Gender-based discrimination and son preference in Punjabi-Canadian families: a community-based participatory qualitative research study

Susitha Wanigaratne, Aila Januwalla, Manvir Bhangu, Pamela Uppal, Amrita Kumar-Ratta, Amanpreet Brar, Cindy-Lee Dennis, Marcelo Urquia

ABSTRACT

Objectives To conduct a qualitative study, guided by the principles of community-based participatory research, with the following objectives: (1) to provide a conceptual framework describing the drivers of son preference; (2) to understand experiences of son preference among Punjabi-Canadians; and (3) with this understanding, identify and co-design an appropriate educational tool.

Design, setting, participants, methods Qualitative study consisting of four bilingual (Punjabi and English) focus group discussions with 11 mothers, 4 fathers and 17 grandmothers in Toronto and Brampton, Canada. Participants were queried about experiences and perspectives related to reproductive decision-making, gender equity and son preference, and for appropriate approaches to reducing inequities. Transcripts were simultaneously translated and written in English and thematic analysis was conducted. An infoposter was identified as a feasible educational tool and was co-designed by researchers and community partners.

Results Participants identified patriarchy (ie, married sons reside with parents, married daughters with in-laws) and patrilineality (ie, sons inherit assets, daughters’ husband receives a dowry) as structural precursors to proximal drivers (ie, old-age security) of son preference. Mothers’ and grandmothers’ value to their families depended strongly on having a son but did not guarantee security. Pressures (ie, internalised discrimination, reproductive coercion) to conceive a son were common after the birth of at least one daughter in the absence of sons. Participants did not know anyone who had a sex selective abortion in Canada; however, traditional sex selection methods (eg, herbal medicines) were mentioned. Our co-designed infoposter entitled ‘Truths About Son Preference’ addressed three misconceptions identified in discussions.

Conclusion This study may be useful to health and social care providers in providing structurally competent and culturally humble counselling and care, particularly after the birth of daughters in the absence of sons. Community engagement is necessary for future intervention development.

INTRODUCTION

In recent years numerous studies conducted in high-income countries including Canada and the UK have quantified son-biased sex ratios among immigrants or their second generation descendants from some South and East Asian countries. Almost all groups examined were found to have son-biased sex ratios, particularly after one or two previous daughters. For example in Ontario, Canada, between 1993 and 2012, women who immigrated from India, had two previous daughters and a third child, were twice as likely to have a male than a female at the third birth with this ratio doubling if the third birth was preceded by one induced abortion. Among Indian-born mothers living in England and Wales, between 1990 and 2005 the third and higher order male to female sex ratio was 113 (99% CI 109.5 to 116.6) described as the only biased ratio among mothers from several countries. While many studies revealed the magnitude of the phenomenon, the explanation for son-biased ratios was often absent or simplistic. More fulsome explanations for son preference have largely resided within the
development, economic and sociological literature with some of these explanations explored in an American qualitative study. These nuanced, but largely decontextualised, explanations are not widely known by health researchers, healthcare and social service providers or policy and decision-makers, likely contributing to ineffective and discriminatory institutional responses and proposed policies including a recently defeated Act to amend the federal criminal code in Canada. The recently defeated Act (Bill C-233) attempted to criminalise healthcare providers who provide an abortion based on the sex of the fetus; however, there is ample evidence that similar legislation in other jurisdictions was difficult to enforce, led to worse outcomes for mothers and daughters, and in the Canadian context could contribute to systemic discrimination in healthcare settings. This underscores the need to promote greater understanding of the roots of gender-based discrimination occurring in specific immigrant communities to better inform effective, culturally appropriate and equitable interventions.

Our study took place in Brampton and Etobicoke, Canada (part of the Greater Toronto Area (GTA)). We had three objectives. The first was to create a conceptual framework synthesising the drivers for son preference, drawing from literature across disciplines. The second, was to conduct a qualitative study exploring the experiences and perspectives of Punjabi-Canadians related to reproductive decision-making, gender inequity and son preference. We focus on Punjabi-Canadians because our previously published epidemiological studies suggest a preference for sons in this community, and because our community partners mostly serve this large diasporic community. Our third objective was to describe community-identified ways to address son preference and, in keeping with the community-based participatory research (CBPR) imperative to integrate knowledge gained with action, we share our co-designed educational tool to encourage its wider dissemination and use.

