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ORIGINAL PAPER

Indigenous Mothers' Perspective on Sexual Health in Northwest Territories, Canada: Results from the Maternal and Infant Health Project

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Abstract

Purpose In Northwest Territories (NWT), Canada, infection rates for chlamydia, gonorrhea, and syphilis are three to ten times higher than the national averages and have been steadily increasing. However, data are scarce on the socioeconomic, psychological, and behavioural factors associated with the proliferation of sexually transmitted infections (STIs) in NWT. To this extent, this study explores Indigenous mothers' perspectives on sexual health, STI risk factors and healthcare-seeking behaviours in NWT.

Methods Quantitative and qualitative data were collected using a semi-structured questionnaire. Participants consisted of Indigenous mothers who were pregnant or had given birth within three years.

Results Of the 161 participants, with a mean age of 29.61 years, 70.81% lived with a partner, and 93.17% had given birth within the previous three years. Participants felt STIs were a concern (68.32%) and felt comfortable asking a male partner for safe sexual relations (67.70%). The healthcare system was the main source of STI information for most participants (83.85%). The main STI risk factors participants mentioned were young age, unsafe sexual relations, and substance use. Participants reported embarrassment, protecting personal and familial well-being, and confidentiality as factors affecting STI healthcare-seeking behaviour.

Conclusion STIs result from an interaction between age, sexual behaviour, substance use, health literacy, and the historical and sociocultural contexts stigmatizing STIs and impacting women's abilities to demand safe sexual relations. Understanding these factors in a remote Indigenous context is vital to designing and implementing effective health and social interventions to reduce the prevalence of STIs in NWT.

Keywords Indigenous mothers · Sexual health · Sexually transmitted infections · Reproductive health · Stigma

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Introduction

Sexual health, defined by the World Health Organization (WHO) as "a state of physical, emotional, mental and social well-being related to sexuality, is not merely the absence of disease, dysfunction, or infirmity" [1] and is important for good quality of life. Sexually transmitted infections (STIs) represent a major public health concern globally [2–4]. During pregnancy, STIs can lead to ectopic pregnancies, premature births, and congenital abnormalities [5]; some STIs, such as human papillomavirus infections, can also be transmitted to infants [6].

In Canada, STI prevalence increased substantially between 2010 and 2019, with gonorrhea and syphilis increasing by 182% and 393%, respectively [2]. In 2019, chlamydia was the most prevalent STI in Canada, affecting females more than males (male: female ratio of 0.7:1.0), with 47.2% of all patients being females aged ≤ 30 [2]. Also, in 2019, the highest infection rates for chlamydia, gonorrhea, and syphilis were recorded in Yukon, Nunavut, and Northwest Territories (NWT) [2]. In the same year, NWT declared a syphilis outbreak and a case of congenital syphilis in a newborn was reported [7].

Socioeconomic, psychological, and behavioural factors, including stress, low socioeconomic status, crowded housing, increased alcohol consumption, and substance use, may be associated with the proliferation of STIs in Indigenous communities [8–10]. The history of trauma and colonization experienced by Indigenous communities has also been associated with the early onset of sexual activity, which can further the spread of STIs [11, 12]. Specifically, residential schools operated in Canada between 1883 and 1996, where more than 150,000 Indigenous children were forcibly relocated to and subjected to physical, psychological, sexual, and spiritual abuse, resulting in historical and intergenerational trauma [13]. This trauma, which has in many instances directly contributed to familial dysfunction, high-risk sexual behaviours, and sexual abuse [11], continues to impact Indigenous families across Canada [12]. Indigenous communities in the North may experience further barriers to healthcare access, including remoteness [14] and limited service availability [15], and to optimal sexual health outcomes.

Sexual behaviour, which is a risk factor for STIs [16], refers to the type (i.e., casual or long-term) and number of sexual relations (i.e. having multiple sex partners) and encompasses factors such as engagement in sex with sex workers and unsafe sex (i.e., not using condoms) [16–18]. Health literacy, including STI health literacy, impacts sexual behaviour, sexual health [17, 19], and healthcare-seeking behaviour [20]. Globally, adolescents had the highest incidence rates of STIs between 2010 and 2019 [21]. A large body of evidence suggests that school-based sexual health education can reduce high-risk sexual behaviour and improve the sexual health and emotional stability of youths [22].

Additionally, women are at a higher risk for STIs due to anatomical and physiological differences in reproductive organs between women and men and are more likely to be asymptomatic than men, presenting milder symptoms during the earlier stages of infection [5]. Normal physiological signs may mask some symptoms in women [23]. Also, women are more likely to experience long-term effects of STIs, such as pelvic inflammatory disease and infertility [23, 24].

