Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women

by

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We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

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Abstract

Sexually Transmitted Infections (STIs) are on the rise among older women in British Columbia (BC); yet, sexual health research has paid little attention to this population. Similarly, STI prevention, testing, and treatment strategies often concentrate on youth or young adults. This community-based participatory research study examined how and to what extent social determinants influence STI prevention, testing, and treatment among older women (60+) in BC. This includes stigma around older adult sexuality, which is more prevalent in older women and creates barriers to safer sex practices and access to appropriate sexual health services. A mixed-method design, using cross-sectional surveys and interviews with older women across BC, contributed to understanding the sexual health needs of this population. The key themes that influence older women's STI prevention, testing, and treatment experiences include: 1) knowledge and beliefs, 2) stigma and shame, 3) social determinants of health such as education, access to care without discrimination, and relationships with trust. This research not only contributes to the knowledge base around older women's social determinants of health in relation to STI-related behaviours, but also provides data to inform recommendations regarding the development of equitable policies, programs, and services that promote the sexual health of older women in BC.

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Background

Healthy aging is an increasingly important topic in both policy and research, as it is estimated that worldwide the number of adults over the age of 60 will double by 2050 (World Health Organization, 2015). Women are also living longer than ever before, living over a third of their life after they have experienced menopause (Tremayne & Norton, 2017). Due to an increase in divorce and separations, as well as heterosexual women being more likely to outlive male partners, there is greater opportunity for women to be single and open to new partners at an older age (Weitzman et al., 2020).

Sexually transmitted infections (STIs) are on the rise in older adults, with rates of chlamydia, gonorrhea, and syphilis more than doubling among those 60 years and older in British Columbia (BC) between 2010 and 2017 (BC Centre for Disease Control, 2010; BC Centre for Disease Control, 2017). This pattern is similar in many other parts of the world, with late diagnosis of STIs being a common consequence in this demographic (Rabathaly & Chattu, 2019). Yet, sexual health research has paid little attention to increasing concerns with STI prevention, testing, and treatment strategies; instead, most research often concentrates on youth or young adults, attributing sexual health to being strictly a younger person's issue (Rabathaly & Chattu, 2019).

Beyond the potential for these infections to pass within the older population, STI transmission poses an increased threat to the health and wellbeing of older adults as the immune system's capacity to fight these infections may decrease with age (Imparato & Sanders, 2013). Despite this emerging health threat, older populations have been largely ignored by STI researchers and sexual health services (Tillman & Mark, 2015). There is also evidence that

stigma represents a barrier to seeking out STI information and support, which may be an even greater concern for older women (Lichtenstein, 2008; Heidari, 2016). For community stakeholders and health leaders to enhance age-appropriate STI prevention, testing, and treatment for older women, as well as reduce unnecessary healthcare costs associated with missed or late diagnosis of STIs, urgent research attention is required.

Preliminary Literature Review

Peer-reviewed academic literature focused on older women's experiences around STI prevention, testing, and treatment was examined, with three key themes identified:

1. Knowledge and beliefs around prevention and testing for older women
2. Stigma and ageism
3. Social determinants of health (access to care, sexual identity, socioeconomic status, and racism, etc.)

Theme 1: Knowledge and beliefs around prevention and testing for older women

Knowledge and beliefs held by older women directly influence their sexual health behaviour. For example, older women often misunderstand their risk of STIs, which reduces the likelihood that they will participate in preventative behaviour (Ludwig-Barron et al., 2014). Tremayne and Norton (2017) claim that post-menopausal women might abandon condom use as their capacity for pregnancy ends with menopause, while Weitzman et al. (2020) report that only 20% of older adults who are dating use condoms on a regular basis. This leaves older women especially vulnerable, as biological females more easily acquire STIs compared with biological males (Weitzman et al., 2020; Ross et al, 2013). As well, older women may be more susceptible

to STIs than younger women, due to the possibility of genitourinary syndrome of menopause (previously known as vaginal atrophy) leading to micro-abrasions that can increase the possibility of STI transmission (Tremayne & Norton, 2017). Ludwig-Barron and team (2014) assert that, while unprotected (condomless) sexual behaviour is similar among older and younger women, older women's knowledge about STI prevention methods is much lower.

Most older adults of this generation have received very little sexual health education, leaving them with limited knowledge (Heidari, 2016). Currently, schools are one of the primary venues for sexual health education, with very few formal spaces for older adults to receive sexual health information. In their article on STIs in older women, Minkin (2010) states that "patients need to be encouraged to continue sexual activity, but they also need to be educated on the risks of unsafe behavior" (p.116).

A study by Weitzman and team (2020) explored some reasons why older women are unaware of the risks around STIs in their age group. While reputable health organizations bring awareness about the harms of Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (HIV/AIDS) to older adults in online formats (Weitzman et al., 2020), education aimed at this age group does not often go into specifics about safer sex practices, such as what kind of prevention measures are available and how to specifically employ them (Weitzman et al., 2020). Online education around safer sex that is targeted to older women and their unique needs is even more rare (Weitzman et al., 2020).

Moreover, women often shoulder the burden of initiating safer sex discussions and practices with male partners (Minkin, 2010). Due to patriarchal social norms, if older women do not possess the knowledge or skills related to STI prevention methods, they may end up avoiding prevention measures all together. Reports demonstrate that even when older women are more

aware of the need to practice safer sex, their male partners may resist using a condom (Weitzman et al., 2020). As well, older women in long-term relationships rarely question the faithfulness of their partners, possibly due to socially constructed ideologies around romance and fidelity (Ross et al., 2013). Therefore, it is critical that older women are aware, educated, and confident about practicing safer sex.

Older women in general have more negative feelings towards STI prevention behaviours compared with younger women (Ludwig-Barron et al., 2014). Ludwig-Barron and team (2014) explored misconceptions among older women about their HIV and STI risk; one woman explained that, because she has more experience with men and is much pickier when choosing partners in comparison with a younger woman, she would not need STI prevention methods. The authors note that the woman making this statement had several partners with multiple risk factors (such as unfaithfulness or injecting drugs), which could lead her to acquiring an STI. Another woman in this study claimed to have aged-out of the risk for HIV, demonstrating internalized ageism. These types of ageist, sexist, and misinformed beliefs and attitudes that older women do not need to participate in preventative measures can result in harm to both women's and their partners' sexual health.

Theme 2: Stigma and Ageism

Research and societal focus on older women's health remains almost exclusively on chronic diseases and cognitive decline, giving little attention to STIs (Bergeron et al., 2017). Misconceptions around older women not being at-risk for STIs can also deter healthcare professionals from offering screening (Ludwig-Barron et al., 2014). As well, many people experience no symptoms at all from certain STIs, such as chlamydia or gonorrhea (Island Sexual Health, 2021). Symptoms that do present in older women can be confused with menopause or

age-related health issues (e.g., bleeding, pelvic pain, cystitis) (Minkin, 2010), which can also create confusion among women about getting screened. It is also common among older people to avoid seeking out medical support until symptoms become bothersome, which can exacerbate the impact of undiagnosed STIs (Minkin, 2010).

Older women may feel increased stigma around HIV, reducing the likelihood that they will seek out information or assistance in helping to reduce their possible risk (Weitzman et al., 2020). This is evident in reports that, on average, adults over 45 years of age receive HIV diagnoses later than younger adults (Ludwig-Barron et al., 2014). Rabathaly and Chattu (2019) also note that most countries are not mandated to collect STI and HIV information beyond the age of 50, which leaves a substantial gap in data related to older populations. The data that are available demonstrate increasing rates of STIs in older women in BC, which indicates the need for continuous prevention measures and testing within this population (BC Centre for Disease Control, 2017).

When healthcare workers hold ageist beliefs around sexuality, the care they provide to older adults can be greatly impacted (Syme & Cohn, 2016). There is evidence that higher education levels among long-term care staff correlate with more accepting attitudes of older adults expressing their sexuality (Syme & Cohn, 2016). Yet nurses, who often spend more time interacting with older adults than doctors, have reported a lack of knowledge, skills, and confidence in addressing the sexual health needs of older adults (Tremayne & Norton, 2017). In fact, many nurses consider sexual health concerns in older adults to be outside the scope of their practice (Tremayne & Norton, 2017). Physicians do not appear to be handling older women's sexual health needs any better. A study by Nusbaum and team (2004) reported that 68% of the women over 65 they sampled had never had the topic of sexuality arise during a doctor's visit.

This is despite the fact that older women expressed the same need for sexual information as the younger women in the study (Nusbaum et al., 2004). Bergeron and team (2017) reported that only 23.8% of women have discussed sex in any way with their providers since turning 50 years old. A global study reported only 9% of older women had been asked by a physician about their sexual health and only 19% of older women had attempted to seek medical help for current sexual problems (Moreira et al., 2005).

There is evidence that stigma represents an important barrier to accessing sexual health information and services, particularly when it comes to older adults (Lichtenstein, 2008). Medical professionals and patients alike feel some measure of discomfort and embarrassment around discussing sexual health (Minkin, 2010; Weitzman et al., 2020). This is likely due to intersecting levels of stigma; older women may feel stigma around sexuality in general, particularly when stigma was part of their early socialization. They may also internalize stigma and ageist beliefs about older adults' sexuality as gross, shameful, or funny— all of which create barriers to promoting positive sexual health in older adults (Syme & Cohn, 2016).

Groups with less power, such as older women within a patriarchal society, are the least likely to feel a sense of agency over their sexual choices (Heidari, 2016; Rao et al., 2012). Consequently, it is the responsibility of healthcare professionals to raise relevant health concerns with their patients. Indeed, many women have reported that it would be easier to discuss sexual concerns if physicians raised the topic first (Minkin, 2010). Some women acknowledge a preference for discussing sex with a medical professional who also identifies as a woman or is close to them in age (Bergeron et al., 2017). Yet, unless it is raised first by the patient, it is not common for primary care physicians to address proactively sexual health with older patients (Rabathaly & Chattu, 2019).

Other studies have reported women wanting physicians to not only ask about sexual health matters, but also about both their own and their partners sexual functioning (Nusbaum et al., 2004). But this is not the case for all women; other studies have reported that some older women believe physicians should not ask about their sexual health or intimate relationships unless questions are directly related to a present health concern (Politi et al., 2009). Older women who come from a more traditional, sexually conservative, or sexually restrictive cultural or religious background may be more passive while communicating about their sexual health (Ross et al., 2013; Vasconcelos et al., 2021). For example, one study of rural Chinese elderly, interviewed by village doctors and social workers, found that older adults in Chinese culture avoided talking about sexual matters in daily conversation to uphold the respect that is gained by their cultivated social image (Guan, 2004).

Theme 3: Social Determinants of Health

With research pointing to stigma and ageism being impactful socially constructed barriers that affect older women's sexual health, broad range social determinants of health are further influences to consider. Over the past several decades, research and policy attention has increasingly focused on the social determinants of health. This is in part due to organizations, such as the World Health Organization (Garrido et al., 2018), recognizing the importance of social, economic, and lifestyle factors that have impacts on health (Government of Canada, 2020). Although these determinants can be viewed from either an individual or group perspective, social determinants of health tend to focus on populations and emphasize an intersectional approach (Crenshaw, 1989; Hankivsky et al., 201; Navarro, 2009). Each of the

following paragraphs will describe relevant extant literature on different social determinants of health for older women's sexual health. First, access to quality health services is discussed, then sexual identity, and finally race and ethnicity.

Access to Quality Health Services

Healthcare access, availability, and quality are all important social determinants of health that directly affect health outcomes (Adimora & Schoenbach, 2013). These aspects of healthcare are important sexual health determinants as well, as they can profoundly affect STI testing and treatment. Specifically, access to quality health care for older women includes available spaces in which patients feel safe and comfortable being treated for their sexual health (Cadman et al., 2012). An older women's access to quality healthcare can be heavily impacted by her geographic location, such as whether she is living in an urban or rural setting. Accessing quality health care can often be a challenge for women living in rural areas, as many of these settings provide few nearby health care locations and opportunities (Subedi et al., 2019).

Sexual Identity

According to United States (US) data, most older women in America who acquire an STI do so through heterosexual sexual activity (Weitzman et al., 2020). However, women who identify as a sexual minority or women who participate in sexual behaviour with same sex/gender people have their own sexual health needs and marginalization's. For example, Tremayne and Norton (2017) remind us that "the HPV [Human Papilloma Virus] virus, which is linked with certain mouth and throat cancers as well as cervical cancer, can be passed on through female-to-female sex, as well as heterosexual sex" (p. 821). It is especially concerning that many sexual minority women report being more hesitant to discuss sexual health matters with their physicians often due to prior negative experiences around sharing their sexual identity (Politi et

al., 2009). Older women who identify as a sexual minority have expressed that they would be more likely to disclose this information to physicians who appeared to be non-judgmental and did not assume their heterosexuality (Politi et al., 2009). Not feeling comfortable discussing sexuality or sexual identity is a clear barrier for accessing appropriate sexual health care in older sexual minority women that needs to be identified and addressed in healthcare settings.

Socio-economic Status

Socio-economic status is a key determinant of sexual health, with research showing influences on sexual behaviour and effective access to care (Adimora & Schoenbach, 2013; Rao et al., 2012). In countries without universal healthcare coverage, lower income individuals who cannot afford insurance experience increased rates of STIs (Adimora & Schoenbach, 2013). Even among those who have healthcare, lower economic status correlates with riskier sexual behaviour and poorer sexual health (Rao et al., 2012). This is not surprising, as poverty is correlated with high-risk lifestyle behaviours in general (Rao et al., 2012). Lower socio-economic status is also correlated with lower levels of academic performance (Malecki & Demaray, 2006), less health literacy, less ability to access health services, and less tolerance for sexual diversity (Rao et al., 2012).

Race and Ethnicity

Some racialized minority groups experience barriers to accessing culturally safe quality healthcare, which, among other things, can lead to higher rates of STIs, including HIV (Adimora & Schoenbach, 2013). Overall rates of HIV/AIDS have declined since the epidemic of the 1980s and 1990s, but the proportion of women who are infected has increased since that time (Ross et al., 2013). This concern is especially urgent for Indigenous women in Canada, as HIV/AIDS has been identified as a pressing health concern among this population (Halseth, 2013). It has been

reported that even with the same access to care, Black, Indigenous, and People of Colour (BIPOC) individuals are more likely to experience poorer quality of care than those racialized as white (Adimora & Schoenbach, 2013; Government of British Columbia, 2020). Data from the southern US show that older African Americans are more likely to experience stigma regarding STIs, including HIV (Lichtenstein, 2008). These experiences are similar to those of Indigenous people in Canada, who face racist and culturally unsafe care, causing a lack of trust in the medical and healthcare system (Tang & Browne, 2008; Government of British Columbia, 2020).

In summary, we cannot assume that all older women face the same experiences, risks, or challenges. We must acknowledge the complex intersections of social determinants of health as critical to supporting women's wellness. A restrictive perspective limits the framing of sexual health struggles among older women to either 'problems faced by older adults,' 'problems faced by women,' or 'problems faced by those who identify as BIPOC.' Intersectionality is a theoretical framework that urges us to view interacting connections of social difference in power due to gender, socioeconomic status, and race, as well as systemic oppressions such as sexism, classism, and racism (Crenshaw, 1989; Hankivsky et al., 2011). In extant literature surrounding older women's sexual health, unfortunately, the importance of intersecting determinants has not been fully examined.

Key Findings of Literature Review

People are living longer and healthier lives, and there will soon be a large global population of older women who are ideally experiencing a positive trajectory of ageing (World Health Organization, 2015). With this, many older women are staying sexually active into the latter stages of life (World Health Organization, 2015). Yet, some women are seemingly unaware

that STIs are a serious risk for their age group (Ludwig-Barron et al., 2014). Other older women lack information around what preventive measures are available or how to use them effectively (Weitzman et al., 2020). Negative attitudes toward STI prevention behaviours can also determine whether older women choose to practice safer sex (Ludwig-Barron et al., 2014). Further, misconceptions that under-estimate one's level of risk for STIs, by either older women themselves or medical professionals, can affect the chance of an older woman being tested and treated.

Stigma and ageism are detrimental to older women who are in need of STI testing and/or treatment (Lichtenstein, 2008). Unless they are prompted, medical professionals rarely bring up the topic of sexual health to older patients (Nusbaum et al., 2004; Bergeron, 2017; Moreira et al., 2005; Rabathaly & Chattu, 2019). Many medical professionals have reported discomfort while talking to their older patients around sexuality, with some even considering it to be out of their scope of practice (Tremayne & Norton, 2017). Patients may also feel stigma regarding their sexual health needs and may be too embarrassed to breach this topic in a physician visit (Minkin, 2010; Weitzman et al., 2020).