Conceptual framework—the roots of son preference and factors reinforcing son preference in the immigration context

We created a conceptual framework (figure 1) to understand the determinants of son preference in North Indian/Punjabi-Canadian communities which may also

---

Figure 1  Conceptual framework—understanding the determinants of son preference in North Indian/Punjabi-Canadian communities.
be relevant for similar communities residing in other immigrant-receiving countries. We share a version here that includes literature that was published after we developed our focus group guide.

Kinship (ie, family) structures and related cultural factors are cited as key drivers of son preference in East and South Asia in the development and economics literature.17 18 These inter-related structures and factors are summarised in the inner circle of figure 1—patrilocality, patrilineality, dowry, old age security, family honour for daughters, ceremonial roles for sons and family lineage. Das Gupta et al27 notes that ‘patriarchy’ alone is not a sufficient explanation for son preference since societies around the world, including ‘Western’ ones, are patriarchal. Rather they suggest that flexibility in the logic of patrilocal and patrilinear kinship systems is key, with rigid adherence in Northern India, parts of China and South Korea and less rigid adherence in Southern India.

These factors are further supplemented by development and social work researchers who have identified factors exacerbating son preference in Punjabi-Canadian communities (outer circle of figure 1). These factors include immigration policies which intensify the vulnerability of immigrant women,19 transnational marriage19 and the necessity to maintain family honour (or ‘Izzat’) in the face of discrimination and racism from wider Canadian society.20

METHODS
Qualitative approach and research paradigm
In this phenomenological study we aimed to understand Punjabi-Canadian community members’ lived experiences of son preference and gender-based discrimination in relation to family planning and to identify common features of this experience. We subscribe to critical theory in that we understand son preference in the Punjabi-Canadian community to be shaped by intersecting social factors including gender, culture, ethnicity and immigration. This project was guided by the principles of CBPR.29 We followed relevant reporting guidelines for qualitative research.30

Patient and public involvement
Two community organisations serving the South Asian community, with close ties to the Punjabi community in the GTA, partnered on this study’s grant proposal; a third organisation partnered in the study’s early stages. Punjabi-Canadian community members employed by or volunteers with these organisations, and community members independent of these organisations, were recruited as study staff and were involved throughout the research process, dissemination of our research findings and development and dissemination of the co-designed educational tool (details are provided in the remainder of the methods section).

Research team and reflexivity
The primary author (SW) is a PhD trained social epidemiologist and was a postdoctoral fellow at the time the study was initiated. She is a second-generation Canadian with Sri Lankan origins. MU is a PhD trained social epidemiologist with a background in anthropology who led several Canadian epidemiological studies examining son preference. AJ (MPH) is a health promoter and knowledge translation specialist interested in sexual and reproductive health rights of structurally marginalised women and is a Muslim Kenyan-Canadian of Indian descent. MB (MA) is a researcher, founder and executive director of ‘Laadliyan Celebrating & Empowering Daughters’ (a community partner on this study) and at the time of the study was a youth worker. MB co-facilitated the discussion with mothers and facilitated one of the grandmother discussions. PU (MA) is a director of policy in the non-profit sector and at the time facilitated Ontario’s court mandated Partner Assault Counselling Programme. PU co-facilitated the discussion with mothers and grandmothers. AK-R is a social researcher and PhD candidate in Human Geography and facilitated the community member discussion identifying appropriate interventions. AB is a general surgery resident physician. MB, PU, AK-R and AB self-identify as Punjabi-Canadian. CLD is a PhD trained perinatal health researcher.

Focus group methods
Recruitment
Participants were recruited in August and September 2017 through two community social service agencies with close ties to the Punjabi community in the GTA and by facilitators and research assistants who self-identified as Punjabi. The recruitment call, which described ‘a discussion on family life and the health of Indian immigrants’, was also disseminated by word-of-mouth through announcements at community events, internal listservs, e-newsletters and on social media (Twitter and Facebook). A volunteer at the second community agency recruited participants through word-of-mouth.