The epidemiology of STIs is complex, and heterogeneous risk factors should be considered, including behavioural, demographic, cultural, and socioeconomic factors, in addition to treatment challenges, such as resistance to antimicrobial drugs [25, 26]. Continuous research is required to understand these risk factors within different populations [25].

Given the importance of sexual health, the endemic nature of STIs in NWT, and the scarcity in the literature regarding STIs in NWT, this study aimed to explore the perspectives of Indigenous mothers on sexual health, STI risk factors, and STI healthcare-seeking behaviours in NWT. Such understanding can contribute to evidence-based public health practices and policies to reduce STIs.

Methods

Setting

This study was part of the Maternal and Infant Health Project, a large community-based intervention project aimed at improving infant and maternal health in NWT. Data for this study were collected within three communities: Community A was a remote, isolated community with limited healthcare services; Community B was a semi-remote administrative centre with year-round road access, a public health centre, and a hospital, which serves surrounding communities; and Community C was a major city with various health services, which serve surrounding remote communities and provide secondary and some tertiary healthcare for NWT.

Ethics

Ethical approval for the project was granted by the University of Alberta's Research Ethics Board, and a research license was obtained from the Aurora Research Institute in Inuvik, NWT. A research agreement was also signed with

the Department of Health and Social Services, Government of NWT.

Study Design and Data Collection

This study recruited self-identifying Indigenous mothers who were pregnant at the time of the study or had given birth within three years prior. The study followed a community-based participatory approach [27]. A Community Advisory Board (CAB), which included community organizations and Elders, guided the project. Recruitment was done through a community coordinator in Community A, telephone calls and presentations to community organizations in Community B, and by partnering with local community agencies in Community C. Advertisements were also placed on social media, community radio, and a local TV channel, and posters were placed in food stores and health centers and distributed to community groups.

Data were collected utilizing an interviewer-administered questionnaire developed based on the study goals, a literature review, and the researchers' extensive community experiences. The questionnaire was further informed and validated by the CAB and pilot-tested with community members prior to the commencement of the study. Closed and open-ended questions were included regarding pregnancy experience and history, health status, health literacy, maternal healthcare services, medical travel, STIs, accessibility of STI services, and opportunities for service improvement. The mean interview duration was 30 min, and interviews were administered in the local project office, the participant's home, or any other convenient and private location. Interpretation in the local language was offered if participants requested it. Interviews were audio-recorded, transcribed verbatim, translated into English as necessary, and verified.

All participants provided written informed consent for participation in this study and the audio-recording of interviews and received a $25 gift card honorarium to a local grocery store. Questionnaire responses were recorded in REDCap (version 8.1.1).

Data Analysis

Qualitative data, including interview transcripts, were analyzed utilizing thematic analysis [28]. The WHO's framework for sexual health programs (SHP) informed the design of the code book and the discussion of findings [1]. The framework defines five large-scale factors that affect sexual health: laws and policies, education, society and culture, economics, and the healthcare system [1]. The framework recognizes the impact of downstream or proximal factors, including sexual behaviour and individual risk factors, while emphasizing the effect of the upstream or distal factors, including culture and socioeconomic status, on sexual health [1]. The factors of law and policies, as well as economics, were not explored in this study. A recursive process was followed for reading the data, coding the data, generating themes, and reviewing and finalizing themes and subthemes [28]. Two team members (SD, MZ) independently analyzed the data, and a third team member (SJ) resolved any disagreements and verified the coding accuracy. The data were analyzed manually, as most responses consisted of short answers. Descriptive statistics for the quantitative variables were produced using SAS statistical software (SAS Version 9.4, SAS Institute Inc., Cary, NC).

Results

Descriptive Statistics

A total of 161 women were interviewed across Community A ($n=24$), Community B ($n=69$), and Community C ($n=68$). Participants' mean age was 29.61 years (SD = 5.94), and approximately two-thirds of participants were between 25 and 35 years old. Participants' mean age for the first pregnancy was 21 years. Most participants lived with a partner (70.81%) and had given birth within three years prior to this study (93.17%). Educational levels attained were post-secondary (38.51%), high school (18.01%), and less than or some high school (42.86%). One-third (36.65%) of participants had full or part-time employment (Table 1).

About two-thirds (68.32%) of participants felt STIs were a concern, and (67.70%) felt comfortable asking a male partner for safe sexual relations. The healthcare system, including public health, family clinics, and nurses, was the most common source of information reported by participants (83.85%), followed by the Internet (41.61%). Most participants (82.61%) felt comfortable accessing STI-related services at the community health centre (Table 2).

