R., Donegan, C. F., & Lambert, J. (2010). The ageing of HIV: Implications for geriatric medicine. *Age and Aging*, 39, 536–541.
- Keigher, S., Stevens, P., & Plach, S. (2004). Midlife women with HIV: Health, social, and economic factors shaping their futures. *Journal of HIV/AIDS and Social Services*, 3(1), 43–58.
- Knodel, J., & Saengtienchai, C. (2005). Older aged parents: The final safety net for adult sons and daughters with AIDS in Thailand. *Journal of Family Issues*, 26(5), 665–698.
- Kwiatkowski, C. F., & Booth, R. E. (2003). HIV risk behaviors among older American drug users. *Journal of Acquired Immune Deficiency Syndromes*, 33(2 Suppl), S131–S137.
- Levy, J. A. (1998). AIDS and injecting drug use in later life. *Research on Aging*, 20(6), 776–797.
- Levy-Dweck, S. (2005). HIV/AIDS fifty and older: A hidden and growing population. *Journal of Gerontological Social Work*, 46(2), 37–50.
- Lyons, A., Pitts, M., Grierson, J., Thorpe, R., & Power, J. (2010). Ageing with HIV: Health and psychosocial well-being of older gay men. *AIDS Care*, 22(10), 1236–1244.
- Manitoba Health. (2009). Statistical Update: HIV and AIDS. Winnipeg, MB: Author.
- Marcotte, T. D., Wolfson, T., Rosenthal, T. J., Heaton, R. K., Gonzalez, R., Ellis, R. J., et al. (2004). A multimodal assessment of driving performance in HIV infection. *Neurology*, 63(8), 1417–1422.
- Masten, J. (2007). Aging with HIV/AIDS: The experience of gay men in late middle age. *Dissertation Abstracts International, A: The Humanities and Social Sciences*, 67(9), 3593.
- Murray, J., & Adam, B. D. (2001). Aging, sexuality, and HIV issues among older gay men. *Canadian Journal of Human Sexuality*, 10(3–4), 75–90.
- Orel, N. A., Stelle, C., Watson, W. K., & Bunner, B. L. (2010). No one is immune: A community education partnership addressing HIV/AIDS and older adults. *Journal of Applied Gerontology*, 29(3), 352–370.
- Ory, M. G., Zablotzky, D. L., & Crystal, S. (1998). HIV/AIDS and aging: Identifying a prevention research and care agenda. *Research on Aging*, 20(6), 637–652.
- Parker, R., & Aggleton, P. (2002). HIV/AIDS-related stigma and discrimination: A conceptual, framework and an agenda for action. Retrieved September 2011 from www.popcouncil.org/pdfs/horizons/sdcncptl-fmwrk.pdf.
- Paul, S. M., Martin, R. M., Lu, S., & Lin, Y. (2007). Changing trends in human immunodeficiency virus and acquired immunodeficiency syndrome in the population aged 50 and older. *Journal of the American Geriatrics Society*, 55(9), 1393–1397.
- Pointdexter, C., & Shippy, A. (2010). HIV diagnosis disclosure: Stigma management and stigma resistance. *Journal of Gerontological Social Work*, 53, 366–381.
- Public Health Agency of Canada (PHAC). (2010). Chapter 6: HIV/AIDS among older Canadians. In HIV/AIDS Epi Update. Retrieved 27 October 2011 from <http://www.phac-aspc.gc.ca/aids-sida/publication/epi/2010/1-eng.php>.
- Roger, K., Migliardi, P., & Mignone, J. (2012). HIV, Social support and care among vulnerable women. *Journal of Community Psychology*, 40(5), 487–500.

- Sankar, A., Luborsky, M., Rwabuhemba, T., & Songwathana, P. (1998). Comparative perspectives on living with HIV/AIDS in late life. *Research on Aging, 20*(6), 885–911.
- Sankar, A., Nevedal, A., Neufeld, S., Berry, R., & Luborsky, M. (2011). What do we know about older adults and HIV? A review of social and behavioral literature. *AIDS Care, 23*(10), 1187–1207.
- Saskatchewan Ministry of Health. (2009). *Saskatchewan HIV strategy 2010-2014*. Regina, SK: Author.
- Shippy, R., & Karpiak, S. (2005). The aging HIV/AIDS population: Fragile social networks. *Ageing and Mental Health, 3*, 246–254.
- Siegel, K., & Lekas, H. (2002). AIDS as a chronic illness: Psychosocial implications. *AIDS, 16*, S69–S76.
- Uphold, C. R., Shehan, C. L., Bender, J. M., & Bender, B. S. (2012). Emotional bonds and social support exchange between men living with HIV infection and their mothers. *American Journal of Men's Health, 6*, 97–107.
- Vance, D. E. (2010). Aging with HIV: Clinical considerations for an emerging population. *American Journal of Nursing, 110*(3), 42–49.
- Vance, D. E., Struzick, T., & Childs, G. (2010). Challenges of depression and suicidal ideation associated with aging with HIV/AIDS: Implications for social work. *Journal of Gerontological Social Work, 52*(2), 159–175.
- Vance, D. E., Struzick, T. C., & Masten, J. (2008). Hardiness, successful aging and HIV: Implications for social work. *Journal of Gerontological Social Work, 51*(3–4), 260–283.
- Ware, N. C., Wyatt, M. A., & Tugenberg, T. (2006). Social relationships, stigma and adherence to antiretroviral therapy for HIV/AIDS. *AIDS Care, 18*(8), 904–910.
- Whittemore, R., & Knaf, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing, 52*(5), 546–553.
- Wohl, D. (2013). *Aging with HIV: Where do we stand after CROI 2013?* Conference Report presented for the National AIDS Treatment Advocacy Project (NATAP) at the 20th Conference on Retroviruses and Opportunistic Infections, Atlanta, Georgia. Retrieved January 2013 from http://www.natap.org/2013/CROI/croi_190.htm.
- Worthington, C., Myers, T., O'Brien, K., Nixon, S., & Cockerill, R. (2005). Rehabilitation in HIV/AIDS: Development of an expanded conceptual framework. *AIDS Patient Care and STDs, 19*(4), 258–271.