Interested participants contacted a bilingual (English/Punjabi) research associate by telephone or email (co-author PU). The research associate described the study purpose as ‘exploring how families make decisions about having children and how these decisions may affect the health and well-being of families’. A screening survey was conducted over the phone to determine eligibility. Mothers and fathers were eligible if they were immigrants from India and had a daughter who was born in Canada. Grandmothers were eligible if they had a son with a daughter living in Canada. The study team aimed to recruit 10–12 participants from each of the three groups for each discussion. Participants had no prior relationship with the researchers.

Data collection
Four focus group discussions were conducted; three took place at a community partner’s office and the fourth at a local public library. For several reasons related to CBPR principles, focus group discussions were the preferred method since: (1) they offered a format for participants...
to collectively reflect on individual and common experiences and potentially motivate collective action; (2) early consultations with community partners indicated this method was preferred, contributing to shared decision-making and; (3) they shift the balance of power towards participants.

A semi-structured focus group guide (online supplemental table 1) was developed by SW and AJ and refined with feedback from community partners and facilitators and adapted for each group.

**Focus group discussions**

Four 2-hour focus group discussions were held: one for mothers, one for fathers, and two discussions for grandmothers. All participants were given a C$50 gift card (2023 - US$37 and £31). Bilingual (Punjabi/English) facilitators were community members of the same gender and of a similar age as the participants, with extensive experience working with the local Punjabi community and discussing sensitive issues.

To preserve participants’ anonymity and cultivate a safe space, focus group discussions were not audio-recorded; however, two note takers wrote and translated their detailed transcript notes into English (online supplemental file 2: Focus group notes). The study team met with the facilitator and note takers after each discussion to clarify any details and ensure a shared understanding of the findings. An employee of the community organisation was present during discussions to facilitate connection to counselling services if needed.

**Focus group discussion analysis**

SW and AJ used a mutually agreed on, predetermined coding framework to conduct independent thematic analyses on each transcript to identify relevant quotes and passages. During this process, the two authors also identified emergent themes and subthemes with appropriate quotes or passages, discussed them for inclusion/exclusion in team meetings and updated the coding framework as necessary, until no new themes or subthemes could be identified. Finally, the authors met to discuss and review their complete analytical notes and developed a combined analytical document organised by theme in a tabular format. Within each theme, relevant summary statements and quotes from participants were included and a summary paragraph of each theme was written (online supplemental file 3: Transcript analyses). The analytical document was shared with facilitators (and coauthors) PU, MB and AKR to confirm that the findings resonated with community member’s perspectives.

**Ethical considerations**

Prior to beginning the discussions, all participants were given an English or Punjabi informed consent form. Focus group facilitators informed participants that counselling services could be made available to them on request.

**Co-designing an educational intervention**

A community advisory meeting (facilitated by AK-R) was convened and attended by our community partner’s leadership teams, social service providers (eg, settlement services) as well as community members. An overview of focus group participant’s perspectives on how to address gender-based discrimination was provided and the group was tasked with identifying a way for this project to contribute to community action.

**RESULTS**

**Focus group participants**

In total 11 mothers, 4 fathers and 17 grandmothers participated in focus group discussions (see table 1 for characteristics).

**Focus group discussion themes**

Seven predetermined themes and emergent subthemes were identified. Quote identification is signified by a number in the 100s for mothers, 200s for fathers and 300s for grandmothers. See online supplemental file 1 for additional thematic results and sixth and seventh themes (not included below).

**The perceived value of men and sons versus women and daughters**

Many participants described women and daughters being treated like they were less valuable compared with men and sons. Fathers, mothers and grandmothers described that girls were raised to ‘belong to another family’ since after marriage daughters are expected to leave their parent’s home and reside with and care for their in-laws.

...women don’t belong anywhere [on the family tree], they belong to in-laws…” (102)

In contrast, both mothers and grandmothers noted the importance placed on sons to preserve the family name and lineage.

Our people love the concept of saying he’s so and so’s son. (112)

Participants described that patrilocality both physically and symbolically prevented daughters from caring for their parents in their old age.

I can’t expect for my daughter to come and take care of me. (313)

Not only were daughters unable to care for their own parents, but one mother and two grandmothers explicitly stated that the role of daughters was that of household labour and servitude to her in-laws.