Qualitative Data Analysis

Thematic analysis revealed five themes: sexual health awareness in the community, STI risk factors, society and culture, seeking sexual health services, and the healthcare system. Some of these themes were categorized further into subthemes presented in Bold. Themes and direct quotations are presented in the text and Table 3.

Table 1 Demographic characteristics of Indigenous women residing in three communities in Northwest Territories of Canada ($n = 161$)

Variables	Community			
	A	B	C	All
Participants, n (%)	24 (14.91)	69 (42.86)	68 (42.24)	161 (100.00)
Age (years) – Mean (SD)	32.04 (5.76)	29.36 (5.96)	29.04 (5.88)	29.61 (5.94)
Age of first pregnancy (years) – mean (SD)	20.35 (4.96)	20.76 (4.24)	21.27 (5.79)	20.94 (5.04)
	n (%)	**n (%)**	**n (%)**	**n (%)**
Currently pregnant				
Yes	3 (12.50)	13 (18.84)	12 (17.65)	28 (17.39)
No	20 (83.33)	55 (79.71)	56 (82.35)	131 (81.37)
Unsure	1 (4.17)	1 (1.45)	0 (0.00)	2 (1.24)
Gave birth in last 3 years				
Yes	22 (91.67)	65 (94.20)	63 (92.65)	150 (93.17)
No	2 (8.33)	4 (5.80)	5 (7.35)	11 (6.83)
Age categories (years)[a]				
< 25	2 (8.33)	14 (20.29)	15 (22.06)	31 (19.25)
25–35	14 (58.33)	46 (66.67)	43 (63.24)	103 (63.98)
> 35	7 (29.17)	9 (13.04)	10 (14.71)	26 (16.15)
Ethnicity[a]				
First Nations	24 (100.00)	17 (24.64)	41 (60.29)	82 (50.93)
Inuit	0 (0.00)	43 (62.32)	7 (10.29)	50 (31.06)
Inuit and First Nations	0 (0.00)	5 (7.25)	3 (4.41)	8 (4.97)
Métis	0 (0.00)	0 (0.00)	11 (16.18)	11 (6.83)
Education[a]				
Less than or some high school	17 (70.83)	29 (42.03)	23 (33.82)	69 (42.86)
High school diploma or equivalent	3 (12.50)	12 (17.39)	14 (20.59)	29 (18.01)
Post-secondary education	4 (16.67)	28 (40.58)	30 (44.12)	62 (38.51)
Employment status[a]				
Full time	5 (20.83)	17 (24.64)	21 (30.88)	43 (26.71)
Part time	5 (20.83)	9 (13.04)	2 (2.94)	16 (9.94)
Maternity leave	2 (8.33)	10 (14.49)	11 (16.18)	23 (14.29)
Student	0 (0.00)	6 (8.70)	3 (4.41)	9 (5.59)
Not working[b]	12 (50.00)	26 (37.68)	30 (44.12)	68 (42.24)
Having a partner/spouse[a]				
No	4 (16.67)	18 (26.09)	22 (32.35)	44 (27.33)
Yes	19 (79.17)	50 (72.46)	45 (66.18)	114 (70.81)
Living with a partner/spouse				
No	1 (5.26)	2 (4.00)	5 (11.11)	8 (7.02)
Yes	18 (94.74)	48 (96)	40 (88.89)	106 (92.98)

[a] Missing data of three or less observations were omitted

[b] Not working includes the following response options: not working and looking; not working and not looking, and unable to work

Theme 1: Sexual Health Awareness in the Community

This theme denotes participants' awareness of sexual health, STIs, and STI informational sources, as well as suggestions for ways to further improve **sexual health awareness**.

Many participants were aware of STIs and the prevalence of STIs within the communities. Many also described encountering public health promotions addressing STIs:

> *"I just keep hearing about them, and they keep putting the posters up. And I think it was kind of crazy how many times I got tested for them while pregnant."*

Some participants adopted STI-safe sex behaviour:

> *"Just to protect themselves. Everyone knows; that stuff is on the rise."*

However, some participants were unaware of the spread of STIs within local communities:

> *"Haven't heard of anything."*
> *"Where is the information on this? Is it being broadcasted? Yeah, there are posters, but are they really talking to people about this?"*

Table 2 The perspectives of Indigenous women towards sexually transmitted infections (STIs) in three communities in Northwest Territories of Canada ($n = 161$)