In addition to age, other determinants can influence women's feelings towards sexual health and STI prevention behaviours (Bergeron et al., 2017). The ability to access quality health services is a major barrier to sexual health, and can be a challenge for older women, especially those living in rural areas (Subedi et al., 2019). BIPOC women may have an even more challenging experience, as many already face racist and culturally unsafe healthcare (Government of British Columbia, 2020), with intersecting stigma around older women's sexuality creating additional barriers (Lichtenstein, 2008). Other social determinants of health that impact STI prevention, testing and treatment among older women include socio-economic

status, education, and sexual identity, yet these have not been adequately or fully explored in research to date.

Limitations and Gaps in the Literature

There is a scarcity of literature exploring the STI-related experiences of older women. Beyond an epidemiological focus on the increasing STI diagnosis rates among older women, more attention must be paid to the social determinants that influence their experiences of prevention, testing and treatment. This literature review points to a need to understand better the social determinants of older women's sexual health, specifically STIs.

Research Objectives

The objectives of this research are to:

a) contribute to knowledge about social determinants of older women's sexual health in relation to STI prevention, testing, and treatment, and

b) inform the development of equitable policies, programs, and services that promote the sexual health of older woman in BC.

Research Questions

My primary research question was: “How do social determinants influence STI prevention, testing, and treatment among older women in BC?” Relatedly, I sought to address the question: “What are the socially constructed barriers and facilitators to STI prevention, testing, and treatment among older women in BC?”.

Methodology

Health sciences have not utilized mixed methods (the use of quantitative and qualitative methods in the same study) as frequently as the social sciences (Hansen et al., 2016). This has been recognized as a missed opportunity, as mixed methodology provides more engagement to better understand the complex issues presented in this field (Hansen et al., 2016). With an increasing amount of research utilizing qualitative or mixed-methods within health sciences, the human experience can play a bigger role in driving health-theory development due to the ability to use inductive reasoning when observing themes and patterns (Hansen et al., 2016). Mixed-method designs are useful for informing policy and practice as it can highlight and combine the strengths of both approaches, where qualitative research alone is perceived as limited in generalizability

(Tariq & Woodman, 2013). Due to these reasonings, and the previously stated research objectives, this study implemented a mixed-method design. The data collection began with quantitative collection and moved into qualitative collection concurrently (Creswell, 2009). An equal weighting (priority) was given to each method, with methods being mixed at the interpretation stage (Creswell, 2009).

Community-based participatory research (CBPR) provides opportunities to implement a mixed method patient-centered approach. The framework of a patient-centered approach situates patients at the forefront of their care, instead of the provider and administration (British Columbia Ministry of Health, 2015). It strives to empower patients to become active participants in treatment, prevention, and health promotion activities (Reynolds, 2009; British Columbia Ministry of Health, 2015). As the name suggests, community-based participatory research represents a partnership between researchers and community (Springer & Skolarus, 2019; Boyd, 2014). Ideally, within this partnership, research is collectively informed, conducted, and completed with the people directly affected and with living/lived experience. In this case, researchers equitably share decision-making power with community members, and support those who are not experienced in research (Springer & Skolarus, 2019). CBPR design can be especially useful in health equity research, as academic researchers might not be as capable as community members in identifying underlying problems, causes, and solutions (Springer & Skolarus, 2019). As well, mixed-method, community-based research may provide greater reach than theory development alone by prioritizing and advancing systematic change.

CBPR provides the foundation to honour and highlight the wisdom held by the older women collaborating in this project in a respectful and reflective way. I meaningfully connected with, built trust, and engaged community members throughout this project to create findings that

are relevant to the community. This included listening and valuing their experiences and expertise surrounding older women's sexual health. These older women are much more than data sources for this project; they have insights about their lived experiences that are beyond my capacity as a younger student researcher.

The theoretical framework of intersectionality, a term coined by black feminist activist Kimberlé Crenshaw (1989), was used to explicitly guide data analysis and interpretation. This framework highlights the overlapping connections of social difference, such as how race, class, gender, sexuality, ethnicity, ability, and age operate, not as linear individual experiences, but intersecting spheres that create complex social inequities (Collins, 2015). This framework was especially useful in exploring older women's sexual health experiences, as the intersection of age and gender creates additional challenges in sexual health. Apart from these two determinants (i.e., age, gender), this framework allowed me to explore diverse and intersecting social locations that influence sexual health.

Intersectionality is a complex framework with disagreement about its definition that stem from broad application and a lack of distinct standards (Collins, 2015). Due to these application complications, I faced challenges in determining how to best apply this framework to my analysis. Yet, Cho and team (2013) claim that:

> what makes an analysis intersectional is not its use of the term "intersectionality," nor its being situated in a familiar genealogy, nor its drawing on lists of standard citations. Rather, what makes an analysis intersectional... is its adoption of an intersectional way of thinking about the problem of sameness and difference and its relation to power. (p. 795)

Intersectional thinking requires the consideration of various overlapping social positions with particular attention paid to systems of power, such as patriarchy, colonization, and capitalism,

and how they operate within society. Therefore, I have used this approach while engaging with participants as well as in instrument development, data collection, and analysis of the findings.

Patient Engagement – Community Advisory Group

This project began by engaging community advisors, who were willing to act as equitable partners during the research process. The community advisors included three women who came to the project through my own or my supervisory committee member's connections. These women all had lived experiences around sexual health, expression, and the challenges regarding older age. I secured funding to appropriately compensate these women a total of $100 each for their time and expertise. I met with members of the advisory group individually multiple times throughout the project to explore the most appropriate and feasible approaches to take regarding recruitment, survey instrument design, interview guide construction, and knowledge sharing. This involved discussions about the complexity of sexual health issues facing older women and how best to address them in our research approach.

Each community advisor was chosen due to their unique lived experiences surrounding older women's sexual health. They all had previously dedicated time in their personal and professional lives to advocating for older women's sexual health needs. This prepared them to have open discussions about how to determine the needs of their community, which they navigated comfortably. The most valuable insights provided by advisors comprised of determining language used in data collection tools. It was important that older women participating in the survey and interviews were able to understand what was being asked of them in language they were familiar with. As well, participant recruitment was another area they provided invaluable support and insight.

Participant Recruitment

My research was reviewed and approved by the University of Victoria Human Research Ethics Board (see Appendix 1 for Certificate). The target population for survey recruitment included: 1) identifying as a woman, 2) age of at least 60 years, 3) live in BC, and 4) have had at least one sexual partner since turning 60 years old. The lower boundary was set to 60 years old as 60+ is the oldest age category the BC Centre for Disease Control uses to present data on STIs (BC Centre for Disease Control, 2017). Recruitment for this phase included contacting key informants from women's health services (e.g., Senior 101 Island Woman Magazine), sexual health services (e.g., Island Sexual Health) and older adult's community services (e.g., Seniors Serving Seniors of BC) to ask permission to circulate recruitment posters (see Appendix 2) through their networks and promoting the study on social media. Reach BC, a provincial online platform that connects potential volunteers with opportunities posted by researchers across BC, was also utilized. Reach BC provided a reputable place for recruitment, which was impactful as it delivered a large percentage of the interested participants. This was especially helpful, as it was challenging to recruit older women to participate in an online survey about their sexual health, despite multiple avenues of targeted online recruitment.

I was able to compensate five randomly drawn survey participants $50 as a thank you for completing the survey. The survey included a consent form that outlined the purpose and objectives of the research, what is involved in participation of the survey, and a guarantee of confidentiality (see Appendix 3 for full implied consent form). This form highlighted that the completion of the survey indicated consent to participate in this research project.

Interview participants were recruited through the quantitative survey by providing their email address to indicate an interest in a follow-up interview. Upon receiving this information, I

contacted them to establish their eligibility, provide a full description of the purpose and process of the interviews (including an Informed Consent Form seen in full in Appendix 4), and set a date and time that was amenable to them. I used conveniences sampling, and continued to recruit eligible participants until I reached my target of seven interview participants. I compensated all interview participants $50 to thank them for their time.

Phase 1: Quantitative Component

A cross-sectional online survey (UVic version of SurveyMonkey) was used to gather quantitative data from older women living in BC. They survey was pilot tested with the community advisors to test for readability and language that was accessible for older women. Recruitment began in September 2022 and 57 participants were reached by March 2023. The contents of the survey were discussed and finalized with the Community Advisory Group and are included in full in Appendix 5. The survey focused on three main content areas: STI-related information, stigma and ageism, and the social determinants of sexual health. These categories align with the themes identified from the preliminary literature review. Survey questions were derived from current sexual health literature (Centre for Communicable Diseases and Infection Control (Canada), & Public Health Agency of Canada, 2012; Martin-Smith et al., 2018; Mann-Jackson, 2021) as well as input from community advisors. Some questions included skip logic, where a question would only appear if a specific answer was given to a previous question. For example, when collecting information around Two-Spirit identity, only participants who previously identified as Indigenous (First Nations, Inuit, or Métis) were able to answer this question. This culturally affirming strategy is based off Pruden and Salway's (2020) data collection process that provides the opportunity for "Indigenous participants to answer gender

and sexual orientation questions as to how they are showing up in the Western or non-Native world while honoring their Indigeneity and/or the use of the term Two-Spirit" (para. 5).

After quantitative survey data were collected a small amount of data cleaning was needed. Multiple choice questions that had an open-end "other" option were re-coded back into pre-existing items in the question (i.e., "Jewish heritage but white skinned" would be recoded as both Caucasian (White) and Jewish, options already on the list). Descriptive statistics were used to provide basic information about variables in the dataset and highlight potential relationships between variables. T-tests comparing means (with a level of statistical significance of $p < 0.05$) were used to examine key relationships between variables of interest.

Phase 2: Qualitative Component

I conducted seven one-hour semi-structured interviews over Zoom with a sub-set of survey respondents. Interviews were audio-recorded and took place between January and March 2023. A pre-interview questionnaire was used to collect demographic information of each participant (see Appendix 6), as quantitative survey information was not able to be paired with interview data to protect confidentiality. Interview questions were finalized with the Community Advisory Group and focused on experiences navigating STI prevention and experiences during the process of getting tested, diagnosed, and treated for STIs (see full interview guide in Appendix 6).

I transcribed all interviews in full and, once familiar with their contents, began to code each transcript. I used thematic analysis, using the steps originally described by Braun and Clarke (2006), to make meaning of the interviews. The thematic analysis began by mapping the three main themes (knowledge and beliefs, stigma and agism, and social determinants of health)

on to the data. Subsequent themes were identified through the process of deductive and inductive coding. The thematic analysis revealed patterns and variations to provide depth to quantitative findings, with social determinants and intersectional theory being used to guide this exploration of the relationship between older women's experiences, social locations, and social determinants (Hankivsky et al., 2011). Methods were then mixed at the interpretation stage by combining themes found within interviews to existing themes from the survey results. Themes that were not present in the survey but were meaningful within interview findings were reported on as well.

Results

Qualitative Interview Participants

Seven women completed the interviews. Interview participants' names have been changed for confidentiality. Their alias are as follows: Heddy, Devon, Carrie, Tatiana, Pam, Marie, and Bella. The average age for the interview participants was 66.43 (*SD* = 8.18); all participants were in their 60s except for "Heddy" who was in her 80s. All interview participants identified as cisgender woman. Six of the seven interview respondents identified as straight/heterosexual, with Carrie identifying as pansexual. All interview participants considered themselves to be either Caucasian/white (*n* = 3) or European (*n* = 3), or both (*n* = 1). All interview participants said they do not use intravenous drugs, which was considered due to the possibility of blood borne infection transmission.

Participants were asked about the current state of their relationships. There were two interview participants who were in a monogamous marriage, two who were monogamously common-law, one in an open common-law relationship, one had a partner she was exclusively

dating, and one was single but had a “friend with benefits” (casual sexual partner that she did not have a romantic relationship with).

Four interview participants said they did not currently follow a religion or spirituality, with religion not being important at all to them. One said religion was somewhat important to her, saying she was both Buddhist and, “Spiritual but not associated with a specific religion.” One said religion was very important to her, identifying as Protestant and with a Catholic upbringing. One said her spirituality was very important to her, calling it, “Vague, mindfulness, values-driven.”

The socioeconomic status of interview participants was measured by current annual household income and highest education level completed. Two participants had a current annual household income of $100,000 or more, and each held a graduate degree. Two participants’ household incomes were between $70,000 - $89,999, and each held a Bachelor’s degree. Three other participants had a household income of $40,000 - $59,999 each with at least a high school diploma.

Quantitative Survey Participants: Demographics & Sexual Health

The final dataset contained 57 participants. The average age for survey respondents was 67.09 (*SD* = 6.45). Gender identity was answered by 56 survey participants with 55 (98%) identified as a woman (cisgender) and one as genderqueer. Though this latter participant identified as genderqueer they also identified themselves as a woman within the context of the survey and I will therefore still use the term “women” throughout these findings. The majority (93%) of survey respondents identified as straight/heterosexual, with five identifying as a sexual minority: bisexual, gay, queer, pansexual, or homoflexible.

Survey participants were able to select as many options for their relationship status as they thought were applicable (see Table 1). When defined as sexual activity with another person involving your own or a partner's genitals in the past 6 months, all interview participants and two-thirds (n=38, 67%) of survey participants reported being currently sexually active.

Table 1. Relationship status of a sample of older women who completed an online survey about sexual health *(N = 57)*

Category	*n* (%)
Relationship Status (n=56)	
Married: (you are legally married, married for the first time OR remarried, you are not separated, and your spouse is alive)	32 (57)
Divorced (you were married and obtained a legal divorce AND you have not remarried)	7 (13)
Widowed (you have lost a spouse through death and have NOT remarried)	6 (11)
Dating (you are currently dating a partner(s) who you have not lived with for at least 12 months)	5 (8.9)
Common-law (you have been living with another person as a couple for at least 12 months but are NOT legally married)	4 (7.1)
Separated (you are married or were living in a common-law relationship AND no longer live with your partner for any reason other than illness, work, or school)	1 (1.8)
*Missing	1

Status of Current Relationship as Exclusive/Monogamous (n=56)	
Yes, we only have sex with each other	34 (61)
Not applicable (not in a committed relationship)	10 (18)
No, we are open (fully or with some rules)	8 (14)
We don't have sex together	3 (5.4)
Don't know. We haven't discussed it or decided	1 (1.8)
*Missing	1

*Missing data not included in percentage calculations.

Racial identity was answered by 56 survey participants with the ability to choose multiple options, outlined in full in Table 2. One woman chose "None of the above quite describe me," writing in that they identify as Canadian. A skip question asking, "Do you identify as Two-Spirit?" only appeared if the participant identified as Indigenous. Of the three Indigenous participants, two answered no and one answered yes. Table 2 also provides the religion and spirituality of survey participants, which they were able to choose as many options as suited them. Four participants responded that none of the given options worked to describe them, listing instead that they identify with: Atheism, Spiritual Atheism, Nature-Based, and Christian.

Table 2. Racial identity and religion/spirituality of a sample of older women who completed an online survey about sexual health *(N = 57)*

Category	*n* (%)
Racial Identity (n=56)	
Caucasian (white)	46 (82)

European (such as Italian, Portuguese, Polish, Ukrainian, French, Scottish, Irish, British, Hungarian, Spanish).	11 (20)
Indigenous- Metis	2 (3.6)
None of the above quite describe me	1 (3.6)
Afro-Canadian	1 (1.8)
Afro/Caribbean Canadian	1 (1.8)
Caribbean	1 (1.8)
Indigenous- First Nations	1 (1.8)
Indigenous- Inuit	1 (1.8)
Jewish	2 (3.6)
South Asian (such as Indian, Pakistani, Sri Lankan)	1 (1.8)
*Missing	1
Religion/Spirituality (n=56)	
None	16 (29)
Spiritual but not associated with a specific religion	16 (29)
Catholic	10 (18)
Protestant	4 (7.1)
Jehovah's Witness	4 (7.1)
Jewish	4 (7.1)
Other	4 (7.1)

Buddhist	3 (5.4)
Indigenous	2 (3.6)
Muslim	1 (1.8)
*Missing	1
Religion Importance (n=55)	
Extremely Important	14 (25)
Very Important	14 (25)
Somewhat Important	10 (18)
Not so Important	6 (11)
Not at all Important	11 (20)
*Missing	2

*Missing data not included in percentage calculations.

Socioeconomic status of survey participants, including working status, current annual household income, and highest level of education, is outlined in Table 3. Survey participants were able to choose multiple working statuses that suited them.