Patrilineality was described as a simultaneous mechanism by which sons embody financial and old age security while daughters endanger security.

Sometimes if you have only daughters, in the future your son-in-law can come in and compete for land or...
property. So, if there is a brother in the picture sometimes this can be avoided. (317)

Participants described that having a son ensured that the family's wealth remained in the family and could be used to support parents as they age. Fathers mentioned that sons were considered bread winners and were an investment which would eventually benefit his parents. Grandmothers described that daughters may be a drain on resources because prospective in-laws often require a dowry for daughters.

A mother and several grandmothers also mentioned that sons receive special treatment in families because cultural celebrations and festivals revolve around boys. It is about traditions – celebrations, weddings or “ra-khri” [a celebration between brothers and sisters; brothers agree to protect sisters and sisters pray for the wellbeing of brothers]. It is how our culture is. The girl has her own place and the son has his own place. (305)

Experiences of pressure to bear sons

Direct and indirect pressure to conceive and give birth to a son.

These experiences of pressure to have a son (n=13) often occurred soon after marriage and/or after the birth of one or more daughters, particularly in the absence of any sons.

…when it comes to your first daughter, no one says anything…but when it’s about the second daughter, it becomes a problem… (104)

don’t have to fear for the second time, if there is a son the first time. (312)

For many participants, the dominant sources of direct pressure were in-laws but an individual’s own parents also contributed. This was the case for grandmothers, but

Table 1  Frequency of demographic characteristics of focus group participants

<table>
<thead>
<tr>
<th>Participant characteristics</th>
<th>Mothers</th>
<th>Fathers</th>
<th>Grandmothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>11</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Age of participants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30–39</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>40–49</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>50–59</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>60–69</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>70–79</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>80+</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>10</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Separated</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Time in Canada</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10–20 years</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20+ years</td>
<td>0</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Missing</td>
<td>8</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Number of children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least one</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>One</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Two</td>
<td>7</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Three</td>
<td>2</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Four</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Five</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Birth order of participant’s children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M, F</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M, M</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>F, M</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F, F, M</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F, F, F</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F, M, M</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>M, M, M</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>M, M, F</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>M, M, M, M</td>
<td>2</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Missing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ages of participant’s young children (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>1</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>1–5</td>
<td>6</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>6–10</td>
<td>5</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Continued
also for nine mothers and fathers. Two mothers noted that in-laws pressured them to check for the sex of the fetus while pregnant; one mother noted that her in-laws were angered when the ultrasound technician refused to disclose the sex of the baby. One grandmother (301) said she prayed for a son out of fear of her in-laws’ reaction.

Many parents received comments that insinuated a preference for males.

…it would be nice to have two boys... (to 106 by her mother-in-law)

...you better give me a grandson... (to 301 by her mother-in-law)

Neighbours shared with one mother that ‘they would lose faith in God if they had a girl first’ (to 105).

One mother (112) described explicit coercion from her mother-in-law. She was pressured to consume certain foods, medications, traditional treatments and perform certain traditional rituals to have a son. Her mother-in-law also told her to have an abortion if she was having a girl. One grandmother (308) described that her mother-in-law made her perform various rituals such as consuming pearls or standing facing in a specific direction.

Participants also described indirect pressures. Fathers noted that the pressure from family members was exacerbated by multigeneration living circumstances. This led them to be more worried about making their parents happy rather than focusing on themselves.

A few mothers seemed to describe internalised pressure to have a boy.

I had a stroke of luck, a son first, then a daughter. (101)

**Personal and family reactions to the birth of a girl—the importance of birth order and the sex of previous children**

More concern and/or negative reactions occurred if the first child was a daughter. Mother 110 described personal disappointment when she had her only daughter. Negative reactions seemed to intensify at the birth of a second or additional daughter. Mother 112 experienced strong negative reactions from both her husband and her mother-in-law after the birth of her second and third daughter.

The oldest grandmother described the experience of her son having three daughters and no sons:

I was okay with the first was born. The 2nd time, I was a bit sad. I still feel it. Oh my god, what happened at my son’s house!? There should have been a boy. By the third daughter I had accepted it. (316)

Feelings of relief were described at the birth of a son after first having a daughter.