Variables	Community *n* (%)			
	A	B	C	All
STIs are a concern [a]				
Yes	12 (50.00)	38 (55.07)	60 (88.24)	110 (68.32)
No	3 (12.5)	4 (5.80)	2 (2.94)	9 (5.59)
Unsure/Don't know	6 (25.00)	25 (36.23)	6 (8.82)	37 (22.98)
Feel comfortable accessing STI healthcare services				
Yes	14 (58.33)	57 (82.61)	62 (91.18)	133 (82.61)
No	1 (4.17)	6 (8.70)	5 (7.35)	12 (7.45)
Unsure/Don't know	6 (25.00)	4 (5.80)	1 (1.47)	11 (6.83)
Sources of STI information[b]				
Healthcare system	10 (41.67)	69 (100.00)	56 (82.35)	135 (83.85)
Internet	15 (62.50)	20 (28.99)	32 (47.06)	67 (41.61)
Mother	0 (0.00)	1 (1.45)	0 (0.00)	1 (0.62)
Sister	0 (0.00)	1 (1.45)	0 (0.00)	1 (0.62)
Friend	0 (0.00)	0 (0.00)	1 (1.47)	1 (0.62)
Books	1 (4.17)	0 (0.00)	0 (0.00)	1 (0.62)
I don't know	0 (0.00)	1 (1.45)	1 (1.47)	2 (1.24)
Prefer not to answer	1 (4.17)	1 (1.45)	0 (0.00)	2 (1.24)
Feel comfortable asking a male partner for safe sexual relation				
Yes	10 (41.67)	51 (73.91)	48 (70.59)	109 (67.70)
No	4 (16.67)	3 (4.35)	8 (11.76)	15 (9.32)
Unsure/Don't know	6 (25.00)	11 (15.94)	10 (14.71)	27 (16.77)

[a] Missing data of three or less observations were omitted

[b] Participants answered all that applied

Participants identified two **main sources of STI information**: the Internet and healthcare workers, including nurses, general physicians, and specialists (Table 2).

Public health websites and Google were the main Internet resources mentioned by participants:

> *"The Department of Health and Social Services website is really great."*

Participants suggested methods for **improving STI awareness** in the communities, such as the provision of information through television and local radio stations, posters in public spaces, and advertisements on websites frequently visited by community members:

> *"Put information on Internet, social media, "buy n sell" websites, use those things that everyone is seeing, public places."*

Educating youth on sexual health was described as paramount by participants:

> *"Talking to teenagers about STI prevention. A lot of the teenagers here I know don't really feel comfortable talking about it or asking about how to go about it."*

Participants also discussed how **STI education in schools** might be critical if parents were hesitant to talk about STIs:

> *"I think they should be more in the school. Part of class. Because some parents can't even talk to their own kids about it. They should know about it instead of like getting it and then learning about it."*

Theme 2: STI Risk Factors

This theme denotes participants' perspectives on STI risk factors: young age, sexual relations, and substance use.

Participants described high rates of exposure to STIs in **young age**:

> *"A lot of teens are getting into sex and not being protected."*

Youth potentially having limited knowledge and understanding of STIs was also discussed by participants:

> *"My sister, before she was an adult, she had the signs and symptoms, but she thought it was something else. When she told me about it, I knew what it was right away. And my brother, he's a teenager, I mentioned*

Table 3 Participants' quotes

Theme: STI risk factors		
Subtheme	#	Participant quote
Young age	1	*"Just because that recent study that came out about syphilis about how it's higher here than anywhere in the territory. I just think that a lot of teens are not using protection they are going out drinking and using dating sites that people go on and are not using protection having multiple partners."* *"Even though it is well advertised, nurses who visit school talk about it, it is still not prevented. Maybe we could hand out condoms, haven't seen anyone hand these out when I was in school."*
Sexual relations	2	*"Not sure. Too many people having unsafe sex."* *"People go in the bar and they meet someone or they go out anywhere. I don't know how to say it. I don't think they do talk about it but I have a friend who was seeing someone for a while and she decided to get a check up. She suspects he is seeing other girls so she wants to be on the safe side."* *"Just people like to jump into different beds. People are whores in this town. I don't think STI's are on the minds of those people."*
substances or alcohol use	3	*"It's just been really on the rise and it's not healthy for women to get that because they can have problems having kids or health problems down the road. I think it mostly has to do with drugs and alcohol."*
Theme: Society and culture		
Subtheme	**#**	**Participant quote**
Stability and length of relations	4	*"I think it's because we are older, and we've heard more information."* *"If it's something they really want, most of the time its peer pressure or they don't expect it. I think a lot of women feel uncomfortable asking. I know I would."*
Subtheme	**#**	**Participant quote**
Stigma	5	*"People should be more vocal about it and not keep it a secret."* *"If you are going with a child [to public health] everyone knows why you're going there. But if you are a young person there is a stigma that is being built up."* *"I don't know. I always usually just go. Since the birth of my first one I always get screened regularly. [People] are probably just shy."*
Theme: Sexual health awareness in the community		
Subtheme	**#**	**Participant quote**
STIs Awareness	6	*"Just cause I see posters everywhere so they must know about it."* *"The [Department of Health and Social Services] website is really great, there are a lot of great posters around town. They are hilarious."* *"Hear it on the radio. Before I went to treatment it was all over the news. Kind of freaked me out."* *"I think they do really good programs in school. Public health ladies do a really good job. Everyone I know and talk to is open about it."* *"Never heard of it before."* *"I haven't heard. Nobody is talking about it."* *"I don't go out so I don't really know."*
Improving STI awareness	7	*"Make information more available, condoms everywhere available."* *"I'd say mostly doing presentations and school for the middle school and high school since a lot of kids around here starts that stuff at a very young age. So, I'd say start doing presentations and little activities for kids to make it seem interesting."* *"For young people, it's about discretion. Making [information] more available in schools. You could probably go to the school counsellor, but a lot of kids don't like to do that. It'd be smarter if during orientation you were giving it out in packages. Just offering it in more access points, rather than having it so they have to go get it. Kids are shy."*
Theme: Factors related to seeking sexual health services		
Subtheme	**#**	**Participant quote**
Embarrassment	8	*"Just because I'm an older person. I'd probably be embarrassed, [but] if I was a 15 year old going there to ask questions."* *"I am a really shy person. So, I don't think I would be [going]."*