Table 3. Socioeconomic status, including working status, current annual household income, and highest level of education, of a sample of older women who completed an online survey about sexual health *(N = 57)*

Category	*n* (%)
Working Status (n=57)	
Retired	37 (65)
Working full-time	9 (16)

Working part-time	7 (12)
On Government Assistance	3 (5.3)
None of these options work	3 (5.3)
On Long-term Disability	2 (3.5)
Current Annual Household Income (n=57)	
Less than $10,000	1 (1.8)
$10,000 - $19,999	4 (7.0)
$20,000 - $29,999	3 (5.3)
$30,000 - $39,999	5 (8.8)
$40,000 - $49,999	9 (16)
$50,000 - $59,999	11 (19)
$60,000 - $69,999	7 (12)
$70,000 - $79,999	5 (8.8)
$80,000 - $89,999	1 (1.8)
$90,000 - $99,999	1 (1.8)
$100,000 or more	10 (18)
Highest Level of Education (n=57)	
Less than high school	1 (1.8)
High school graduate or equivalent	11 (19)
University or college diploma or certificate other than a bachelor's	15 (26)

degree	
Bachelor's degree	16 (28)
Graduate (PhD or Masters) or professional degree (doctor, lawyer, etc.)	14 (25)

The living situations and community sizes of survey participants is presented in Table 4. Participants could choose multiple living situation options that suited them in the survey. Community size varied between participants, with the only community size not being thoroughly represented being rural areas, with a population of less than 1,000 people.

Table 4. Current living situation of a sample of older women who completed an online survey about sexual health *(N = 57)*

Category	*n* (%)
Status of Current Living Situation (n=57)	
House/Apartment/Condo/Townhouse/Suite	46 (81)
Senior living community	9 (16)
Assisted living	2 (3.5)
Relationship Status of Household (n=56)	
With a partner	24 (43)
Alone	17 (30)
With family	14 (25)
With a friend/roommate	2 (3.6)
*Missing	1
Community Size (n=56)	

Very large urban population centre (500,000+ people)	14 (25)
Large urban population centre (100,000 - 499,999 people)	18 (32)
Medium urban population centre (30,000 - 99,999 people)	13 (23)
Small population centre (1,000 - 29,999 people)	10 (18)
Rural area (Less than 1,000 people)	1 (1.8)
*Missing	1

*Missing data not included in percentage calculations.

The chronic health conditions of survey participants were collected and are listed in Table 5. Choices provided included common chronic health conditions in Canada. Eight participants wrote in conditions that were not included in the choices, including: Psoriasis, Uro-gyne-GI complications of congenital anomaly, chronic pain, chronic lymphocytic leukemia, thyroid disease, high cholesterol, HIV, and breast cancer survivor.

Table 5. Chronic health conditions of a sample of older women who completed an online survey about sexual health *(N = 57)*

Chronic Health Conditions	*n* (%)
None of these conditions	20 (35)
Arthritis	15 (26)
Hypertension (High Blood Pressure)	13 (23)
Other	8 (14)
Diabetes	7 (12)
Chronic Obstructive Pulmonary Disease/Asthma	4 (7.0)

Chronic Kidney Disease	4 (7.0)
Mental Health Condition	4 (7.0)
Alzheimer's Disease/Dementia	2 (3.5)
Cancer	2 (3.5)
Liver Disease/Cirrhosis	2 (3.5)
Heart Disease	2 (3.5)
Neurological Condition	2 (3.5)
Respiratory Disease	1 (1.8)

Survey participants substance use, including alcohol, cigarette or tobacco vape, marijuana, recreational drugs not injected, and intravenous drug use is shown in Table 6.

Table 6. Substance use of a sample of older women who completed an online survey about sexual health (*N = 57)*

Frequency	**Alcohol**	**Cigarettes or Vape Tobacco**	**Marijuana**	**Recreational Drugs Not Injected**	**Intravenous Drugs**
Daily	8 (14)	3 (5.3)	5 (8.8)	0	0
Weekly	20 (35)	2 (3.5)	3 (5.3)	2 (3.6)	1 (1.8)
Monthly	14 (24)	3 (5.3)	1 (1.8)	3 (5.4)	2 (3.5)
Yearly	4 (7.0)	3 (5.3)	4 (7.0)	3 (5.4)	2 (3.5)
Do not use	11 (19)	46 (81)	44 (77)	48 (85)	52 (91)
*Missing				1	

*Missing data not included in percentage calculations.

More than half (65%) of survey participants had been diagnosed with an STI at some point in their life. Which STIs survey participants had been diagnosed with is listed in Table 7. Of the 36 survey participants who had ever been diagnosed, eight (22%) said at least one of their diagnosis' were since turning 60 years old. This means the overall prevalence of STI diagnosis in the sample post-age 60 was 14% (n=8/57).

Table 7. STI diagnosis of a sample of older women who completed an online survey about sexual health (*N = 57)*

Lifetime Sexually Transmitted Infection	*n* (%)
None	19 (35)
Genital shingles (Herpes Simplex)	18 (33)
Human papillomavirus (HPV, Genital warts)	12 (22)
Pubic lice, crabs	12 (22)
Chlamydia	6 (11)
Gonorrhea (the clap)	5 (9)
HIV (Human Immunodeficiency Virus)	4 (7)
Unsure of exact diagnosis	4 (7)
Syphilis	3 (5)
Trichomoniasis (Trich)	2 (4)
Hepatitis B	1 (2)
*Missing	2

*Missing data not included in percentage calculations.

Other sexual difficulties were analyzed within the survey. Almost half (47%) of participants identified that they have experienced "lack of desire or lack of arousal," a third (33%) said they have experienced difficulty "having sex (such as not being physically able to engage in sex)," a third (33%) said they have experienced difficulty "enjoying sex (such as pain, fear, feeling nervous)," 17% said they have experienced difficulty "using protection (such as condoms, dental dams, or other barrier methods," 10% said they have experienced difficulty "getting the sexual health education you need," and 5.3% said they have experienced difficulty "accessing sexual health services (such as no clinics that provide wheel-chair access)." Other open-ended responses that participants provided were "life-long risk of Recurrent Urinary tract infections precipitated by vaginal intercourse," "non-orgasmic for past 9 years with partner," "bleeding," "CSA [childhood sexual abuse] continues to devastate my relationships," "less natural lubricant as I've aged - however, lubricants are widely available," "partner has swollen prostate and medication makes him unable to have sex," and "partner seems uninterested in exploring ways to increase arousal."

Knowledge and Beliefs

In this section, we begin to integrate quantitative survey and qualitative interview findings. Survey participants' knowledge of STIs was scored by asking if they knew that 10 different statements about STIs were true, providing a score from 0 (very low knowledge) to 10 (very good knowledge). These questions were derived from Martin-Smith and colleagues 2018 article, "Exploring psychosocial predictors of STI testing in university students". The average score when combining correct answers was 7.46 (SD = 2.25). The full list of questions and their average scores can be found in Table 8. The average total score was lower for those whose education level was a high school graduate or less (M = 6, SD = 2.56) than compared with those

who had any type of University or College diploma/certificate/degree (*M* = 7.84, *SD* = 2.02, *p* = 0.018). The impact of education on health outcomes was elaborated on by Marie in her interview, saying:

> I would say I am well educated… I know that people who are fully engaged in regards to their own health and well-being, and are proactive, will do better health wise in the long [run]. And we know from the determinants of health that the higher your level of education, the higher your income, those things play a critical role in how you engage with your health. And I would say for myself, that's absolutely true.

Marie acknowledged that as a white, educated woman living in BC, she had privilege other people may not have had. Alternatively, Tatiana spoke about how throughout her life she had felt the need to educate herself around her sexual health needs: "Well, I've always been in charge of myself... in a sense [sexual health] education was up to me. Like when I had my period and stuff, it was up to me to learn what that was. So, I've been self-educated." Tatiana said her current doctor was happy when she researched beforehand and came prepared to talk about the sexual health care she needed.

Table 8. STI knowledge of a sample of older women who completed an online survey about sexual health (*N = 57)*

Statement (Yes, I did know this)	*n* (%)
Not all STIs have painful symptoms.	48 (84)
Some STI's can be treated with antibiotics.	48 (84)
Not all STIs can be cured.	47 (84)
It is possible to get an STI from having	46 (81)

unsafe sex only one time.	
STI's do not always show symptoms (i.e., changes in your body, rashes or discharge) so you cannot always tell you have one.	45 (79)
You can transmit/contract an STI even if you always have sex with a condom.	43 (75)
HIV and Syphilis cannot be tested with a sample of your urine (pee), instead a blood test is needed.	38 (67)
It is free to get tested for STI's in Canada.	37 (66)
Chlamydia and Gonorrhea can be tested for by taking a sample of your urine (pee).	29 (52)

In terms of background knowledge around STIs, Carrie contextualized that older adults' knowledge around STIs may be different due to the global HIV/AIDS epidemic that started in 1981:

> I became sexually active in 1980. So really, for the first two or three years of that nobody used any kind of protection or talked about STIs… So, in my late teens, it just wasn't a thing. Like it really wasn't a thing. It wasn't. People didn't think about it. They didn't talk about it…. And then there was the AIDS epidemic. And everybody, *everybody*, wrapped up. And that really changed the cultural norm.

The HIV/AIDS epidemic was briefly mentioned in almost every interview, with reference to its cultural shift of sexual health. This is impactful as it represents the generational reflection on

sexual culture at formative years following these women's sexual debut (beginning of partnered sexual activities).

STI Prevention

The ability to confidently use STI prevention measures was examined, with the results of survey respondents in Table 9. Women were most confident using external/male condoms, compared to dental dams and internal/female condoms. All interview participants spoke about using external condoms at some point in their life, even if it was a long time ago. Devon said she had not used a condom in 35-40 years, despite having casual sexual partners. When asked about STI prevention measures, Pam said "I don't even know what some of those items are. I don't even know what a dental dam is, or internal condoms."

Table 9. Confidence of using STI prevention measures of a sample of older women who completed an online survey about sexual health (*N = 57)*

Category	**Yes** *n* (%)	**No** *n* (%)	**I don't know what that is** *n* (%)
External/male condom	44 (80)	10 (18)	1 (1.8)
Internal/female condom	9 (17)	31 (57)	14 (25.9)
Dental Dam	12 (23)	23 (43)	18 (34)

*Missing data not included in percentage calculations.

Participants in both arms of the study reflected on condom use/non-use reasoning. Survey participants were asked "Do you think being postmenopausal, and therefore not being able to get pregnant, has impacted your likelihood of using condoms or other methods of prevention?" Of the 57 survey respondents who answered, 14 (25%) said "Yes, this is the reason I do not use

condoms," 13 (23%) said "Yes, it makes me less likely to use condoms," 5 (8.8%) said "Maybe, it makes me consider not using condoms," 9 (16%) said "No, it hasn't affected my use of condoms as I still use them," 10 (18%) said "No, I wasn't using condoms while I was menstruating," and 6 (11%) said "Not sure." Five interview respondents reported their inability to get pregnant impacted their likelihood of using condoms. Bella said she thought of condoms as more of a pregnancy prevention/birth control method rather than an STI prevention measure, saying "I had a tubal ligation when I was in my early 30s. I made a decision not to have children. And we never used condoms after that." Carrie said that initiating conversations of STI prevention measures was different for her today, as she no longer needs birth control:

> The fact of pregnancy I don't think is really impacting [using condoms] today. It's just that that was a different kind of landscape back at the time when I could get pregnant… I think for some people there is such a focus on pregnancy, that it was a little harder to communicate the need for protection for the sake of STIs, because that was less of a focal point societally.

This participant thought it was an overstretch to say that it was easier to initiate conversations around using condoms as an older women compared with when she was younger, but due to the culture of the sex positive community she was a part of, the conversation was more normal for her now. This highlights the role of social support as a social determinant of older women's sexual health.

Participants spoke about their comfortability initiating safer sex practices and who they felt was responsible for this role. Survey respondents were asked "Who is responsible for initiating safer sex prevention practices (such as using internal/external condoms)? Select all that apply." Of the 57 answers, 46 (81%) said "Your responsibility," while 60% said "Your partners

responsibility." 3 (5.3%) participants said, "Not sure." When asked "On a scale of 1-10, 10 being very comfortable, how comfortable are you initiating safer sex prevention practices (such as using internal/external condoms) with…" participants averaged 6.87 (*SD* = 2.71) when considering a new sexual partner and averaged 6.91 (*SD* = 3.17) when considering their ongoing sexual partners. Devon said, on why she does not use any type of STI prevention measures with new or ongoing sexual partners, "It's kind of ridiculous that I am a little bit hesitant to say something… because God knows I will say a lot of other stuff… To say like, you know, you need a condom." When asked if she would be open to using a condom if a partner brought it up to her first, Devon said she would be "very open." Bella generalized this with the culture of STI prevention usage in the 1970s, again another generational reflection on culture during formative years of sexual debut: "Men didn't use condoms, and women didn't feel comfortable asking men to use condoms." Heddy said when she used condoms in the 1970s, it was always due to her partners' reasonings, which she then went along with. She said if they did not initiate discussions around condom use, it did not happen, expressing that "I didn't have enough guts to ask them to. You know what, I was still insecure about my sexuality."

To measure how comfortable women were when speaking to a sexual partner about specific topics a 10-point scale was used on the survey, with 1 being the lowest level of comfort and 10 being the highest. Survey participants reported a weighted average of 8.44 for "your general health," 7.04 for "sexually transmitted infection testing," 7.02 for "your STI history (whether you have had any STIs)," and 6.72 "their STI history (do they have any STIs)."

Participants were asked about testing and prevention behaviours of different types of sexual partners (see Table 10). Regular partners were defined as someone you have a regular relationship with and have sexual intercourse with (such as a boyfriend/girlfriend or

husband/wife), while casual partner was defined as someone you have sex with (once or several times), but with whom you have no regular relationship. Women reported they used protection in all types of sex (oral, vaginal, and anal) with casual partners more than regular partners.

Table 10. STI prevention behaviour of regular vs. casual partners of a sample of older women who completed an online survey about sexual health *(N = 57)*

Category	**Yes** *n* (%)	**No** *n* (%)	**Not applicable** *n* (%)	**Unsure** *n* (%)
Are STIs something you thought about before having sex with your last REGULAR partner?	20 (37)	27 (50)	7 (13)	
Are STIs something you thought about before having sex with your last CASUAL partner?	24 (44)	15 (27)	16 (29)	
Are STIs something you talked about before having sex with your last REGULAR partner?	17 (31)	29 (53)	9 (16)	
Are STIs something you talked about before having sex with your last CASUAL partner?	19 (35)	19 (35)	17 (31)	
Did you get tested for STIs before having sex with your last REGULAR partner?	13 (25)	33 (62)	7 (13)	

Did you get tested for sexually transmitted infections before having sex with your last CASUAL partner?	12 (22)	27 (49)	16 (29)	
Did your last REGULAR partner get tested for STIs before having sex with you?	9 (16)	23 (42)	9 (16)	14 (25)
Did your last CASUAL partner get tested for STIs before having sex with you?	7 (13)	10 (19)	14 (26)	23 (43)
Do/did you often use any barrier protection (external/internal condoms, dental dams) when having sex with your last REGULAR partner?				
Oral sex	7 (13)	47 (87)		
Vaginal sex	13 (24)	42 (76)		
Anal sex	12 (24)	37 (76)		
Do/did you often use any barrier protection (external/internal condoms, dental dams) when having sex with your last CASUAL partner?				

Oral sex	11 (22)	38 (78)
Vaginal sex	20 (40)	30 (60)
Anal sex	17 (38)	28 (62)

Table 11 shows the reasoning provided by survey participants/their partners for why they did not use a condom or dental dam the last time they had oral, vaginal, or anal sex. Other open-ended responses that participants provided included: "I believe my partner and I are exclusive," "no risk of pregnancy," "trust my partner 100%," and "both I and my partner have had few/no relationships since testing for STIs." Carrie said she always used condoms when having penetrative sex with casual partners who are men, but while speaking about casual partners of the same sex she said, "I don't use protection usually with women, but I also have really thorough conversations about testing and testing status." She said she always made sure she was comfortable with the level of STI testing scrutiny with all her partners.

Table 11. Reasons a condom/dental dam was <u>not</u> used during the last oral, vaginal, or anal sex of a sample of older women who completed an online survey about sexual health *(N=57)*

Category	***n* (%)**
I/my partner did not think that I/we were at risk for STIs	32 (56)
Does not apply (I used protection last time)	11 (19)
Sexual activity feels better without protection	11 (19)
Other reason	11 (19)
One or both of us thought it would ruin the mood	9 (16)
I felt pressure to not use it	8 (14)

I/my partner did not have protection	8 (14)
I was scared to ask my partner to use it	6 (11)
One or both of us were drunk or high on drugs	2 (3.5)
None of the above	1 (1.8)
It is against my religious beliefs	0
It is against my cultural beliefs	0

STI Testing

Survey respondents were asked to indicate their beliefs around the following statements, on a scale of one to five, with one being unlikely/disagree and five being likely/agree: "If I get tested for an STI…," "Rate the likelihood you would be tested for STI in the following circumstances?" and "How confident are you that you would get an STI test if..." The weighted averages and standard deviations are listed in Table 12 below.