I felt somewhere that I was secure that now I had a boy and a girl. (106)

In contrast to the experiences of mothers, three out of the four fathers (all with daughters) indicated that they were happy at the birth of their daughter and would not have felt differently if they had a son. However, fathers noted family members were unhappy.

**The impact of son preference on family members well-being**

The treatment of young mothers and grandmothers by their family members when first married, appeared strongly tied to having at least one son.

When I found out that it was a boy, my husband and mother-in-law changed completely. They became extremely careful [with me]. (101)

This was in stark contrast to mother 112 who was treated very poorly by both her husband and her mother-in-law for not having any boys.

My husband planned to send me to India. He used the excuse that he could not afford to keep me and our two girls with him. (112)

In contrast, one father stated that ‘growing up, I would be treated better than my sister’ (206). Another father (203) noted feeling ‘too much pressure’ from his own parents to have a son.

**The reality of having sons**

There were several mother and grandmother participants who expressed dissatisfaction and disappointment that the security promised with sons does not necessarily materialise.

Our society thinks that sons will take care of us in old age. (110)

There are many sons who don’t take care of their parents, even then moms still worship that son. (112)

…why should we have expectations of our sons? In reality, we will all go to old age homes. (311)

**Knowledge of methods for sex selection**

Methods other than abortion.

These included spiritual practices, such as visiting gurus for specific prayers or amulets, usually during pregnancy. Some women mentioned consuming specific foods (eg, jaggery (a sweet)), herbal medicines or pills to have a son. Some women also mentioned consuming pearls, peacock feathers or a coconut with a flower inside, as well as taking a bath at night-time with a bucket of water in the middle of a neighbourhood intersection (in Canada). Others mentioned media advertisements in newspapers or television were common.

**Awareness of and experiences with abortion**

Of the 32 participants, only 2 described experiencing personal pressure to have an abortion. One father discussed his wife receiving pressure from her mother (203) while another mother described pressure from her mother-in-law and husband to have an abortion in India after having two daughters (112). Neither of these participants confirmed that an abortion had been done. Two
grandmothers (301 and 311) recounted stories of women they suspected or knew had abortions. Several participants indicated that aborting girls was common in India. One grandmother believed people were not aborting girls in Canada, while another indicated that women in Canada were being sent back to India to get abortions. Many grandmothers did not know that abortion was legal in Canada.

**Recommended methods/approaches to advance gender equity**

Several participants indicated that the focus of any intervention should be on awareness and education about the existence of son preference in Canada. Participants indicated that communication between family members should be improved and that formal training or counselling to improve interpersonal communication would be helpful. Many participants highlighted the use of community-based newspapers, television or radio programmes to demonstrate, for example, effective communication between family members. Participants expressed a need for multilingual interventions where families, communities, schools, religious institutions and even governments could be involved in a social movement to advance gender equity and reduce daughter discrimination.

**Educational infoposter development**

The community advisory group decided that a multilingual educational infoposter would be developed. Given the suggestion to improve awareness and education, key misconceptions related to son-preference were identified from focus group transcripts by SW and AJ and formulated into straightforward statements which were supported by scientific evidence and accompanied by professionally designed graphics and layout. Researchers and community partner’s leadership teams decided on the infoposter’s final content and format. English, Punjabi and Hindi infoposters were made available to partner agencies and a small social media campaign was launched to disseminate it online. See figure 2 for English infoposter with additional details and online supplemental file 1, figures 1–3 for shareable versions of the English infoposter and the Hindi and Punjabi translations.

![Figure 2](http://bmjopen.bmj.com/content/13/1/76) Truths about son preference—English language infoposter with additional details.
**DISCUSSION**

The participants in this CBPR study described experiences related to the root factors of son preference illustrated in the inner circle of figure 1, specifically patrilocality and patrilineality leading to financial, old age security and care as well as social status motivators which were strong incentives for Punjabi mothers, fathers and grandmothers to want sons and grandsons over daughters and granddaughters. The experiences of mothers in our study were remarkably similar to those reported in the USA confirming immense internal and external pressure to have sons. Fathers and grandparents acknowledged son preference, many stated the motivations for the phenomenon and personally experienced pressures to have sons but none admitted to perpetrating reproductive coercion. Mothers and fathers had few formal conversations with their spouses related to family planning. No one stated knowing anyone who had an abortion done in Canada, but several participants alluded to women travelling back to India to get an abortion. Numerous traditional sex selection methods described by participants have not been reported elsewhere and suggests a long-standing investment in producing sons.