Table 3 (continued)

Theme: STI risk factors		
Subtheme	#	Participant quote
Protecting personal and familial well-being	9	*"If it's needed, I would feel comfortable."* *"It's just a normal thing to do if you are sexually active."* *"I guess going to get a check up regularly would make me more comfortable knowing if I had anything or not."* *"Just to do a follow up to see if I had any disease because I am mostly healthy but I am breastfeeding so for my daughter to be healthy too."* *"Just for the safety of myself and my kids. Any mother wouldn't want their kids to get STIs that could be transferred through kissing. Scary. Would want to know how to prevent."*
Confidentiality	10	*"Knowing that either I am getting the help, or someone is getting the help with that. No one should ever have any type of that even though its just made out of fun."* *"I know that the nurse told us that you have priority when you go to the lab and you get to go in right away but how do you go about that? Like everyone would know."* *"Maybe a little more making sure that they are feeling like they are anonymous. If someone who is in the 20–30 s going to Public Health there are some assumptions as to why you are going there."* *"In [my community] we are really fortunate. Because we have the service that [the nurse] is able to provide where you call and you get tested the next business day. And it's completely anonymous. You don't have to go into the clinic. You just go to Public Health."* *"I feel like I have the protection of confidentiality, which I wouldn't necessarily have in a smaller community."*
Theme: Healthcare system		
Subtheme	#	**Participant quote**
Effective communication	11	*"Love public health department here, very comfortable and understanding. They Will offer to attend meetings with clients if they are uncomfortable."* *"I feel like the clinic here they are very grouchy with the patients. I feel like some of them are just like…people want to see the doctor and they have a lot of stuff going on and if the patients are going in there in a bad mood, they have that right but the staff should be aware of this sort of thing."*

the STI and stuff, how many there were. He was like dumbfounded. He was like, wait, there's more than one? They do teach it, but he thought there was only one."

The provision of free condoms to youths was seen as important for the reduction of STI:

"I think younger people are having fun times and might not always have condoms or have those sorts of things available."

Participants suggested that **sexual relations**, including having multiple sex partners and casual sex, can expose individuals to STIs:

"I hear about it often. Syphilis and gonorrhea are really bad. Just when I went to the bar a lot, you see it there. You see the casualness of it. My partner and I have been together for ten years but I don't think people are aware of how prevalent it is."

Participants suggested that the misuse of **substances or alcohol** is likely to result in engagement in unprotected sex, increasing potential exposure to STIs:

"I think a lot of sexual activity, unprotected sex happens when people are using drugs and alcohol."

It was also suggested that substance use may increase the risk of women experiencing sexual violence and consequently increase the risk of STIs:

"Nobody is careful. Or maybe you are. But other people get drunk and pass out, maybe they're a victim of rape. So yes, I think my community is at risk."

Theme 3: Society and Culture

This theme denotes participants' perceptions of the impact of society and culture on sexual health.

Participants discussed how the **stability and length of relations** might impact sexual behaviour:

"I'm comfortable with my common-law, so I tell him whatever I want to tell him."

Asking a male partner for safe sexual relations was challenging for some who felt that the male partner should be the one asking:

"I think the male should be asking."