Table 12. Feelings around STI testing of a sample of older women who completed an online survey about sexual health *(N = 57)*

Category	**M (SD)**
If I get tested for an STI…	
I will feel reassured	4.42 (0.84)
I will stay healthy	4.33 (0.90)
I will get information and advice	4.30 (0.97)
I'll get the treatment I need before I have complications	4.25 (1.14)

I will be treated with respect	3.86 (1.08)
I will feel responsible	3.66 (1.38)
I will feel comfortable (pain free)	3.28 (1.36)
It will be stressful	3.14 (1.47)
It will be embarrassing	2.82 (1.44)
It will be shameful	2.61 (1.45)
It will be time-consuming	2.58 (1.31)
It will negatively affect my/any future relationships	2.55 (1.44)
Rate the likelihood you would be tested for STI in the following circumstances?	
If my doctor suggests that I get tested	4.30 (1.13)
If my partner suggests that I get tested	4.22 (1.19)
I have symptoms (i.e., changes in your body, rashes or discharge)	3.96 (1.32)
I have a new sexual partner	3.43 (1.46)
If a friend suggests that I get tested	3.07 (1.24)
A year has passed since I was last tested	2.81 (1.61)
How confident are you that you would get an STI test if...	
You had to go on your own	4.37 (0.90)

If you could complete the test at home	4.26 (1.12)
If drop in sessions/appointments were available in the evenings	4.06 (1.09)
If drop in sessions/appointments were available on the weekend	4.04 (1.11)
If you had to wait for an appointment	3.85 (1.25)
If you knew someone there (taking test/waiting room	3.76 (1.41)
You had to go to a walk-in clinic	3.72 (1.35)
You might see someone you know	3.61 (1.50)
You are not sure if a symptom is a symptom of an STI	3.50 (1.27)
You think you are going to be older than everyone else in the waiting room	3.44 (1.51)
Your friends have had bad experiences	3.33 (1.37)
The test site was far away	3.26 (1.42)
You don’t have time	3.19 (1.35)
You had to go with other people	3.13 (1.43)
You have had bad experiences in the past	3.13 (1.36)

Of the 55 survey participants who answered, 24% survey respondents said they had never been tested for an STI, 65% said they had not been tested since turning 60 years old, and 82% said they had not been tested in the past 6 months. Nearly three-quarters (73%) of survey participants said a doctor or health care provider had never suggested they get tested for STIs.

Marie and Pam described that they had never been tested for STIs in their entire life. Both said a doctor had never initiated testing them for STIs before. Devon and Tatiana, who had both been diagnosed with STIs, also reported that they had always been the one to initiate testing with their physicians. Survey respondents were asked "Who is responsible for initiating STI testing? Select all that apply." 47 (82%) said "Your responsibility," 31 (54%) said "Your partner's responsibility," and 18 (32%) said "Your doctor's responsibility."

Being unaware of the need to test for STIs as an older woman came up in multiple interviews. Marie said: "I think lots of women my age might be naïve. Like not truly being aware... I've never perceived or thought that I should get tested for a sexually transmitted disease… It just never crossed my mind." The idea of STIs being only a problem for younger people was highlighted by Pam, saying:

> I just think [STIs are] a younger person's disease. I don't think of it as being prevalent in older people... I think of younger people being really promiscuous, but I don't think of older people being really promiscuous. So, I don't think of older people getting STIs.

When asked, Pam said she would go along with getting tested for STIs if her doctor suggested it, though she would want to know the reasoning behind why it was needed. This highlights the ways in which sexual stigma against non-monogamy intersects with ageism.

Healthcare Experiences

Survey participants were asked if they had a primary care physician (family doctor, General Practitioner, or Nurse Practitioner) where they are currently living, in which three-quarters (79%) said they did, with 12 (21%) saying they did not. All interview participants said they currently had a primary care provider where they were living. Bella spoke about how she

had a family doctor who was “really open minded,” “on the ball,” and who she “could talk to about anything.” Her biggest challenge in accessing sexual health services was losing this trusted family doctor to retirement and then having to seek treatment from people she did not know. Marie said she had a good relationship with her current primary physician, but said: “At this moment in time, if I was not happy with my family physician, I would not change because there’s no guarantee that you are going to get another one… even if I wasn’t getting my needs met.” She said the provincial circumstances that have caused a lack of family physicians makes her worried for her future healthcare situation. Carrie said she currently had a family physician she was unwilling to give up:

> I was here in [city] for seven or eight years without a family physician. And I have a family physician, don’t dislike this person, not crazy about them. But I’m not going to change, because you can’t. So, securing a family physician here [in city] has been really, really hard.

Carrie said her primary care doctor had not played a large role in her sexual health care specifically though, as she managed her STI assessments independently through GetCheckedOnline (an online STI testing service provided by the BC Centre for Disease Control available in 6 large cities across BC (Gilbert et al., 2017)). As she got tested for STIs often due to her open relationship that included multiple sexual partners yearly, she said she used this service because of the efficiency and time saving ability.

Heddy spoke about how she had a man physician who she considered to be wonderful, but as she began to be sexually active again with her new partner, she found she was more comfortable speaking to her physician’s daughter who had come to practice with him. She then decided to switch to make her physician’s daughter her primary doctor. Marie said she had a

primary physician, who also identified as a woman, who she felt very comfortable discussing issues with. Bella said she tried to select a physician who was a woman at the health clinic she had recently become a part of. She said:

> [Seeing a physician who was a woman] would make me feel more comfortable. But if I had to have a man do an examination it would be difficult for me… for those trust and comfort levels of talking about sexuality and anything related to my sexual health or genitals and things like that.

Bella said she could "probably get past my hesitation and shyness" when considering a man providing her sexual healthcare, but she also said, "it would take a bit of work though. Like I'm feeling a bit anxious thinking about that right now."

Feelings around health care professional's competency was also reported to impact patient accessing sexual health services. An open-ended survey comment outlined the need to trust and align with her medical professionals, saying:

> I might often choose not to use a doctor's services simply because I think the doctor thinks too linearly or is just a basic idiot in understanding human being[s]. I believe our traditional medical practices are very limited in their understanding of true health.

This survey participant reported to have never discussed sexual health matters with a healthcare provider.

A correlation was found between the frequency of uncomfortable and discriminatory healthcare experiences reported by survey respondents and the frequency these experiences negatively influenced them accessing healthcare. The same correlation was found for sexual healthcare experiences. A five-point Likert scale (0 = Never, 5 = Always) was used to measure negative healthcare experiences among survey participants. Participants were asked "Have you

ever been made to feel uncomfortable when seeing a healthcare provider for any reason?" and if they answered anything other than "Never," they were then asked, "Has this experience negatively influenced you accessing healthcare?" The results are outlined in Table 13, with participants answers to the first questions listed by the row, and their negative influence listed by the column. The same two questions were repeated but focusing on sexual healthcare experiences, with their results presented in Table 14. Similar results were found when looking at how discrimination in a healthcare experience affects accessing healthcare. This was true for sexual healthcare experiences as well. Participants were asked, "Have you ever felt like you have been discriminated against in a healthcare experience?" and if they answered anything other than "Never," they were then asked "Has this experience negatively influenced you accessing healthcare?" The results are outlined in Table 15, with participant answers to the first questions listed by the row and their negative influence listed by the column. The same two questions were then repeated but focusing on discrimination in sexual healthcare experiences, with their results presented in Table 16.

Table 13. Uncomfortable healthcare experiences of a sample of older women who completed an online survey about sexual health *(N =57)*

Variable	**Never** ***n (%)***	**Rarely** ***n (%)***	**Sometimes** ***n (%)***	**Often** ***n (%)***	**Always** ***n (%)***
Never	17 (30)	0	0	0	0
Rarely	13 (23)	4 (7)	1 (1.8)	1 (1.8)	0
Sometimes	1 (2)	7 (12)	10 (18)	0	1 (1.8)
Often	0	0	0	0	1 (1.8)

Always	0	0	0	0	0

Table 14. Uncomfortable sexual healthcare experiences of a sample of older women who completed an online survey about sexual health *(N=57)*

Variable	**Never** *n (%)*	**Rarely** *n (%)*	**Sometimes** *n (%)*	**Often** *n (%)*	**Always** *n (%)*
Never	17 (33)	0	0	0	0
Rarely	10 (19)	8 (15)	3 (5.8)	0	0
Sometimes	1 (1.9)	1 (1.9)	7 (13)	1 (1.9)	1 (1.9)
Often	0	0	1 (1.9)	0	1 (1.9)
Always	0	0	0	0	1 (1.9)

Table 15. Discriminatory healthcare experiences of a sample of older women who completed an online survey about sexual health *(N =57)*

Variable	**Never** *n (%)*	**Rarely** *n (%)*	**Sometimes** *n (%)*	**Often** *n (%)*	**Always** *n (%)*
Never	23 (40)	0	0	0	0
Rarely	7 (12)	7 (12)	3 (5)	0	0
Sometimes	0	3 (5)	10 (18)	2 (3.5)	1 (1.8)
Often	0	0	1 (1.8)	0	0
Always	0	0	0	0	0

Table 16. Discriminatory sexual healthcare experiences of a sample of older women who completed an online survey about sexual health *(N =57)*

Variable	**Never** ***n (%)***	**Rarely** ***n (%)***	**Sometimes** ***n (%)***	**Often** ***n (%)***	**Always** ***n (%)***
Never	28 (50)	0	0	0	0
Rarely	3 (6.0)	7 (14)	1 (2.0)	0	0
Sometimes	0	3 (6.0)	3 (6.0)	4 (8.0)	0
Often	0	0	0	1 (2.0)	0
Always	0	0	0	0	0

To measure how comfortable women were when speaking to health care professionals about specific topics a 10-point scale was included on the survey, with one being the lowest level of comfort and ten being the highest. On average of 57 survey responses, women reported a comfort level of 8.96 (*SD* = 1.55) when discussing their general health, 7.89 (*SD* = 2.34) when looking at STI treatment, 7.56 (*SD* = 2.61) when speaking on STI prevention, 7.56 (*SD* = 2.38) when talking about STI testing, 7.18 (*SD* = 2.22) when discussing their sexual health in general, and 6.75 (*SD* = 2.70) when discussing their sexual behaviour. Marie spoke about how she would feel safer going to a walk-in clinic for sexual healthcare as she knew her doctor outside the context of a healthcare setting:

> Let’s say I’ve known that family doctor for a long time. Maybe I might feel safer going into the walk-in clinic saying I’ve got a problem. Because it’s maybe more anonymous… You don't want to be having coffee with the person that you’ve had that discussion with.

A similar sentiment was expressed in an open-ended comment left at the end of the online survey, where a respondent was explaining a situation where they thought they had acquired an STI from a casual partner that existed in parallel with a 40-year life partnership:

> I was not intimate with my husband until it was medically safe to do so. I pretended to have a urinary tract infection which is a common occurrence for me. For this presumptive STI, I attended a walk-in clinic in a different neighborhood as I was too embarrassed to face my GP who has cared for 5 generations of my family.

Stigma and Shame

Stigma faced by participants was examined in both arms of this study. Survey participants were asked on a scale of one to five, with one being unlikely/disagree and five being likely/agree, "When accessing healthcare surrounding sexual health (including STI prevention, testing, and treatment) do you think you will be stigmatized because of your…" with 57 responses the weighted average for "Age" was 2.82 (*SD* = 1.43), for "Gender" was 2.16 (*SD* = 1.29), for "Relationship Status" was 2.13 (*SD* = 1.36), for "Sexuality" was 2.07 (*SD* = 1.45), for "Race" was 1.89 (*SD* = 1.35), and for "Previous STI diagnosis" was 1.88 (*SD* = 1.24). This indicates that our sample felt age and gender were the most stigmatizing social determinants.

Gendered Ageism

Interview participants spoke about how their identities as older adults impacted how they accessed sexual healthcare. Marie spoke about how sexual health services that target younger people might deter her from accessing them, saying "Let's say I went to a community clinic that was offering sexual health. And I'm sitting there as a 69-year-old woman and everybody else was 25 to 35. Then I might feel a little bit uncomfortable." She said this hesitancy would make her consider going to a private lab instead of somewhere she would feel uncomfortable due to

her older age. A similar sentiment was made in an open-ended survey comment, saying “I would feel very uncomfortable in a sexual health clinic if I was the only older adult present.”

Many interview participants spoke about how they felt society views older women. Marie said “I would say in regards to ageism, and as an older woman in society, you become anonymous… Not seen.” Marie said she often felt a lack of respect as her opinion was no longer asked for. Bella said, on why she wanted to participate in this research, “I’m just open to providing any information that would be helpful down the road to women’s health, because I don't think that we’re always represented very well…We unfortunately start becoming a bit invisible.”

Experiences of Women

How being a woman affected accessing healthcare was spoken about in all interviews. Heddy said being a woman had been foundational to her sexual health care experiences, giving an example: “Any physician clinician has been male, and I have always been wary of their judgement. So, there’s been fear, around being judged, or how I am seen.” Tatiana also said that being a woman has had a huge impact on her sexual health, joking, “Where do you start? … There’s definitely stigma.” She spoke further about how she has often felt the need to self-advocate with medical professionals:

> If I’m going to a physician, I know exactly what I want and I want you to give it to me. But if I was a different person, I might definitely have been uncomfortable... Having to argue for things that I want or be very firm. Firmer than I think I should have to be.

She went on to say she felt her ability to self-educate about sexual health matters made it easier for her to know the right questions to ask and advocate for what she wanted.

Adverse Childhood Experience

How women approached sexual health was reported to be impacted by many things, including the environment participants were raised in and their childhood experiences. Bella explained:

> I think [comfortability around sexual healthcare] depends on the family culture that you come from. Whether you are able to talk about it without shame, the feelings of shame. A lot of family cultures do have a lot of shame. Mine was a culture of silence. Like, I'll give you an example: I didn't even know what was happening when my period started. And I had two older sisters… And that just absolutely appalls me now, that a girl wouldn't have had any kind of discussion with the females in their family. So, if you can't talk about your periods, how can you talk about sex and your sexual health?

Bella said because her mom and sisters could not talk to her about sexual health, she ended up learning about sex and sexuality when she lived on the street after running away from home at age 15. One open-ended survey comment reflected a wish for more questions within the survey on this topic, saying:

> I would have liked to see a question on how much your sex life and discussion about it was influenced by your parents, e.g. did you parents tell you an STI was shameful or tell you not to get pregnant but never talked about STIs? Where did you learn about STIs - from friends, school, parents? I believe this gives an indication of why people in my generation feel shame and have some trouble talking about it.

Bella spoke about how earlier life experiences could lead to levels of discomfort in sexual healthcare settings, even if these experiences are invisible to others:

> I lived on the streets for a while when I was in my early teens. And I think maybe that was part of the motivation for joining this [research], to provide that sort of context. That because we're older and we're sort of a standard, maybe in a standard monogamous relationship for a lot of years, it doesn't mean we don't have history that is important to consider later on.

Adverse experiences within healthcare settings are another experience that could harm women at a young age and continue to have long term effects. Devon said the first time she accessed sexual healthcare as a younger woman her doctor spoke to her inappropriately: "As he's doing a pap smear, he's telling me, 'Oh yes you'll have a really good, great sex life.' Which I still find creepy… I was way too young." These different types of adverse childhood experiences have all had future impacts for these women, that affect them into older age.

Coercion, consent, and trust

Without being prompted by our interview guide, coercion and consent was brought up in almost every interview. This ranged from accounts of inappropriate behaviour to experiences of sexual assault. Carrie said she had felt pressure around STI testing from sexual partners who are men:

> I know many men who are brilliant at consent. But if I know someone who's bad at it, it's usually a man. Right? And so, and that includes testing, sexual health… like I'll occasionally bump into someone who maybe is a little less focused on the sexual health safety or STI testing and may attempt a bit of kind of convincing. You know what I mean? There's a little bit of pressure-y around, you know, I'm sure it's fine. I'm like, 'Well, you can go ahead and be sure it's fine, well I'm not.'

Coercion beyond STI safety was reported by many women interviewed, as well. These types of experiences were present for Devon growing up: “I was really preyed upon by older men.” Heddy spoke in detail about the sexual abuse she faced and how it has affected her: “One of my professors used his authority to have sex with me. And that was a situation that I didn’t know what to do with... I became so aware of the abuses of power.” She said of moving forward in both her intimate and sexual health experiences, “I have to trust someone. Absolute trust has to be in there and that has to be made explicit. I have to hear that offered and acknowledged.” Bella had explained how as a teenager she took part in sex work, such as exchanging sex for food and places to live, and how those experiences made it hard for her to get to a place where she was able to trust. This affected her intimate relationships, but also impacted her experience with medical professionals:

> Trust is the big thing. And that trust, those feelings of trust also expand into your relationship with your healthcare providers…Finding a way to trust someone enough to ask them for the information that you need in order to make the right decisions. And to not feel as though you might be thought of poorly for reaching out for that information.