We also identified culturally appropriate and community-driven solutions to address and reduce son preference and gender inequity. Among numerous suggestions, participants mentioned interventions should focus on improving awareness and knowledge of son preference and wider social interventions which recognise the diverse contributions of women to society. We co-designed an educational infoposter using scientific findings to tackle misconceptions related to son preference uncovered in focus group discussions. To date, the infoposter has been viewed and discussed by ~350 grandmother-granddaughter pairs participating in an inter-generational relationship building workshop and ~100 men participating in a court mandated partner assault response programme in the GTA (facilitated by coauthor PU). It has also been shared at over 27 community events across the GTA.

**Study implications**

The findings of this study have several implications for primary care physicians, obstetricians, midwives and social service providers who provide care to the Punjabi community in Canada and possibly in other countries. First, the conceptual framework along with the experiences of son preference shared by participants is critical information which can enhance delivery of culturally humble and structurally competent care and in turn cultivate shared medical decision-making. These approaches are vital to establish trust so that providers may have an opportunity to facilitate meaningful conversations around equitable reproductive decision-making and son preference. Second, given that participants described higher levels of pressure to have a son and had negative experiences after the birth of one or more daughters in the absence of sons, these are time points at which providers may consider counselling mothers in need of social, emotional and mental health support and ensuring such supports are available. Third, at these times it may also be beneficial for providers to encourage and facilitate communication between family members. Fourth, providers involved in preconception and antenatal care should also be aware that some women may be consuming herbal medicines or pills to have a son. The sale of these pills in Canada was confirmed by an English language newspaper in 2009. While the content of these pills is unknown in the Canadian context, researchers from India have described drugs for the same purpose as ‘sex selective drugs’ (SSDs). Neogi et al found these pills, consumed in the first trimester, contained hormones in quantities detrimental to embryonic growth. Additionally, the odds of congenital malformations or stillbirth was almost three times higher among women who took SSDs. Given this, it is important that healthcare providers consider asking about consumption of these drugs and provide culturally safe counselling about their harms. Our infoposter may help guide such discussions. From a drug safety and regulation perspective, the scope and sale of SSDs in Canada needs to be further investigated.

In terms of interventions, countries such as India have attempted to reduce son preference and son-biased sex ratios through various policies (eg, granting women legal rights to ancestral land) however, in addition to being minimally enforced, Das Gupta et al argues that successful interventions must raise the value of girls to her parents relative to the value of boys. This approach may be particularly important in the Canadian context since there are fewer barriers to high-quality education and employment opportunities for women and so should not, theoretically, constrain a daughter’s ability to support her parents as they age. Active and visible recognition by community-members, religious and grassroots organisations, of daughters providing support may help shift the social position of women and girls within families.

**Strengths and limitations**

There were limitations to our study. The focus group format increased the chances of social desirability bias (eg, less likely to admit to reproductive coercion, more likely to express gender equitable attitudes). At the advice of our community partners and in the interest of creating a safe space, we did not audio-record focus group discussions which could have led to some details being left out of transcripts. One-third of participating parents had children <5 years, consequently we had limited representation from parents with more recent experiences of navigating pregnancy and early parenthood. Only four fathers participated in our study and the extent of their documented engagement was limited. Our study also had several strengths. The focus group format offered opportunities to reflect on common experiences and contribute to solidarity and collective action, an important goal of CBPR studies. To cultivate open dialogue and minimise some aspects of social desirability bias we conducted...
gender and age group specific focus group discussions. Focus group discussion notes and analyses were reviewed by note-takers and facilitators to ensure notes captured the discussion and appropriate interpretation of the data. To encourage participation of parents with young children we offered free high-quality childcare, conducted discussions on weekend afternoons and offered a cash honorarium. Our co-designed infoposter reflected the needs, values and languages spoken of community members; an approach which encourages adoption and sustained use.