Participants explained that fear of rejection may discourage women from requesting safe sex:

"Rejection. Don't want to be rejected."

Participants also described how the community culture regarding the **power differential** between men and women may also limit young women's abilities to demand safe sexual relations:

"A lot of our youth are very quiet. They don't speak up for themselves. A lot of our women in the North, especially the youth, think that men are superior and that if they were to ask partners to wear a condom, they'll just leave or take it the wrong way. A lot of our youth have a problem with that."

Stigma is a socially rejected characteristic that may lead to feelings of shame [29, 30]. Participants described a stigma associated with STIs, with one participant suggesting that, for adults, STIs can cause issues within relationships:

"The older you are, there's more stigma. If I got one [STI] now, I'm in a committed relationship. It's an issue."

Stigma may prevent individuals from accessing STI-related healthcare or seeking relevant health information:

"From what I know, there's a stereotype with going to public health, and the stereotype is if you're going there, you have something. If that could be broken, like probably when I went to see if I was pregnant going to public health if anyone I knew was like, oh maybe she is going there to get checked [for an STI]."

However, some participants believed that stigma should not discourage individuals from accessing healthcare:

"There is a stigma about it. But it's your health, and you have to take care of it."

Theme 4: Seeking Sexual Health Services

This theme denotes participants' willingness to seek sexual health services. Many participants were aware of STI-related healthcare services offered in the communities. Some participants were comfortable accessing such sexual health services:

"I just think it wouldn't be a problem if I had to go to primary care to ask for an appointment."

However, other participants were uncomfortable accessing these services:

"I would not feel comfortable."

Factors that further impacted participants' willingness to access sexual health services included embarrassment and concerns regarding personal well-being and privacy.

Embarrassment denotes emotions resulting from social interactions that violate personal norms or values [30, 31]. While stigma is imposed by society, embarrassment is imposed by the individual.

According to some participants, embarrassment may prevent people from seeking or accessing sexual health information:

"More education in schools. Making it more about awareness than embarrassment. I feel some youth or young adults may feel too shy or embarrassed to approach someone. If there was more education or awareness, they would feel more comfortable seeking information."

Participants explained that embarrassment may also prevent individuals from seeking sexual healthcare:

"Everyone is shy and embarrassed to ask for help."

Participants explained that, in small communities, relationships could exist between community members and the staff in the health centres, which can increase people's hesitancy to utilize STI health services. Participants also demonstrated how a **confidentiality** guarantee may encourage individuals to seek care.

"A lot of people are worried about confidentiality at the health centre. Just cause some people that work there, they know them."
"The nurses are pretty nice with it. I do believe they have a confidentiality agreement."
"I know just recently, because of the higher rates of STI, they have a private line to call or text that is confidential."

Many participants described how **protecting personal and familial well-being** might be the primary motivation for seeking STI health services:

"Just to be on the safe side."

For some participants, protecting children from STIs was the main reason for seeking STI health services:

> *"Well, you never know too. It's scary. Can't just be thinking of myself, have to think of my kids too."*

Pregnant participants emphasized the importance of regular screening for STIs:

> *"I had to go through that anyways because I am pregnant now."*
> *"I already do for my pregnancy. I had bloodwork completed for multiple STI tests and screening."*

Participants also described reducing community spread and concerns for the community's well-being as reasons for seeking STI health services:

> *"Because I wouldn't want it to spread anywhere else."*
> *"[It is] very bad. Some people don't care what they have and who they give it to. I've talked to so many of my friends about going to get the help or even just going to get pills to get rid of it, but they told me they don't care, and I just felt so disgusted. It's gotten so bad that one of my friends has herpes."*

Theme 5: Healthcare System

According to some participants, healthcare workers' **empathy** towards people's health conditions and **effective communication** with people can increase satisfaction with care:

> *"Our health centre is really open, and we can go and talk about anything. They make it really comfortable without being judged."*

Unsatisfactory experiences with healthcare professionals being not empathetic toward or considerate of patients' conditions could prevent people from seeking help:

> *"I would be uncomfortable talking about it and would be weird hearing about it. It would be good to talk to someone close in age for me. The nurse, when I was pregnant, was old and was judging me. She was like you're too young to have kids, you already have two kids, and you're 16. That's why I stopped going to my prenatal."*

Discussion

This study explored the perspectives of Indigenous mothers in NWT regarding STI risk factors, STI preventive behaviour, and STI healthcare-seeking behaviours. Consistent with the WHO's SHP framework [1], the different elements associated with STIs were grouped into five main themes (Fig. 1).