She solidified that active listening with a non-judgemental approach was critical for her to be able to trust healthcare professionals. This highlights the need for sensitive supports for women in sexual healthcare settings, especially to those who have experienced previous sexual trauma.

STI Diagnosis Experiences

The feelings around contracting an STI, and the experiences of women who have been diagnosed with an STI, are explored in this sub-section. A survey question that asked how respondents would feel if they had an STI, scored on a scale of one to five, one meaning strongly disagree and five meaning strongly agree, showed that participants would be most worried about

their sexual partners reaction, that they would feel embarrassed, and that they would be worried about their friends/families' reaction. The full list of answers is listed in Table 17.

Table 17. "If I had an STI…" Feelings of a sample of older women who completed an online survey about sexual health *(N =57)*

Category	M (SD)
I would be worried about my sexual partners reaction	3.45 (1.46)
I would feel embarrassed	3.21 (1.37)
I would be worried about my friends/families' reaction	3.14 (1.56)
I would feel ashamed	3.13 (1.39)
I would feel judged	2.82 (1.47)
People would think badly of me	2.72 (1.40)
I would be worried testing staff would be gossiping about me	2.58 (1.51)
People would avoid me	2.26 (1.30)

Participants were asked to rate the following three questions on a scale of one (strongly disagree) to five (strongly agree). "If I got an STI, I feel confident I could tell my current partner(s) about it" resulted in a mean of 3.98 (SD = 1.08). "If I got an STI, I feel confident I could tell my past possibly infected partner(s) about it (or give their information to a health professional)" resulted in a mean of 3.80 and a standard deviation of 1.19. "If I got an STI that is incurable, I feel confident I could tell my possible future partner(s) about it" resulted in a mean of 3.64 with a standard deviation of 1.42.

Interview participants were asked if they had been ever diagnosed with an STI, and if so, how they felt when they received that diagnosis. Carrie expressed that she was "slightly irritated" when diagnosed with Herpes Simplex Virus 2 (HSV2). Adversely, Devon said, "I was absolutely destroyed with the herpes." Tatiana was the only one to bring up a physical symptom alongside the broader social contexts/experiences, saying "The HPV didn't bother me at all. The herpes did because I was in a monogamous relationship. And it didn't come from me. Right? And it was extremely painful." If interview participants had never been diagnosed with an STI they were asked to imagine how they would feel. Heddy said, "Initially I would feel like, 'Oh my God, woman, what did you do to yourself?' Self-blame." Pam said, "I would feel bad about it… I would feel embarrassed. I would feel worried about it. You know, what does this mean?". In sum, women's real or anticipated experiences with STI diagnosis was neutral at best and negative at worst, evoking interpersonal challenges and societal blame/stigma.

Sexual Health Resources

Locally available sexual health resources could provide STI prevention tools, testing, and education to older women, as well as provide further sexual support then what is given by their primary care doctor. Survey participants were asked about their awareness of sexual health resources (see Table 18). These results indicate less awareness for sexual supports specifically for older adults.

Table 18. Sexual health resource awareness of a sample of older women who completed an online survey about sexual health (*N = 57)*

Category	**Yes**	**Maybe**	**No**	**Not sure**
	n (%)	*n* (%)	*n* (%)	*n* (%)

Are you aware of local resources or organizations that provide STI prevention, testing or treatment services or support?	22 (39)	19 (33)	13 (23)	3 (5.3)
Are you aware of local resources or organizations that provide STI prevention, testing or treatment services or support specifically for your age group?	12 (21)	13 (23)	28 (49)	4 (7.0)
Do you think awareness of local resources or organizations providing STI prevention, testing or treatment services or support specifically for your age group would help improve your sexual health?	29 (51)	13 (23)	11 (19)	4 (7)

Interview respondents spoke about how they believe there needs to be more sexual health information available to older women. Tatiana said “It would be nice if women knew that [sexual health] services are there… If they knew that there were more resources out there than just going to the doctor.” Bella said her approach to finding sexual health information has evolved from the late 1970s:

> You might have talked to friends about [sexual health], but you didn't talk to authority figures about [sexual health]. And you didn't reach out to organizations that might have

> provided that information. You sort of exchanged it amongst yourselves… [But now] ever since it became possible to find that information on the internet, that's where I've looked initially for any solutions. And then… my family doctor, the person that I trusted most about things.

Bella also elaborated that everyone needs sexual health information as they get older:

> [We need] straight talk about women's sexuality, men's sexuality, why not put it in the context of both? Or, you know, everybody's. Whether you are heterosexual or you are any other combination of sexuality or identities, we all get older and we all appreciate having these kinds of discussions and getting past taboos.

Marie has similar thoughts, saying "There should be information across the lifespan in regards to sexual health and it needs to be available in places where seniors go." Carrie suggested support groups as a possible way to get older adults involved in sexual health conversations, saying she thinks it would be beneficial for older women to know that some people are unafraid to discuss these topics. Tatiana brought forward how education reduces stigma and shame, saying "the minute you start learning about [STIs], there won't be any shame because you'll realize there's nothing to be shameful about." Heddy said she thought healthcare professionals need more education around bedside manner and longer time frames with their patients: "A 15-minute period doesn't do it. Forming a comfortable relationship with a physician where you feel like you can discuss what's going on, does it." Marie, when speaking about how she had never been tested for STIs in her life, said:

> You know what, sometimes I think family doctors need to be more proactive. I think that they should have a list of things. And I think they should send us postcards. You know, dentists send cards to remind you to go to the dentist. Why don't family physicians? Even

> if they give you a survey before you enter the doctor's office: are you up to date on? And give you a list…. I think that targeting physicians to encourage people to have a baseline. And then you see, if they just said, oh, it's a baseline… Then it doesn't take me saying, gee, I started to become more sexually active.

Being a part of this project specifically was brought up as a positive learning opportunity for some interview participants. Devon said, "If I had a new partner, since we've talked now, there's a very good possibility I would bring [using a condom] up. Or at least bring up [my partners] sexual history." Marie said this project was a possible opportunity to bring up the subject of STIs to her friends:

> [My friend] wants a partner and she wants to be sexually active. She's very similar age. And I certainly, after doing this questionnaire and filling this out, I'm thinking to myself, gee, I wonder if she got tested. Because she was going out with men and she wants to be sexually active, you know, she is... very straightforward in regards to that. And I'm sitting there thinking, gee, I never discussed that with her. But that would be something that I could say, hey, you know, I did this survey, and it was really interesting. Have you ever thought about getting tested? You know, so it's a way of passing on information indirectly.

Marie said she thinks older adults need to recognize that it's a great thing to be engaged in sexual activity and be routinely tested for STIs. Breaching the conversation of sexual health, during formal or informal settings, can be an opportunity for older women to both learn and feel more comfortable with their sexuality.

Discussion

Findings from this project were consistent with research examined within the preliminary literature review, further indicating that social determinants of health, including socially constructed barriers and facilitators, influence older women's STI knowledge, prevention, testing, diagnosis, and treatment. The three themes identified during the literature review (knowledge and beliefs, stigma and ageism, and the social determinants of health) informed both the quantitative and qualitative arms and were affirmed by the findings. I provided depth to the quantitative results with the qualitative interviews, discussing further challenges, experiences, and perspectives on sexual health practices, cultures, and care. The intersection of various social determinants, but specifically gender and age, were considered while making meaning of these results, as the sexual health experiences of older women are unique due to the overlap of sexism and ageism. This discussion section is organized based on the three main themes derived from the literature review (knowledge and beliefs, stigma and ageism and social determinants of health) and reified in the mixed methods results. However, since the themes overlap and connect with one another, I have sought to weave results together to develop a more nuanced discussion that captures the intersectionality experienced by all participants.

Social Determinants of Health

Participants' relationship status varied, including a sizeable minority of open relationships as well as casual dating relationships. Though open relationships are often stigmatized, Moors (2021) reports that polyamory (the act of having multiple sexual and emotional partners) is becoming more common place, with data from a demographically representative sample of 3,438 Americans reporting that approximately one in nine people have

engaged in polyamory at some point in their life. One participant in the "consensual, non-monogamy, poly community," spoke about her experience having multiple sexual partners and how this affected her STI testing. As she was vigilant about testing and needed to do it often, she said that the turnaround time at her primary care provider was too slow. She preferred to use GetCheckedOnlineBC because it was the most efficient for her needs. Online STI testing services that provide confidentiality and convenience could be ideal for those who need to be tested often (Gilbert et al., 2019). A limitation for this service is it requires both internet access and literacy, which may make it inaccessible for some older adults (Gilbert et al., 2019).

There is a paucity of research on older LGBTQ+ women (Heidari, 2016). The sample of older women who participated in this project had some diversity in sexual identity (five survey respondents identified as sexual minorities and one interviewee identified as a pansexual woman), which provided the opportunity for the experiences of women attracted to those other than solely men to be reflected. This was a strength of the study, as Carrie revealed the way she approaches STI prevention with women differs from men. She said that outside of her committed partner, she always used condoms when having penetrative sex with men but did not usually use any STI prevention measures while having sex with women. This behaviour could be a risk, as STIs such as HPV (which is linked to mouth, throat, and cervical cancer) are transmittable during female-female sex (Tremayne & Norton, 2017). Carrie did not give a definite explanation as to why she felt more comfortable having sex without protection with women. Prior research has identified some LGBTQ women think female-female sex has less risk of STI transmission compared to heterosexual sex (Doull et al., 2018). As well, research has shown women may have more trust in other women when having conversations around STI testing scrutiny (Doull et al., 2018). Trust was a theme throughout almost every interview in the current research, though often

centred around healthcare professionals, that women felt more comfortable and trusted other women more than men. This highlights the important role of gender in shaping older women's sexual health.

Knowledge and Beliefs

Older women participating in sexuality research often reflect a well-educated group (Syme & Cohn, 2016; Hughes & Lewinson, 2015). In the current research, formal education translated to improved knowledge around STIs. This advantage was specifically acknowledged by one participant, who was aware of the privilege she had regarding her level of education as a nurse. Unfortunately, lower socio-economic status is correlated with lower health literacy and less ability to access health services (Rao et al., 2012). Another interview participant was not privileged with the same level of formal education, and discussed how she felt her sexual health education was always her own responsibility and that she was committed to self-educating. Unfortunately, this individual responsibility could be overwhelming for some older women and, without support and guidance, could lead to misinformation that could be harmful (Zhou et al., 2023).

Being aware of different types of STI prevention measures, and knowing how to use them, is an example of how knowledge can directly influence sexual health. The majority of survey participants did know how to use external condoms, though ideally this would be all participants. Meanwhile, most survey participants did not know how to use internal condoms or dental dams, with over one quarter not knowing what each of these products were. Women knowing about different options for STI protection could increase the chances of finding a type well-suited for their individual needs (Lu et al., 2019). Unfortunately, opportunities for older women to learn about different products, and the skills to use them, are limited, especially in

formal settings (Weitzman et al., 2020). Education and health promotion efforts that establish condoms with STI prevention separate from only being a birth control option may increase usage among older women, as more than half of survey respondents said that being postmenopausal made them less likely to use a condom, similar to other reports (Goyette et al., 2017).

Naivety that older women are not a population at risk for STIs is another example of knowledge and beliefs that can influence sexual health choices. Previous literature reports that older women often determine their risk of STIs to be lower than it is, which makes them less likely to practice prevention behaviours (Ludwig-Barron et al., 2014). Many examples of naivety described by interview participants could be harmful if they assessed their risk level incorrectly. The popular assumption that older generations are not as promiscuous as younger generations, and therefore do not get STIs, as quoted by one of our interviewees, goes against current increasing trends of STIs in older populations in BC and many other parts of the world (BC Centre for Disease Control, 2010; BC Centre for Disease Control, 2017; Rabathaly & Chattu, 2019). The most reported reason survey participants said that they did not use STI prevention measures the last time they had sex (if that was their experience) was because they felt that they and their partner were not at risk for STIs. Trusting their partner was one of the further explanations given as to why women felt they did not need to use STI prevention measures in their most recent sexual encounter. Though this can be reasonable, as communicating with your partner is an important step to safer sex, it is not infallible in preventing STI transmission. Consistent with previous research that has shown older women in long-term relationships rarely question the faithfulness of their partners (Ross et al., 2013), our survey results showed that women used STI prevention measures more often with their last casual partner then their last regular partner for all types (oral, vaginal, and anal) of sex. A critical step for older women to be

able to protect themselves against STIs is to be provided the learning opportunities and educational tools to be made fully aware of their risk level. An example of this is Weitzman and teams (2020) web-based HIV/STD prevention intervention that targeted specifically divorced or separated older women. This website (Divorceafter50.com) provided, “information about divorce recovery, dating, and building new relationships designed for culturally diverse older women. Embedded within it was age-specific, concrete safe sex education,” (Weitzman et al., 2020, p.6). This project showcases an opportunity of how older women can be provided education around protecting themselves against STIs even when not specifically seeking it out.

According to a life course perspective, the time period that these women grew up in and experienced their sexual debut, would no doubt have an influence in their reported naivety around STIs (Choudhury et al., 2017). The global HIV/AIDS epidemic started in 1981 and created a historic cultural shift around STIs (Beyrer, 2021). Every participant in this research lived through this epidemic and would have felt the societal impacts. Previous research states that women who became sexually active before the HIV/AIDS epidemic are less likely to be aware of their HIV risk compared with those who became sexually active afterwards (Weitzman et al., 2020), which can lead to later diagnoses of HIV in older women (Ludwig-Barron et al., 2014). Most interview participants spoke about the HIV/AIDS epidemic at least briefly, often saying they had never considered their risk of STIs before that point. As the foundation of knowledge around STIs was much different for older women, this is another key reason why sexual health learning opportunities could be impactful for women later in life.

Social Barriers

Previous research claims women are often the partner burdened to initiate STI prevention conversations with their male partners (Minkin, 2010). This is in line with our survey results, as

the majority of women said initiating safer sex practices was either solely their responsibility or a combination of both their and their partners' responsibility. Yet, on average, women reported not being comfortable initiating conversations about using prevention measures. These results highlight a likely scenario where prevention measures have a high chance of not being used. The theme of being hesitant to speak up, specifically in the context of initiating using prevention measures with sexual partners, was revealed in multiple interviews as well as past research (Morton et al., 2011). Sexism is a possible explanation behind women feeling hesitancy to speak up, with societal pressure making women feel a lack of sexual authority. Sexism and/or misogyny relating to what an older women may consider to be the "proper" representations of femininity could also impact their sexual self-advocacy and agency. Research has shown when ageism and sexism intersect in a specific type of "double jeopardy" (disadvantage incurred from two sources simultaneously), this leaves older women more vulnerable and with less agency over their sexual choices (Heidari, 2016). Providing supports to empower older women around sexual health discussions and decisions could be opportunities to combat this self-doubt.

Healthcare Barriers

Generally, women endorsed more positivity (i.e., feeling reassured, staying healthy, and getting information and advice) about STI testing with relatively fewer negative perceptions (i.e., it will be stressful, embarrassing, or shameful). This shows less feelings of hesitancy around the idea of STI testing itself. When looking at the likelihood in which participants would be tested for STIs, of the options provided, survey participants rated "if my doctor suggests that I get tested" as the most likely. Yet, almost three quarters of participants said a doctor had never suggested they get tested for STIs, which is consistent with previous literature (Rabathaly & Chattu, 2019). As well, it has been previously reported that women often find it easier to discuss

sexual health issues if the conversation is initiated first by a doctor (Minkin, 2010). Though it is interesting to note that only about a third of survey respondents felt it was their doctor's responsibility to initiate STI testing. Unfortunately, the misconceptions for the need of older women to get tested, combined with possible discomfort, indicates one of the biggest barriers to STI testing for older women is not being prompted by a healthcare professional. A solution to this, which was brought up by Marie, was for doctors to be more proactive in testing older women for STIs, suggested as well by past research (Minkin, 2010). She recommended primary care physicians encouraging patients to have a baseline of testing done and then reminding them at intervals to test again. This would also be supportive for women who report being hesitant to discuss STI testing with their physician.