Conclusions
Given the specific and evolving system of patriarchal structures experienced by the Punjabi-Canadian community (ie, originating from within the community, as described in this paper, and outside the community as described elsewhere), community-engagement is necessary to identify and develop interventions which effectively reduce gender-based discrimination while also mitigate harm to the community, and girls and women in particular. The conceptual framework and experiences described in this paper are useful for healthcare and social service providers serving the Punjabi community in Canada and in other immigrant receiving-countries to enhance cultural humility and structural competency, which may in turn facilitate shared and more equitable reproductive decision making at critical periods—that is, after the birth of one or more daughters, in the absence of sons. Our co-designed infoposter may assist in these discussions.

Author affiliations
1Edwin S.H. Leong Centre for Healthy Children, SickKids Research Institute, Toronto, Ontario, Canada
2Knowledge Translation Program, Unity Health, Toronto, Ontario, Canada
3Laadliyan Celebrating & Empowering Daughters, Brampton, Ontario, Canada
4Catholic Family Services Peel Dufferin, Brampton, Ontario, Canada
5Department of Geography & Planning, University of Toronto, Toronto, Ontario, Canada
6Department of Medicine, University of Toronto, Toronto, Ontario, Canada
7Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Ontario, Canada
8Li Ka Shing Knowledge Institute, St. Michael’s Hospital, Toronto, Ontario, Canada
9Lunenfeld-Tanenbaum Research Institute, Sinai Health, Toronto, Ontario, Canada
10Department of Community Health Sciences, College of Medicine Rady Faculty of Health Sciences University of Manitoba, Winnipeg, Manitoba, Canada
11Dalhousie School of Public Health, University of Toronto, Toronto, Ontario, Canada

Acknowledgements The authors would like to thank Baldev Mutta, Anu Randhawa and Amandeep Kaur at Punjabi Community Health Services (PCHS), Kirpa Sekhar at South Asian Women’s Centre (SAWC) and MB at Laadliyan Celebrating & Empowering Daughters for their support of this work. We thank the numerous staff and volunteers at PCHS and SAWC who helped to recruit focus group participants and those who conducted the focus group discussions—Teena Gidda, Amandeep Virk, Vanita Sabharwal, Pamela Uppal, Karen Pannu, Harinder Sahota, Prabhjot Gida, Harish Minocha and Prem Minocha. We also thank members of our community advisory panel (not already mentioned)—AK-R, Sumit Rait, Amanjit Kahlon, Gurpreet Singh, Palwinder Kahlon, Shanjot Singh, Jasmin Balia, Daljit Basra, Arwinder Kapour and Manjeet Sahota. We thank Meghan D’Mello for her graphic design work on the infoposters. We are especially grateful to the 11 mothers, 4 fathers and 17 grandmothers who generously shared their time, experiences and insights with the research team.

Contributors SW led all aspects of the study including study conception, study design, data acquisition and analysis, interpretation of the data and drafted and substantially revised the work. AJ was involved with study design, data acquisition and analysis, interpretation of the data, drafted and substantially revised the work. MB, PU and AK-R were involved with study design, data acquisition, interpretation of the data and substantially revised the work. CLD contributed to data acquisition and revised the work. AB and MU were involved with study conception and substantially revised the work. All authors approved the submitted version and agree to be personally accountable for their contributions and ensure that the questions related to the accuracy and integrity of any part of the work, even ones in which they were not personally involved, are appropriately investigated, resolved and the resolution documented in the literature. SW accepts full responsibility for the work and the conduct of the study, had access to the data and controlled the decision to publish.

Funding This study was funded by the Women’s Xchange (Women’s College Hospital, Toronto, Canada) and was partially supported by a Canadian Institutes of Health Research grant (FDN-154280) (salary for SW). MU is supported by a Canada Research Chair in Applied Population Health (950-231324). The funders had no role in the design of the study, collection, analysis or interpretation of data or in writing the manuscript.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants and was approved by St. Michael’s Hospital, Toronto, Canada (#17-132c). Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as supplementary information.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

ORCID iDs
Susitha Wanigaratne http://orcid.org/0000-0003-0840-9006
Cindy-Lee Dennis http://orcid.org/0000-0002-8928-7647

REFERENCES