In this study, Indigenous mothers described the main STI risk factors in NWT, including casual and unsafe sexual relations, young age, and substance use. Syndemic associations between STIs, substance use, mental illness, and intimate partner violence have been previously described [32–35]. Evidence suggests that alcohol consumption, substance use, and depression [12, 36–38] have been associated with unsafe sexual behaviour in NWT [39, 40]. These risk factors are prevalent in Indigenous communities across Canada as a result of the history of colonialism, residential schools, intergenerational trauma, and low socioeconomic status [12, 36–3841]. In Canada, the prevalence of STIs varies by age, gender, and STI type; chlamydia is most prevalent in young females (15–24 years), gonorrhea is most prevalent in young males (20–29 years), and syphilis is most prevalent in males between 25 and 39 years of age [2]. Unmarried individuals, youth, substance users, individuals who identify as 2SLGBTQI+, and individuals with less than high school education are at higher risk of exposure to STIs in Canada [33–35].

Regarding sexual health, the SHP framework highlights the influence of society and culture on sexual health through norms and values related to family, power differences between men and women, sexuality, and sexual health. This study identified two factors affecting sexual health: the ability of women to demand safe sex and the stigma surrounding STIs. In other cultural or ethnic contexts, stigma has been identified as a critical barrier to accessing STI health services [42, 43]. In NWT, stigma, power differences between partners, and intimate partner violence were also associated with the inability to negotiate safe sex and contraceptive utilization with partners [44, 45]. Residential school trauma experienced by Indigenous community members in Canada may have also impacted women's abilities to negotiate sexual safety and created intergenerational shame and stigma regarding the body, sexuality, and STIs [46, 47]. Still, many women in this study felt comfortable asking for safe sex, indicating self-efficacy [44]. The findings of this study also suggest that stable relationships and older age may facilitate healthier sexual behaviour; however, other studies in Canada have described the opposite, with older adults and people in stable relationships being less likely to engage in safe sex [48]. Further research on this topic is warranted.

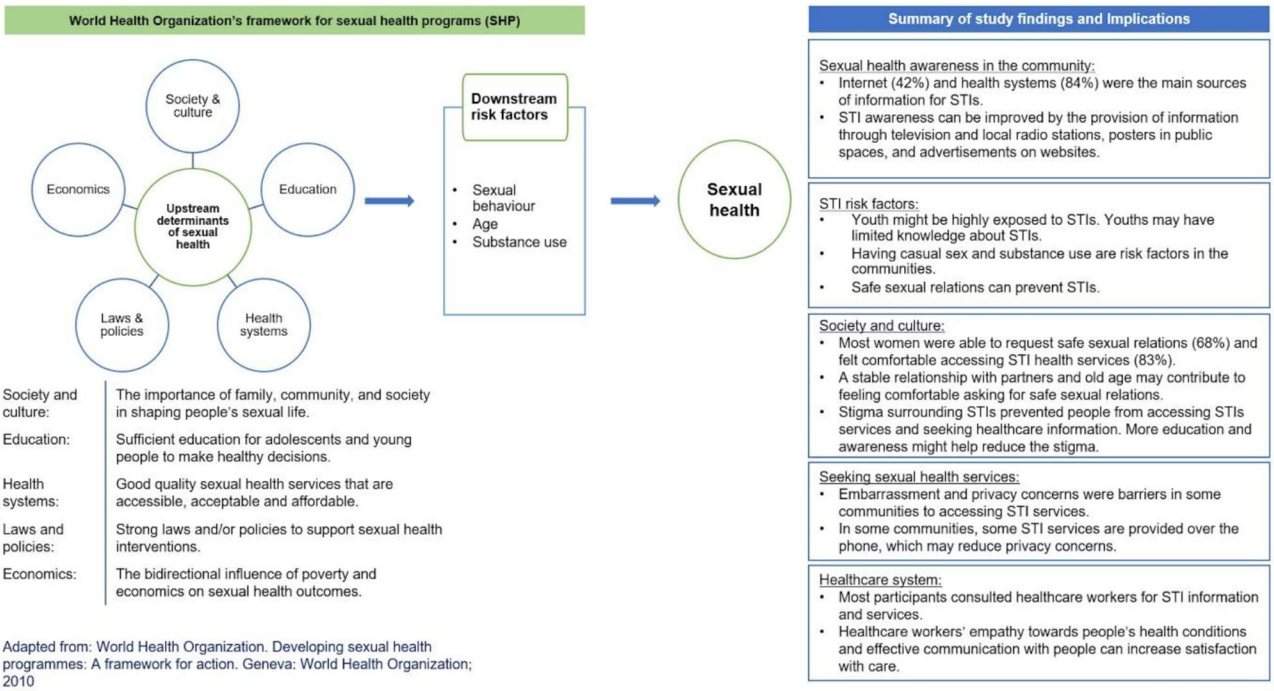

Fig. 1 Summary of the perspectives of Indigenous women towards sexual health and sexually transmitted infections (STIs) in Northwest Territories, Canada, using the World Health Organization's framework for sexual health programs