The doctor shortage in BC is a known problem, with a poll from 2022 stating more than half of BC residents find it difficult to access, or have no access, to a doctor (Korzinski, 2022). Most participants in this study did report that they had a primary care physician where they were currently living, but as indicated in interviews, it was not always easy for them to get or keep a primary care physician. Women often said the relationship they had with their doctor had a large impact on their ability to receive positive sexual healthcare, which could be a challenge if they were unable to change their physician if they were dissatisfied or not getting their needs met. As seen in previous research (Thorpe et al., 2022; Silverman, 2012), the bedside manner of their doctors, including the level of trust and comfort in the relationship, were key indicators of positive experiences. Unfortunately, it was pointed out by Heddy that it is challenging to build trust with a physician in the short time period given during most check-ups. As well, expressed by Marie and a survey comment, knowing their doctor on a personal level outside of a professional setting made them feel unsafe to discuss sexual health issues. This could be a more

prevalent issue in small communities with limited healthcare professionals accessible, as indicated in past research (Subedi et al., 2019). Nonetheless, finding solutions for physicians or other healthcare providers (e.g., nurses, sexual health educators), to be able to allocate more time to patients to build rapport, especially when addressing delicate concerns like sexual health matters, could be a step towards more approachable care.

Our current research identified positive correlations between the frequency of uncomfortable healthcare experiences and its resulting negative influence on accessing healthcare. This was measured separately for all general healthcare, and then specifically for sexual healthcare, with the same pattern emerging. As well, the same correlation was found when looking at sexual and non-sexual healthcare experiences that women felt were discriminatory. This is meaningful, as it implies that previous uncomfortable and discriminatory experiences may affect future experiences accessing sexual and non-sexual healthcare (Tang & Browne, 2008; Politi et al., 2009; Thorpe et al., 2022).

Trust, Consent, and Coercion

As found in previous literature (Bergeron et al., 2017), interview results indicated that having a doctor who was a woman was heavily preferred for sexual health matters. This is consistent with the many other examples throughout interviews of women saying they felt more connected and had more trust in other women. The worry of being judged by physicians was brought forth, which has been reported by previous literature with interviews of older women around sexual healthcare experiences (Hughes & Lewinson, 2015). Heddy explicitly stated that she was worried of male physicians' judgement, and switched to a doctor who was a woman to avoid this. Similarly, the thought of a man giving Bella a pelvic examination made her anxious.

These examples indicate distrust in men, even within professional settings, which could be a barrier for receiving appropriate sexual healthcare.

An unexpected finding was the unprompted discussion of consent, coercion, and sexual assault in most interviews. These were topics that had not been considered with Community Advisory members while developing this project, possibly due to it being out of the main scope, which resulted in no survey or interview questions around the subject. However, there is past literature on the links between these topics and sexual health (Cadman et al., 2012). This connection was missed during the preliminary literature review as well, perhaps due to terminology and keyword searches not prompting research focused on Intimate Partner Violence or sexual assault impacts. An example of coercion that could directly affect STI transmission that was present in both survey and interview findings was (largely male) partners pressuring women to not use condoms or not be tested before sexual activity. This could put both partners as risk for STIs even when women want to engage in safer sex practices. As well, women reported inappropriate sexually explicit comments made by healthcare providers that left them feeling extremely uncomfortable. These experiences negatively impact future healthcare access, as shown by survey results and prior research (Cadman et al., 2012).

Multiple women disclosed previous sexual assaults that continued to impact, and in some cases, devastate them to this day. Women spoke about how being sexually assaulted caused them to distrust others and how they needed explicit trust to be able to be comfortable in any experience that surrounded their sexuality. Bella explained how the life experiences she had been through are invisible to others, but still need to be considered and accommodated for in health and social service planning and delivery. As well, she explained how coming from a family that had a culture of silence around sexuality made her feel shame around the subject. These types of

struggles can be hard to address in healthcare settings, but that is why it is critical for healthcare professionals to foster an environment of comfort and safety (Cadman et al., 2012). This would include being aware of practices that may assist survivors of sexual assault to be more comfortable accessing STI testing, such as self-testing and self-swabbing options (Cadman et al., 2012).

Sexual Health Support and Resources

STIs are extremely common, yet they carry societal shame, described by the older women throughout this study. Women reported feeling shame, embarrassment, and self-blame after being diagnosed, or at the thought of being diagnosed, with an STI across both arms of the current study. Survey results identified that women's biggest concern was being worried about their sexual partners' reaction. Across all interviews there was only one mention of a physical symptom, which points to a need to shift the approach of STI testing, treatment, and prevention. A strength-based approach, such as outlined by Dr. Carmen Logie (2023) can increase sexual self-esteem, confidence, and help women feel more comfortable discussing sexual health matters to get the treatment they need.

Participants spoke about their discomfort using sexual health services that were targeted for, or used primarily by, younger adults. When a clear example of ageism overlaps with the challenges of being a woman, such as not feeling comfortable discussing sexual health matters with men partners or men providers, even less resources are available to this population. As well, survey data identified that women from smaller communities had less sexual health supports specifically for their age group, which aligns with recent Canadian research reporting that rural areas often have limited nearby healthcare opportunities (Subedi et al., 2019). Sexual health resources targeted specifically to older women, available across geographical location, would be

beneficial in supporting this overlooked community. In addition to STI supports, holistic sexual healthcare should include support for other sexual difficulties such as distress by a lack of desire or arousal, difficulty physically having sex, and difficulty enjoying sex due to pain, fear, or nerves (Muliira & Muliira, 2013).

This project is an example of how knowledge translation opportunities could impact older women. The results from this project add to an evidence base that can be used to develop equitable policies, programs, and services that promote the sexual health of older women in BC. As well, participants described a direct effect from participating in the research, such as educating them about STIs, providing sexual health resources that are available and targeted to their age group, and providing a safe space to feel heard while talking through their sexual health journeys (Grace et al., 2016). This impact was discussed by some women in interviews, with Marie saying she would consider using this project as a way to introduce sexual health topics to her friends. Knowledge sharing through members of one's own community, such as peers, can be an extremely valuable way for older women to become more engaged with their sexual health.

Strengths & Limitations

This study, at every level, was focused on the equity and inclusion needs of older women. Sociocultural factors influence sexual behaviours and health outcomes differently between genders (Lichtenstein, 2008; Heidari, 2016; Mbidde et al., 2009), and that is why we chose to focus this project on women, who's specific needs are often overlooked in research. A diverse range of older women guided as well as participate in this project. Although the sample was limited to older self-identified women, this project was able to capture a wide range of experiences with its goal to seek diverse participants with respect to racial, sexual, and socio-cultural locations. Analyzing a range of experiences, with a mixed-method approach and

solution-focused lens, provides opportunities to enhance more equitable inclusion of all women within sexual health discourses and spaces.

Though this study was designed with older women for older women, it is not without its limitations. Perhaps the most influential in impacting conclusions is the well-document volunteer bias of women who agreed to participate in this research, especially those who were interviewed, were likely more comfortable speaking about sexual matters in general (Strassberg & Lowe, 1995). Multiple women in interviews said that they did not feel uncomfortable in certain situations (such as discussing a sexual matter with a healthcare provider) but described that other women their age would be. Indeed, recruiting for this project was quite a challenge. Our sample could have been bigger and more diverse. It is not clear if this was due to recruitment methods inadequately reaching the population, or a hesitancy from older women to discuss sexual health, and STIs specifically, in a research setting. The title of the project (at the time of recruitment being *Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women*) could have had the stigma of STIs associated with it, and reduced those who felt this stigma in participating. A more approachable title might have drawn more older women to this study. Another sampling limitation was this study was done completely online, thus reducing accessibility to older adults who either do not have internet access or are not digitally literate or comfortable (Schreurs et al., 2017). This could be particularly limiting as older adults are not as present or comfortable online as younger adults (Zhou et al., 2023). Future research looking at older adults' sexual health should consider in-person data collection techniques.

Knowledge Mobilization

The Knowledge Mobilization (KM) plan for this project is premised on the goal of engaging diverse stakeholders, including academics, health care professionals, decision makers, and community members. Therefore, the plan will support the use of findings from this study through: 1) active dissemination through multiple venues and formats, 2) making the research findings available in a user-friendly manner and, 3) involving multiple stakeholders (community-based organizations, policymakers, knowledge users and researchers) through all stages of the dissemination process.

I have partnered with community advisors to design an impactful knowledge mobilization plan. The perspectives of older women are crucial to successful knowledge sharing as they are best able to determine what is most appropriate for their community. A feeling of ownership by community was critical to the success of this project. Encouraging participants to share the findings as community advocates is an influential form of KM. This creates opportunities for further reach in terms of learning from community members. Community advisors will also facilitate the uptake of the findings to policy and practice audiences through their existing networks. This will expand the avenues through which findings inform STI prevention, testing, treatment, care, and supportive policies and practice.

Other formats to share findings will include publishing in open access journal articles as well as presenting the findings to academic, community, policy and health care audiences, locally, regionally and nationally. I also hope to publish findings in resources targeted towards older women, such as the through University of Victoria's Institute on Aging and Lifelong Health.

Conclusion

Sexually transmitted infections are becoming an increasing concern for older women in British Columbia (BC Centre for Disease Control, 2010; BC Centre for Disease Control, 2017), with little action being taken to address this. This mixed-method study, using quantitative surveys and qualitative interviews, was designed with a community-based participatory research approach to consider the objectives that were most meaningful to older women. While contributing to knowledge about social determinants of older women's sexual health in relation to STI prevention, testing, and treatment, this study found that the intersection of gender and age was critical. As well, participants' knowledge around STIs, influenced by their education level, and naivety of the risk for STIs, shaped sexual health practices. Social barriers indicated that women were hesitant to discuss prevention measures with sexual partners, despite being expected to do so, while healthcare barriers included the need for doctors to be more proactive in initiating STI testing with older patients. Trusting, non-judgemental relationships with healthcare professionals are needed for women to feel safe in clinical settings. Many women reported that they felt these types of positive relationships most frequently with healthcare professionals who were also women. Consent, coercion, and sexual assault was also important issues raised by multiple women during interviews, with persisting emotional effects requiring accommodation in healthcare settings. A solution-focused lens was used throughout this study to create results that can help inform the development of equitable policies, programs, and services targeted to older woman in BC.

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Appendix 1 – Human Research Ethics Board Certificate of Approval

University of Victoria
Office of Research Services I Human Research Ethics Board
Michael Williams Building Rm B202 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
T 250-472-4545 I F 250-721-8960 I uvic.ca/research I ethics@uvic.ca

Certificate of Approval - Annual Renewal

PRINCIPAL INVESTIGATOR:	**Nathan Lachowsky** (Supervisor)	**ETHICS PROTOCOL NUMBER** Expedited review - delegated	**21-0457**
PRINCIPAL APPLICANT:	**Jordan Monks** **Master's student**	ORIGINAL APPROVAL DATE:	09-Jun-2022
UVIC DEPARTMENT:	**Public Health and Social Policy PHSP**	APPROVED ON:	28-Apr-2023
		APPROVAL EXPIRY DATE:	08-Jun-2024

PROJECT TITLE: **Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women**

RESEARCH TEAM MEMBERS:
Kelli Stajduhar - Faculty, Supervisor, Uvic
Charlotte Loppie - Faculty Supervisor, UVic
Leah Tidey - Postdoc, Supervisor, UVic
Anya Slater - Research Admin Assistant, UVic

DECLARED PROJECT FUNDING:
HSD Graduate Student Research Award , University of Victoria

DOCUMENTS INCLUDED IN THIS APPROVAL:
JordanMonkstcps2_core_certificate.pdf - 23-Nov-2021
Survey Poster.pdf - 13-Mar-2022
Recruitment email final.docx - 13-Mar-2022
JordanMonks-Community Organization List.docx - 13-Mar-2022
ETHICSJordanMonks-Thesis Survey Questions.docx - 15-Aug-2022
Ethics-Interview Questions.docx - 12-Nov-2022
REACH BC Preview.pdf - 01-Dec-2022
Informed Consent Letter-ethics.docx - 09-Dec-2022
Implied Consent Letter- ethics.docx - 09-Dec-2022

Conditions of approval

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Amendments
To make changes to the approved research procedure in your study, please submit "Amendments" or "Annual renewal with amendments" form. You must receive research ethics approval before proceeding with your amended protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria's policies for research involving human participants.

Appendix 2 - Recruitment Poster

Are you an older woman,
living in British Columbia, Canada,
who has had at least one sexual partner since turning 60 years old?

Participate in an online survey as part of the study
Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women.

By participating you are eligible to enter a draw for $50 cash (one of five).

Go to: **https://www.surveymonkey.ca/r/C6WZXJ8**
or scan the following QR code

University of Victoria

For questions contact
Jordan Monks
or
Dr. Nathan Lachowsky

Appendix 3 – Implied Consent Form for Online Survey

University of Victoria

Letter of Information for Implied Consent

Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women

You are invited to participate in a study entitled *Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women*. This study is being conducted by Jordan Monks, supervised by Dr. Nathan Lachowsky, Dr. Kelli Stajduhar, and Dr. Leah Tidey. Please read this consent form so that you understand what your participation will involve. Please ask any questions you have before you consent to participate. You can contact Jordan Monks at jordanmonks@uvic.ca or Dr. Lachowsky at nlachowsky@uvic.ca if you have any questions or concerns.

Purpose

The purpose of this mixed-method study is to explore social barriers and facilitators (including social determinants of health) associated with sexually transmitted infections (STIs) among older women (60+) in British Columbia, Canada.

Importance of this Research

STIs are on the rise among older women in British Columbia[1,2]; yet, sexual health research has paid little attention to this population[3]. In order to provide equitable sexual heath support for older women, we must explore the social barriers and facilitators influencing their STI-related experiences. This includes stigma around older adult sexuality[4], which is more prevalent in older women and creates barriers to safer sex practices and access to appropriate sexual health services[5].

Participants Selection

- You are being asked to participate in this study if you:
- Identify as a woman
- Are at least 60 years of age, or older
- Have had at least one sexual partner since turning 60 years old
- Live in British Columbia, Canada

What is involved

If you consent to voluntarily participate in this research, your participation will involve answering questionsthat have been influenced by a preliminary literature review as well as consultations with a community advisory group.

The survey measures three key themes identified from the preliminary literature review:

- Knowledge and beliefs around prevention and testing for older women

- Stigma and ageism
- Social determinants of health

Inconvenience
Participation in this study may cause some inconvenience to you, including the time it takes to complete thesurvey (*approximately 20 minutes*).

Risks
There are some potential risks to you by participating in this research. In answering questions about yoursexual experiences, you might have some negative feelings including sadness, anger, anxiety, or stress.

If you have these feelings and want to get help, please contact one or more of these services:

1-800-SEX-SENSE: For free, confidential, non-judgmental and anonymous information from nurses, sex experts and trained volunteers in British Columbia. Call 1-800-739-7367.
Seniors' Distress Line: Helpline for older adults to speak with a crisis responder. Call 604-872-1234
BC Nurse Line: Available 24/7 to speak with a nurse from anywhere in BC. Call 811

Benefits
The potential benefits to participating in this research include increasing knowledge and comfortability discussing STI prevention, testing, and treatment. This could possibly extend to sexual health and sexual matters in general. There will be resources and community organizations linked at the end of this survey that could be an assistance to you regarding STI prevention, testing, and treatment measures currently available. There are further potential societal benefits of this research by identify underlying risk factors of STIs for older women. This could lead to improvement of health outcomes, quality of life, and possible reduction of healthcare costs as a whole. Theory development around how the social determinants of health are associated with STI prevention, testing and treatment behaviours can benefit the current state of knowledge in this field.

Compensation
As a small way to thank you for time, at the end of the survey you will be given an opportunity to enter your email address for a $50 cash honorarium. Email addresses given for compensation will not be collected with data, so there will be no way to link your personal information with your survey data and we will not share your email address with anyone. You do need to finish the survey to be eligible to enter the draw, but you may skip any questions you do not feel comfortable with answering.

Anonymity
In terms of protecting your identity, this survey is completely anonymous. No one will know that you have completed it, and no one will be able to identify you through your answers.

Voluntary Participation
Your participation in this research must be completely voluntary. You can skip any questions you don't want to answer. If you do decide to participate, you may withdraw at any time without any consequences orany explanation. If you do decide to withdraw from the study, please do not submit your survey, as your data cannot be removed once you have submitted your survey.

Sharing of Results
The results of this study will be shared with others in the form of the principal applicant's thesis. It is also anticipated that the results of this study will be offered for publication and presentation at conferences, educational events, and community forums.

Disposal of Data
Once the final report is completed all survey data will be stored for a period of 5 years post-publication of the final report, and any peer-reviewed publications, and then destroyed securely.

Follow-up Interviews
We are currently recruiting for the second component of this study, which includes individual phone/online interviews (estimated to take 1-2 hours). If you have been diagnosed with an STI since turning 60 years old and would like to be considered to participate in a follow-up interview, please enter your email address at the opportunity provided at the end of this survey. Participants who complete an interview will be compensated $50 as a thank you for their time.