Sexual health awareness, including familiarity with sexual health promotions in the communities, was also a theme that emerged in this study, with participants emphasizing the need to establish or improve school-based sexual health education. Such programs can improve youth understanding of sexual diversity, decrease rates of intimate partner violence, and improve healthy and safe relationship-building skills [34], all of which may lead to lower rates of STIs [49–51]. However, sexual health education within schools may not be effective or readily accepted in Indigenous communities due to cultural barriers preventing students and teachers from discussing sexual health topics [41, 52, 53]. One of the two main sources of sexual health information reported by Indigenous mothers in this study was the Internet; however, in some communities, only 33–50% of the households have access to the Internet [54]. Indigenous mothers also reported healthcare professionals as a main source for STI information and the healthcare system overall as vital to STI prevention and the provision of sexual healthcare services. Traditionally, the preservation and transfer of traditional culture in Indigenous communities, including that surrounding sexual norms, social relations, and family, have been the responsibility of the Elders [55]. Colonialization profoundly submerged the role of Elders as knowledge-holders in communities [55]. Restoring Elders' roles may help create and implement culturally sensitive sexual health programs; however, further research is required [52, 55].

Embarrassment, privacy and concern over personal and familial well-being also emerged as factors impacting seeking sexual health services in this study, reinforcing existing evidence in Canada and other contexts [56–58]. However, in the Indigenous contexts, evidence is scarce, and further research is warranted. In Canada, online sexual health screening services could enable individuals to request self-administered screening kits and are a preferred source of information since people's privacy is protected [58]. Protecting the confidentiality of STI health services may reduce embarrassment and improve sexual healthcare service utilization [59]; online STI health services [60] and direct-to-consumer STI testing services [61] may help address privacy and confidentiality concerns. However, the effectiveness of these service delivery modes must be assessed considering the limited Internet access in some communities. Concerns regarding well-being may also increase seeking sexual healthcare. The health belief model is a theoretical framework that outlines how well-being and perceived outcomes of health risks influence individuals' actions to protect health [62]. Social and cultural contexts can also affect health beliefs and perceptions of health risks and, as such, may significantly influence health-seeking behaviour [63]. The hesitancy to access sexual health services has been documented in previous research within rural settings [64]. Communication with healthcare professionals was an essential factor in Indigenous mothers' overall

healthcare experiences; this is consistent with the literature regarding the quality of healthcare [65, 66], which shows that empathetic communication is paramount in sexual and reproductive healthcare services [67]. As such, culturally sensitive sexual health education led by parents or healthcare professionals may profoundly impact the sexual health of youths in Arctic communities [41, 52, 55, 68].

In addition to the importance of individuals and communities in promoting sexual health, the healthcare system also plays a critical role. Effective communication and positive experiences with healthcare professionals were important factors in Indigenous mothers' overall satisfaction with sexual health services in this study. This is consistent with the literature regarding the quality of healthcare [65, 66], which shows that empathetic communication is paramount in sexual and reproductive healthcare services [67]. As such, culturally sensitive sexual health education led by parents or healthcare professionals may profoundly impact the sexual health of youths in Arctic communities [41, 52, 55, 68].

Given the endemic nature of STIs in NWT and the scarcity of relevant information, the present study is timely. The community-based participatory approach and study design allowed for a deep understanding of various factors related to STIs among Indigenous communities in NWT. There were some limitations. Participants were either pregnant or had recently given birth and may have received STI information during prenatal visits in healthcare settings, which might have increased participants' level of awareness of STI information compared to the general community members. The findings also cannot be generalized to all Indigenous communities due to sociocultural differences.

Conclusion

STIs result from an interaction between age, sexual behaviour, substance use, health literacy, and the historical and sociocultural context stigmatizing STIs and impacting women's ability to practice healthier sexual behaviour. Additionally, privacy concerns, stigma regarding STIs, and barriers to communication with healthcare professionals can prevent individuals from seeking necessary sexual healthcare services. Understanding these factors is vital to designing and implementing effective health and social interventions to reduce the prevalence of STIs in NWT.

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Declarations

Ethics Approval The Research Ethics Board at the University of Alberta issued the research ethics certificate. Following the Scientists Act of Northwest Territories, researchers also obtained a research license from the Aurora Research Institute.

Consent The authors obtained informed written consent from the participants.

Competing Interests The authors have no relevant financial or non-financial interests to disclose.

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