Contacts
Please feel free to ask any questions about this study or your participation in it. You can contact:

Jordan Monks **Dr. Nathan Lachowsky**

You may verify the ethical approval of this study, or raise any concerns you might have, by contacting theHuman Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

By completing and submitting the survey, YOUR FREE AND INFORMED CONSENT IS IMPLIED andindicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

Please retain a copy of this letter for your reference.

[1] BC Centre for Disease Control. (2010). HIV and Sexually Transmitted Infections 2010. Retrieved from http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/STI/CPS_Report_STI_HIV_2010_annual_report_FINAL_20111122.pdf

[2] BC Centre for Disease Control. (2017). STI annual report. Retrieved from http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/STI/STI_Annual_Report_2017_final.pdf
[3] Tillman, J. L., & Mark, H. D. (2015). HIV and STI testing in older adults: An integrative review. Journal of Clinical Nursing, 24(15-16), 2074-2095.
[4] Lichtenstein, B. (2008). Exemplary elders: Stigma, stereotypes and sexually transmitted infections among older African Americans. Current Sociology, 56(1), 99-114.
[5] Heidari S. (2016). Sexuality and older people: a neglected issue. Reproductive Health Matters, 48(24), 1-5.

Appendix 4 – Informed Consent Form for Interviews

University of Victoria

Letter of Information for Informed Consent

Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women

You are invited to participate in a study entitled *Exploring the Social Determinants of Health Associated with Sexually Transmitted Infections in Older Women*. This study is being conducted by Jordan Monks, supervised by Dr. Nathan Lachowsky, Dr. Kelli Stajduhar, and Dr. Leah Tidey. Please read this consent form so that you understand what your participation will involve. Please ask any questions you have before you consent to participate. You can contact Jordan Monks at jordanmonks@uvic.ca or Dr. Lachowsky at nlachowsky@uvic.ca if you have any questions or concerns.

Purpose

The purpose of this mixed-method study is to explore social barriers and facilitators (including social determinants of health) associated with sexually transmitted infections (STIs) among older women (60+) in British Columbia, Canada.

Importance of this Research

STIs are on the rise among older women in British Columbia[1,2]; yet, sexual health research has paid little attention to this population[3]. In order to provide equitable sexual heath support for older women, we must explore the social barriers and facilitators influencing their STI-related experiences. This includes stigma around older adult sexuality[4], which is more prevalent in older women and creates barriers to safer sex practices and access to appropriate sexual health services[5].

Participants Selection

- You are being asked to participate in this study if you:
- Identify as a woman
- Are at least 60 years of age, or older
- Have had at least one sexual partner since turning 60 years old
- Live in British Columbia, Canada

What is involved

If you consent to voluntarily participate in this research, your participation will involve answering interview questions that have been influenced by a preliminary literature review, survey data, as well as consultations with a community advisory group. Demography questions such as identifying your sexual orientation, racial identity, gender identity, and religious beliefs will be asked in order to provide context on how your social location influences your sexual health experiences.

The interview questions look to provide insight on the three key themes identified from the preliminary literature review:

- Knowledge, beliefs, and experiences around prevention, testing and treatment for older women
- Stigma and ageism
- Social determinants of health

Inconvenience
Participation in this study may cause some inconvenience to you, including the time it takes to complete theinterview (*1-2 hours*).

Risks
There are some potential risks to you by participating in this research. In answering questions about yoursexual experiences, you might have some negative feelings including sadness, anger, anxiety, or stress.

If you have these feelings and want to get help, please contact one or more of these services:

1-800-SEX-SENSE: For free, confidential, non-judgmental and anonymous information from nurses, sex experts and trained volunteers in British Columbia. Call 1-800-739-7367.
Seniors' Distress Line: Helpline for older adults to speak with a crisis responder. Call 604-872-1234
BC Nurse Line: Available 24/7 to speak with a nurse from anywhere in BC. Call 811

Benefits
The potential benefits to participating in this research include increasing knowledge and comfort discussing STI prevention, testing, and treatment. This could possibly extend to sexual health and sexual matters in general. There are further potential societal benefits of this research by identify underlying risk factors of STIs for older women. This could lead to improvement of health outcomes, quality of life, and possible reduction of healthcare costs as a whole. Theory development around how the social determinants of health are associated with STI prevention, testing and treatment behaviours can benefit the current state of knowledge in this field.

Compensation
As a small way to thank you for time, you will be given an honorarium of $50 for participating in this interview. You do not need to answer every interview question to receive this honorarium.

Voluntary Participation
Your participation in this research must be completely voluntary. You can skip any questions you don't want to answer. If you do decide to participate, you may withdraw at any time without any consequences orany explanation.

Confidentiality
Participant's confidentiality and the confidentiality of the data will be protected and respected as much as possible. Your name will not be used or associated with any quotes and no identifying information (e.g., place of work if you happen to share it) will be shared. All participants will have pseudonyms and any identifying information will be removed from your interview transcript.

Sharing of Results
The results of this study will be shared with others in the form of the principal applicant's thesis. It is also anticipated that the results of this study will be offered for publication and presentation at conferences, educational events, and community forums.

Disposal of Data
Once the final report is completed all interview data will be stored for a period of 5 years post-publication of the final report, and any peer-reviewed publications, and then destroyed securely.

Contacts
Please feel free to ask any questions about this study or your participation in it. You can contact:

Jordan Monks **Dr. Nathan Lachowsky**

You may verify the ethical approval of this study, or raise any concerns you might have, by contacting theHuman Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Please retain a copy of this letter for your reference.

Agreement:

Your verbal consent indicates that you have read the information in this agreement and have had a chance to ask any questions you have about the study. This also indicates that you agree to participate in the interview and have been told that you can change your mind and withdraw your consent to participate at any time.

[1] BC Centre for Disease Control. (2010). HIV and Sexually Transmitted Infections 2010. Retrieved from http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/STI/CPS_Report_STI_HIV_2010_annual_report_FINAL_20111122.pdf

[2] BC Centre for Disease Control. (2017). STI annual report. Retrieved from http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/STI/STI_Annual_Report_2017_final.pdf
[3] Tillman, J. L., & Mark, H. D. (2015). HIV and STI testing in older adults: An integrative review. Journal of Clinical Nursing, 24(15-16), 2074-2095.
[4] Lichtenstein, B. (2008). Exemplary elders: Stigma, stereotypes and sexually transmitted infections among older African Americans. Current Sociology, 56(1), 99-114.
[5] Heidari S. (2016). Sexuality and older people: a neglected issue. Reproductive Health Matters, 48(24), 1-5.

Appendix 5 - Online Survey Questionnaire

Theme 1: Social Determinants of Health

The following demographic questions are being asked to learn a little about your background and social conditions. Please answer the questions you feel comfortable with and leave any others blank.

What is your current age?

_____

What is your formal relationship status?

- Married: (you are legally married, married for the first time OR remarried, you are not separated, and your spouse is alive)
- Common-law: (you have been living with another person as a couple for at least 12 months but are NOT legally married)
- Separated: (you are married or were living in a common-law relationship AND no longer live with your partner for any reason other than illness, work, or school)
- Divorced: (you were married and obtained a legal divorce AND you have not remarried)
- Widowed: (you have lost a spouse through death and have NOT remarried)
- Dating: (you are currently dating a partner(s) who you have not lived with for at least 12 months)
- Single: (you have never been married and are not currently in a relationship of any type)

What is your racial identity? Select all that apply:

- Arab
- African
- Afro-Canadian
- Afro/Caribbean Canadian
- Caribbean
- Caucasian (White)
- Chinese
- European (such as Italian, Portuguese, Polish, Ukrainian, French, Scottish, Irish, British, Hungarian, Spanish)
- Indigenous- First Nations
- Indigenous- Inuit
- Indigenous- Métis
- Filipino or Filipina
- Japanese
- Jewish
- Korean
- Latin American
- Middle Eastern (such as Iranian, Afghan, Iraqi)
- Mixed race or Multiracial
- South Asian (such as Indian, Pakistani, Sri Lankan)
- Southeast Asian (such as Cambodian, Indonesian, Laotian, Malaysian, Vietnamese)
- West Asian (such as Afghan, Iranian)

- ☐ None of the above quite describe me. I describe my racial identity as:

  _____

Do you identify as Two-Spirit? (question only appears only if identified as Indigenous)

- ○ Yes
- ○ No

Which of the following religious or spiritual traditions do you currently follow? Select all that apply. [1]

- ☐ None
- ☐ Buddhist
- ☐ Catholic
- ☐ Hindu
- ☐ Indigenous
- ☐ Jehovah's Witness
- ☐ Jewish
- ☐ Muslim
- ☐ Orthodox
- ☐ Protestant
- ☐ Sikh
- ☐ Spiritual but not associated with a specific religion

- ☐ None of the above work for me. I describe my spiritual tradition as:

  _____

How important is your religion/spirituality to you? Please select the option that fit best at this time.[1]

- o Not at all important
- o Not so important
- o Somewhat important
- o Very important
- o Extremely important

What is your gender identity? If you have lived experience as trans, a history of gender transition, or are transgender, please select the gender(s) you identify as. Please select the option(s) that fit best at this time.

- ☐ Agender
- ☐ Genderfluid
- ☐ Genderqueer
- ☐ Non-binary
- ☐ Trans women
- ☐ Woman
- ☐ I prefer to use another term: _____

How would you describe your sexual orientation? Please select the option(s) that fit best at this time. [1]

- ☐ Straight/Heterosexual

- ☐ Bisexual
- ☐ Gay
- ☐ Lesbian
- ☐ Queer
- ☐ Asexual
- ☐ Pansexual
- ☐ Heteroflexible
- ☐ Homoflexible
- ☐ Questioning
- ☐ I prefer another term_____

Is your current relationship exclusive/monogamous?

- o Yes, we only have sex with each other
- o No, we are open (fully or with some rules)
- o Don't know. We haven't discussed it or decided
- o We don't have sex together
- o Prefer not to answer
- o Not applicable (not in a committed relationship)

What is your current working status? Please select the option(s) that fit best at this time.

- ☐ Working part-time
- ☐ Working full-time

- Retired
- Student
- On government assistance
- On long-term disability
- None of the above

What is your current annual household income?

- Less than $10,000
- $10,000 - $19,999
- $20,000 - $29,999
- $30,000 - $39,999
- $40,000 - $49,999
- $50,000 - $59,999
- $60,000 - $69,999
- $70,000 - $79,999
- $80,000 - $89,999
- $90,000 - $99,999
- $100,000 or more

What is the highest level of education you have completed?

- Less than high school

- High school graduate or equivalent
- University or college diploma or certificate other than a bachelor's degree
- Bachelor's degree
- Graduate (PhD or Masters) or professional degree (doctor, lawyer, etc.)

In which do you currently live?

- House/Apartment/Condo/Townhouse/Suite
- Senior living community
- Assisted living
- Shelter/Unhoused

What is your current living situation? Please select the option(s) that fit best at this time.

- Alone
- With a partner
- With family
- With a friend/roommate

What best describes the environment you currently live in?

- Very large urban population centre (500,000+ people)
- Large urban population centre (100,000 - 499,999 people)

- Medium urban population centre (30,000 - 99,999 people)
- Small population centre (1,000 - 29,999 people)
- Rural area (Less than 1,000 people)

Do you have a primary care physician (family doctor, General Practitioner, or Nurse Practitioner) where you are currently living?

- Yes
- No → Why not? _____

Please indicate if you have any chronic health condition(s). Select all that apply.

- Alzheimer's Disease/Dementia
- Arthritis
- Cancer
- Chronic Kidney Disease
- Chronic Obstructive Pulmonary Disease/Asthma
- Diabetes
- Heart Disease
- Hypertension (High Blood Pressure)
- Liver Disease/Cirrhosis
- Mental Health Condition
- Neurological Condition
- Respiratory Disease

- Other. Please describe _____
- None of the above.

Do you drink alcohol?

- Daily
- Weekly
- Monthly
- Yearly
- No, I do not drink

Do you smoke cigarettes or vape tobacco?

- Daily
- Weekly
- Monthly
- Yearly
- I do not smoke or vape tobacco

Do you use marijuana?

- Daily
- Weekly
- Monthly

- Yearly
- I do not use marijuana

Do you use any recreational drugs not prescribed by a healthcare provider, that are NOT injected (cocaine, ecstasy, etc.)?

- Daily
- Weekly
- Monthly
- Yearly
- I do not use recreational drugs

Do you use intravenous (IV) drugs (heroin, methamphetamine, opioids etc.) that are not prescribed by a healthcare provider?

- Daily
- Weekly
- Monthly
- Yearly
- I do not use intravenous (IV) drugs

Theme 2: Stigma/Ageism

The following questions are related to possible stigma and ageism among your healthcare experiences. Please answer the questions you feel comfortable with and leave any others blank.

On a scale of 1-10, 10 being very comfortable, how comfortable are you talking to health care professionals about…

- **Your general healthcare? 1…10**
- **Your sexual health? 1…10**
- **Your sexual behavior? 1…10**
- **STI prevention? 1…10**
- **STI testing? 1…10**
- **STI treatment? 1…10**

Have you ever been made to <u>feel uncomfortable</u> when seeing a healthcare provider for any reason? [3]

- Never
- Rarely (show next question)
- Sometimes (show next question)
- Often (show next question)
- Always (show next question)

Has this experience negatively influenced you accessing healthcare?

- Never

- Rarely
- Sometimes
- Often
- Always

Have you ever been made to <u>feel uncomfortable</u> when seeing a healthcare provider regarding sexual health matters?

- Not applicable as I have never discussed sexual health matters with a healthcare provider
- Never made to feel uncomfortable
- Rarely (show next question)
- Sometimes (show next question)
- Often (show next question)
- Always (show next question)

Has this experience negatively influenced you accessing healthcare surrounding sexual health matters?

- Never
- Rarely
- Sometimes
- Often
- Always

Have you ever felt like you have been <u>discriminated against</u> in a healthcare experience?

- Never
- Rarely (show next question)
- Sometimes (show next question)
- Often (show next question)
- Always (show next question)

Has this experience negatively influenced you accessing healthcare?

- Never
- Rarely
- Sometimes
- Often
- Always

Have you ever felt like you have been <u>discriminated against</u> in a sexual healthcare experience?

- Not applicable as I have never discussed sexual health matters with a healthcare provider
- Never been discriminated against in a sexual healthcare setting
- Rarely (show next question)
- Sometimes (show next question)
- Often (show next question)

- Always (show next question)

Has this experience negatively influenced you accessing healthcare surrounding sexual health matters?

- Never
- Rarely
- Sometimes
- Often
- Always

When accessing healthcare surrounding sexual health (including STI prevention, testing, and treatment) do you think you will be stigmatized because of your…

	Unlikely/ Disagree				Likely/Agree
Age	1	2	3	4	5
Gender	1	2	3	4	5
Sexuality	1	2	3	4	5
Race	1	2	3	4	5
Relationship statues	1	2	3	4	5
Previous STI diagnosis	1	2	3	4	5

Theme 3: STI-related Information

The following questions are related to your beliefs, knowledge, behaviour, prevention habits, testing history and diagnoses of sexually transmitted infections (STI). Examples of STIs include chlamydia, herpes, crabs, etc. Please answer the questions you feel comfortable with and leave any others blank.

Please indicate your beliefs around the following statements… [2]
If I get tested for an STI:

	Unlikely/ Disagree				Likely/Agree
I will stay healthy	1	2	3	4	5
I will feel reassured	1	2	3	4	5
It will be embarrassing	1	2	3	4	5
I will get information and advice	1	2	3	4	5
It will be stressful	1	2	3	4	5
I will feel comfortable (pain free)	1	2	3	4	5
It will negatively affect my/any future relationships	1	2	3	4	5
I will feel responsible	1	2	3	4	5
It will be time-consuming	1	2	3	4	5
I'll get the treatment I need before I have complications	1	2	3	4	5
It will be shameful	1	2	3	4	5
I will be treated with respect	1	2	3	4	5

If I had an STI... [2]

	Strongly disagree				Strongly agree
I would feel ashamed	1	2	3	4	5
I would feel embarrassed	1	2	3	4	5
People would avoid me	1	2	3	4	5
People would think badly of me	1	2	3	4	5
I would be worried about my friends/families' reaction	1	2	3	4	5

I would be worried about my sexual partners reaction	1	2	3	4	5
I would be worried testing staff would be gossiping about me	1	2	3	4	5
I would feel judged	1	2	3	4	5

For each situation described below, choose how much you agree or disagree: [1]

	Strongly disagree				Strongly agree
If I got an STI, I feel confident I could tell my current partner(s) about it	1	2	3	4	5
If I got an STI, I feel confident I could tell my past possibly infected partner(s) about it (or give their information to a health professional)	1	2	3	4	5
If I got an STI that is incurable, I feel confident I could tell my possible future partner(s) about it	1	2	3	4	5

On a scale of 1-10, 10 being very comfortable, how comfortable are you talking to a sexual partner about…

Your general health? 1…10

Your STI history (whether you have had any STIs)? 1…10

Their STI history (do they have any STIs)? 1…10

Sexually transmitted infection (STI) testing? 1…10

Who is responsible for initiating STI testing? Select all that apply.

- ☐ Your doctor's responsibility
- ☐ Your responsibility

- Your partner's responsibility
- Not sure

Listed below are ten TRUE statements about STI's. Please indicate if you were aware the statement was true before you read it. [2]

	Yes, I did know this	No, I did not know this
STI's do not always show symptoms (i.e., changes in your body, rashes or discharge) so you cannot always tell you have one.	**Y**	**N**
Not all STIs have painful symptoms.	**Y**	**N**
It is possible to get an STI from having unsafe sex only one time.	**Y**	**N**
You can transmit/contract an STI even if you always have sex with a condom.	**Y**	**N**
Not all STIs can be cured.	**Y**	**N**
Most STIs will not go away on their own.	**Y**	**N**
Some STI's can be treated with antibiotics.	**Y**	**N**
It is free to get tested for STI's in Canada.	**Y**	**N**
Chlamydia and Gonorrhea can be tested for by taking a sample of your urine (pee).	**Y**	**N**
HIV and Syphilis cannot be tested with a sample of your urine (pee), instead a blood test is needed.	**Y**	**N**

Are you aware of local resources or organizations that provide STI prevention, testing or treatment services or support? [3]

- Yes
- Maybe
- No
- Not sure

Are you aware of local resources or organizations that provide STI prevention, testing or treatment services or support <u>specifically for your age group</u>? [3]

- Yes
- Maybe
- No
- Not sure

Do you think awareness of local resources or organizations providing STI prevention, testing or treatment services or support specifically for your age group would help improve your sexual health?

- Yes
- Maybe
- No
- Not sure

Are you currently sexually active? By this we mean that you have had any sexual activity with another person involving your own or a partner's genitals in the past <u>6 months</u>. [3]

- Yes
- No
- Not sure

How many new sexual partners (including vaginal or anal penetration, or oral-genital stimulation) have you had since turning 60? By new we mean sexual partners you have never had sex with before.

- None
- 1
- 2-5
- 6-10
- 11-20
- 21+

Do you feel confident using the following STI preventative measures:

External/male condom? Yes/No/I don't know what that is

Internal/female condom? Yes/No/I don't know what that is

Dental Dam? Yes/No/I don't know what that is

If you did NOT use a condom/dental dam the last time you had oral, vaginal or anal sex, why did you or your partner(s) not do so? Select all that apply. [1]

- ☐ Does not apply (I used protection last time)
- ☐ I was scared to ask my partner to use it
- ☐ I felt pressure to not use it
- ☐ I/my partner did not think that I/we were at risk for STIs
- ☐ I/my partner did not have protection
- ☐ One or both of us thought it would ruin the mood
- ☐ Sexual activity feels better without protection
- ☐ One or both of us were drunk or high on drugs
- ☐ It is against my religious beliefs
- ☐ It is against my cultural beliefs
- ☐ Other reason (please describe): [open-ended text box]
- ☐ None of the above

Do you think being postmenopausal, and therefore not being able to get pregnant, has impacted your likelihood of using condoms or other methods of prevention?

- o Yes, this is the reason I do not use condoms
- o Yes, it makes me less likely to use condoms
- o Maybe, it makes me consider not using condoms
- o No, it hasn't affected my use of condoms as I still use them
- o No, I wasn't using condoms while I was menstruating

- Not sure

Who is responsible for initiating safer sex prevention practices (such as using internal/external condoms)? Select all that apply.

- Your responsibility
- Your partners responsibility
- Not sure

On a scale of 1-10, 10 being very comfortable, how comfortable are you initiating safer sex prevention practices (such as using internal/external condoms) with…

- **A new sexual partner? 1…10**
- **Your ongoing sexual partners? 1…10**

The following questions are about the kinds of sex you have had with different types of sexual partners.

Regular partner: Someone you have a regular relationship with and have sexual intercourse with (such as a boyfriend/girlfriend or husband/wife)

C*asual partner:* Someone you have sex with (once or several times), but with whom you have no regular relationship.

Are STIs something you <u>thought</u> about before having sex with your last REGULAR partner?

- Yes

- No
- Not applicable

Are STIs something you <u>thought</u> about before having sex with your last CASUAL partner?

- Yes
- No
- Not applicable

Are STIs something you <u>talked</u> about before having sex with your last REGULAR partner?

- Yes
- No
- Not applicable

Are STIs something you <u>talked</u> about before having sex with your last CASUAL partner?

- Yes
- No
- Not applicable

Did you get <u>tested</u> for STIs before having sex with your last REGULAR partner?

- Yes

- No
- Not applicable

Did you get <u>tested</u> for sexually transmitted infections before having sex with your last CASUAL partner?

- Yes
- No
- Not applicable

Did your last REGULAR partner get tested for STIs before having sex with you?

- Yes
- No
- Unsure
- Not applicable

Did your last CASUAL partner get tested for STIs before having sex with you?

- Yes
- No
- Unsure

- Not applicable

Do/did you often use any barrier protection (external/internal condoms, dental dams) when having sex with your last REGULAR partner?

When having oral sex?	Yes	No
When having vaginal sex?	Yes	No
When having anal sex?	Yes	No

Do/did you often use any barrier protection (external/internal condoms, dental dams) when having sex with your last CASUAL partner?

When having oral sex?	Yes	No
When having vaginal sex?	Yes	No
When having anal sex?	Yes	No

Have you ever been tested for STI's?

- Yes
- No

Have you been tested for STI's since turning 60?

- Yes
- No

Have you been tested for STI's in the past 6 months?

- Yes
- No

Rate the likelihood you would be tested for STI in the following circumstances?

	Unlikely				Likely
I have symptoms (i.e., changes in your body, rashes or discharge)	1	2	3	4	5
I have a new sexual partner	1	2	3	4	5
A year has passed since I was last tested	1	2	3	4	5
If my doctor suggests that I get tested	1	2	3	4	5
If my partner suggests that I get tested	1	2	3	4	5
If a friend suggests that I get tested	1	2	3	4	5

Has a doctor or health care provider ever suggested you get tested for STI?

- Yes
- No

——> If yes: Why? (presenting symptoms, regular check-up, etc.) _____

How confident are you that you would get an STI test if...[2]

	Unlikely				Likely
The test site was far away	1	2	3	4	5
You had to go on your own	1	2	3	4	5
You had to go with other people	1	2	3	4	5
If you had to wait for an appointment	1	2	3	4	5

If you knew someone there (taking test/waiting room)	1	2	3	4	5
You might see someone you know	1	2	3	4	5
You think you are going to be older than everyone else in the waiting room	1	2	3	4	5
You had to go to a walk-in clinic	1	2	3	4	5
You don't have time	1	2	3	4	5
You are not sure if a symptom is a symptom of an STI	1	2	3	4	5
Your friends have had bad experiences	1	2	3	4	5
You have had bad experiences in the past	1	2	3	4	5
If drop in sessions/appointments were available on the weekend	1	2	3	4	5
If drop in sessions/appointments were available in the evenings	1	2	3	4	5
If you could complete the test at home	1	2	3	4	5

Which of the following STIs have you been diagnosed with or treated for? Select all that apply.

- Genital shingles (Herpes Simplex)
- Human papillomavirus (HPV, Genital warts)
- Hepatitis B
- Chlamydia
- Syphilis
- Gonorrhea (the clap)
- HIV/AIDS (Human immunodeficiency virus/Acquired immunodeficiency syndrome)
- Trichomoniasis (Trich)
- Pubic lice, crabs
- Unsure of exact diagnosis
- None of the above.

——> If any:

Where any of these diagnoses/treatments since you turned 60 years old?

- o Yes
- o No

Have you ever experienced difficulty... Select all that apply [1]

- □ having sex (such as not being physically able to engage in sex)?
- □ lack of desire or lack of arousal?
- □ enjoying sex (such as pain, fear, feeling nervous)?
- □ using protection (such as condoms, dental dams, or other barrier methods)?
- □ accessing sexual health services (such as no clinics that provide wheel-chair access)?
- □ getting the sexual health education you need?
- □ Have you had any other difficulty linked to your sexual health? (Please describe it…)

Do you have any feedback about the study or other information you would like to share with our study team?

OPEN TEXT BOX

Thank-you for taking the time to complete this survey! If you would like to be entered into a draw for one of five $50 cash honorariums, then please enter your email address or phone number:

If you would like to be considered for a follow-up phone/online interview as part of this study (estimated to take 1-2 hours, with compensation of $50), then please enter your email address or phone number:

End of Survey

[1] Centre for Communicable Diseases and Infection Control (Canada), & Public Health Agency of Canada. (2012). Canadian sexual health indicators survey. Public Health Agency of Canada.

[2] Martin-Smith, H. A., Okpo, E. A., & Bull, E. R. (2018). Exploring psychosocial predictors of STI testing in university students. BMC Public Health, 18(1), 664-664.

[3] Mann-Jackson, L., Alonzo, J., Garcia, M., Trent, S., Bell, J., Horridge, D. N., & Rhodes, S. D. (2021;2020;). Using community-based participatory research to address STI/HIV disparities and social determinants of health among young GBMSM and transgender women of colour in north carolina, USA. Health & Social Care in the Community, 29(5), e192-e203.

Community Resource List

The following list of community resources has been collected to provide further support around topics covered within this survey.

Get Checked Online is a free and confidential online sexually transmitted infection testing service provided by the BC Centre for Disease Control. It is only currently available for people who have access to participating LifeLab locations in Victoria, Duncan, Vancouver, Kamloops, Kimberley, and Nelson.

Get Checked Online: https://getcheckedonline.com/Pages/default.aspx

Sexual Health Resources:

Action Canada for Sexual Health and Rights: Works to advance and uphold sexual and reproductive health and rights in Canada and globally. https://www.actioncanadashr.org/
Centre for Sexuality: https://www.centreforsexuality.ca/learning-centre/sexuality-aging/
Island Sexual Health: https://www.islandsexualhealth.org/
Options For Sexual Health: To champion and celebrate the sexual health of all people in BC by supporting, providing, and promoting inclusive and accessible health care and education. https://www.optionsforsexualhealth.org/
SEX SENSE Line: A confidential, non-judgmental telephone service providing information and referral regarding reproductive health and sexuality, including contraception, sexually transmitted infections, pregnancy options (including parenting, adoption, and abortion), pleasure, sexual orientation, and sexual assault. Also provides referrals regarding clinics, pregnancy and STI tests, and emergency contraception. 1-800-SEX-SENSE (1-800-739-7367)
Sexually Transmitted Infections Clinics: http://www.bccdc.ca/our-services/our-clinics/sexually-transmitted-infections-clinics
Vancouver Island Women's Clinic: https://www.viwc.ca/

Healthy Ageing Specific Resources:

Healthy Aging CORE (Collaborative Online Resources & Education) British Columbia: The knowledge hub for community-based seniors' services organizations and allied agencies and individuals in British Columbia. https://bc.healthyagingcore.ca/
Seniors Serving Seniors of BC: Seniors Serving Seniors is a registered non-profit charitable society in British Columbia that supports the well-being of seniors. We are the premier organization in connecting the information needs of seniors with relevant resources and programs. https://sssbc.org
411 Seniors Centre (Lower Mainland): A multicultural resource centre where community, volunteers, and staff address seniors' issues and concerns. www.411seniors.bc.ca

Appendix 6 - Interview Guide

Pre-Interview Questionnaire

1. What is your current age?

_____

2. What is your racial identity? Select all that apply:

- ☐ Arab
- ☐ African
- ☐ Afro-Canadian
- ☐ Afro/Caribbean Canadian
- ☐ Caribbean
- ☐ Caucasian (White)
- ☐ Chinese
- ☐ European (such as Italian, Portuguese, Polish, Ukrainian, French, Scottish, Irish, British, Hungarian, Spanish)
- ☐ Indigenous- First Nations
- ☐ Indigenous- Inuit
- ☐ Indigenous- Métis
- ☐ Filipino or Filipina
- ☐ Japanese
- ☐ Jewish
- ☐ Korean
- ☐ Latin American

- ☐ Middle Eastern (such as Iranian, Afghan, Iraqi)
- ☐ Mixed race or Multiracial
- ☐ South Asian (such as Indian, Pakistani, Sri Lankan)
- ☐ Southeast Asian (such as Cambodian, Indonesian, Laotian, Malaysian, Vietnamese)
- ☐ West Asian (such as Afghan, Iranian)
- ☐ None of the above quite describe me. I describe my racial identity as:

  _____

2. a) Do you identify as Two-Spirit? (question only appears only if identified as Indigenous)

- o Yes
- o No

3. Which of the following religious or spiritual traditions do you currently follow? Select all that apply.

- ☐ None
- ☐ Buddhist
- ☐ Catholic
- ☐ Hindu
- ☐ Indigenous
- ☐ Jehovah's Witness
- ☐ Jewish
- ☐ Muslim

- ☐ Orthodox
- ☐ Protestant
- ☐ Sikh
- ☐ Spiritual but not associated with a specific religion
- ☐ None of the above work for me. I describe my spiritual tradition as:

  _____

4. How important is your religion/spirituality to you? Please select the option that fit best at this time.

- o Not at all important
- o Not so important
- o Somewhat important
- o Very important
- o Extremely important

5. What is your gender identity? If you have lived experience as trans, a history of gender transition, or are transgender, please select the gender(s) you identify as. Please select the option(s) that fit best at this time.

- ☐ Agender
- ☐ Genderfluid
- ☐ Genderqueer
- ☐ Non-binary

- Trans women
- Woman
- I prefer to use another term: _____

6. How would you describe your sexual orientation? Please select the option(s) that fit best at this time.

- Straight/Heterosexual
- Bisexual
- Gay
- Lesbian
- Queer
- Asexual
- Pansexual
- Heteroflexible
- Homoflexible
- Questioning
- I prefer another term_____

7. What is your current annual household income?

- Less than $10,000
- $10,000 - $19,999

- $20,000 - $29,999
- $30,000 - $39,999
- $40,000 - $49,999
- $50,000 - $59,999
- $60,000 - $69,999
- $70,000 - $79,999
- $80,000 - $89,999
- $90,000 - $99,999
- $100,000 or more

8. What is the highest level of education you have completed?

- Less than high school
- High school graduate or equivalent
- University or college diploma or certificate other than a bachelor's degree
- Bachelor's degree
- Graduate (PhD or Masters) or professional degree (doctor, lawyer, etc.)

9. Are you currently sexually active? By this I mean that you have had any sexual activity with another person involving your own or a partner's genitals in the past 6 months.

- Yes

- No

10. Do you use intravenous (IV) drugs (heroin, methamphetamine, opioids etc.) that are not prescribed by a healthcare provider?

- Daily
- Weekly
- Monthly
- Yearly
- I do not use intravenous (IV) drugs

Interview Questions

Theme 1: Social Determinants of Health

What has your sexual health journey been like up to this point?

What is your current relationship statues? Is it exclusive/monogamous?

Have you experienced any challenges related to accessing sexual health services? Such as living in a rural area, not having transportation, or not knowing where to go?

Do you have a primary care provider (family doctor, General Practitioner, or Nurse Practitioner) where you are currently living? How do you access if not? Do you think this has impacted your sexual health (such as getting tested for STIs)?

Theme 2: STI-related Information

Have you ever been diagnosed with an STI? If so, which STI?

How did you feel when you were diagnosed with this STI?
OR if never had an STI…
How do you think you would feel if you were to be diagnosed with an STI?

Has a doctor or health care provider ever suggested you get tested for sexually transmitted infections? Why or why not?
If yes->How old were you the last time this happened? Did you take their suggestion and get tested? How did it make you feel when this was suggested by your doctor?

Have you used STI prevention measures, including external/internal condoms or dental dams, with previous partners? Why or why not? Do you use them now?

Do you think being unable to get pregnant has impacted your likelihood of using condoms? In what ways?

Theme 3: Stigma/Ageism

Have you ever made to feel uncomfortable when accessing the sexual health care you needed? (such as by a healthcare worker or the environment?)

How do you think being a woman has impacted your sexual health care experiences?

How do you think being an older adult has impacted your sexual health care experiences?

How do you think your other identities (e.g., racial, sexual, gender, life situation) have influenced your sexual health care experiences?

Is there anything else that hasn't been discussed that affects your sexual health?