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Interpersonal, community, and societal dimensions of reproductive coercion: a sequential multimethod study of victim-survivors

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Abstract

Background Reproductive coercion (RC) is a gender-based form of violence intended to control or interfere with the reproductive autonomy of people with the capacity to become pregnant. It includes contraceptive sabotage, pregnancy pressure, and control of pregnancy outcomes. Although RC is examined mainly in intimate relationship contexts, it is not limited to them. We used an adapted critical ecological approach from a feminist perspective to explore how direct and indirect interactions between the interpersonal, community, and societal environments, all of which are shaped by cultural and social norms, can undermine contraceptive and reproductive autonomy.

Methods We used a sequential multimethod research design that included a quantitative cross-sectional survey. In the first phase, a total of 427 individuals aged 29 years on average (M = 29.01; SD = 6.64) completed an online survey that contained quantitative measures of RC and intimate partner violence. Among the respondents, 33 provided answers to an open question to share RC experiences. In the second phase, a different convenience sample of 33 participants underwent individual qualitative interviews. We conducted a descriptive analysis of the quantitative data in SPSS 27 to determine the prevalence of each RC type. We independently coded the qualitative data from the open-ended question and individual interviews using NVivo 12.

Results The findings improve the understanding of RC occurrence at different ecological levels as well as interactions between the levels.

Interpersonal level. Many participants reported RC perpetuated by intimate partners or their entourage, mainly mothers-in-law and mothers. Entourage members use various strategies: psychological, spiritual, and emotional violence and control or financial extortion. In intimate relationships, the results show overlaps between intimate partner RC and violence: RC frequently occur in situations where their partner uses fear and/or control.

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Community level. The participants felt that healthcare workers (e.g., physicians, nurses) contributed to undermining their reproductive autonomy by withholding information about contraceptive methods, pressuring them to choose certain methods over others, or refusing to perform tubal ligations.

Societal level. Reproductive autonomy is limited by the narrow choice of male contraceptive methods, overresponsibilisation of individuals who can become pregnant for the fertility control, lack of insurance coverage for certain contraceptive methods, and access barriers to reproductive services.

Conclusion We need to better understand the contexts in which RC occurs to respond appropriately to this social and health issue. Changes are needed across levels to create environments that facilitate and promote reproductive health and autonomy.

Reproductive coercion (RC) is a form of violence against people with the capacity to become pregnant (PCBP). The recognised forms of RC include contraceptive sabotage, which involves hiding, damaging or removing any contraceptive method or forcing a partner to have unprotected sex, all with the intention of causing pregnancy [1–3]. Pregnancy pressure, as originally defined by Miller and colleagues [2], comprises any behaviours aiming to force an unintended pregnancy. Researchers have proposed adding coercive behaviours during pregnancy that are intended to control pregnancy outcomes [4–6]. To date, these three sets of behaviours (contraceptive sabotage, pregnancy pressure, and controlling pregnancy outcomes) have been examined mainly in the context of intimate heterosexual relationships.

However, because RC involves removing, limiting, or preventing an individual's reproductive autonomy, other actors may share responsibility for perpetrating it. Consistent with Tarzia and Hegarty's [7] call for a more conceptually clarified understanding of RC in terms of interpersonal, sociocultural, and community mechanisms, our analysis views RC from a broader perspective beyond the intimate relationship. Thus, in line with other researchers, we use an ecological approach to account for the direct and indirect interactions between the interpersonal, community, and societal environments, all of which are shaped by cultural and social norms and act on RC [8–10]. The objective was to explore and document the ways in which reproductive autonomy among participants is constrained by the interplay of various ecological factors. These data provide the foundation for a conceptual proposal based on an adapted critical ecological model and informed by a feminist perspective.

Ecological perspective on reproductive coercion

Since its introduction by Miller and colleagues [2], various definitions of reproductive coercion have been proposed [1–3]. In this article, we retain Graham and colleagues' [9] ecological definition:

> *Reproductive coercion is the act of removing or limiting reproductive autonomy to control reproductive decision-making freedoms and choices to hold power over reproductive autonomy. It occurs through socially and culturally embedded systematic control and oppression of reproductive rights, beliefs, conceptualisations of gender roles, behaviours, attitudes, and actions, practices, policy, law, and legislation resulting in gender inequality and other intersecting forms of oppression (particularly ability, ethnicity and sexuality). This manifests and is experienced at the interpersonal level in multiple ways as an artifact of interconnected and interacting forces across the social, cultural, institutional systems and structures, organisations, and the state which create the context within which reproductive coercion occurs. (p. 11)*

Their work proposes a broader redefinition of RC using an integrative ecological approach. Their model highlights how interpersonal, systemic, structural, social, cultural, societal, legal and state factors, etc. intertwine to restrict reproductive autonomy, emphasising that these influences cannot be understood in isolation. Their contribution also reminds us of the importance of calling for primary systemic prevention strategies rather than strictly tertiary and individual ones. Drawing on these principles, we aim to explore how interactions between different levels influence RC, enabling us to identify levers of intervention other than individual ones to reduce its occurrence.

Indeed, although intimate partners can act directly in daily life to undermine or eliminate their partner's contraceptive and reproductive autonomy, these coercive behaviours take place within a larger social context that only partially recognises freedom of choice and reproductive decision-making for PCBP [9]. For example, Canadian societies are characterised by natalist norms such as strong expectations for PCBP to bear children [11]. These social discourses, which tend to be regarded as common truths, are internalised and perpetuated by intimate partners, but also their entourage. Hence, RC is endorsed and sustained by family and in-laws, who may, for example, threaten to excommunicate a woman from the family if she decides to terminate a pregnancy [9],

or banish her from the family home, or withhold food if she fails to become pregnant [12]. While some PCBP are pressured to have children, others are discouraged from having one or more than one [13].

Canada has established public health activities and initiatives to reduce health inequalities and improve social justice through the lens of social determinants of health (Canadian Public Health [14]). However, researchers have shown that institutions continue to exert control over the reproductive health of certain groups of PCBP, and particularly Indigenous individuals. Basile and Bouchard's [15] study reveals ways by which oppression is exercised, relying on the testimonies of 22 First Nations and Inuit PCBP, who reported being forcibly sterilised (tubal ligation or hysterectomy) in Québec (Canada) from 1980 to 2019. In most cases, these sterilisations were performed without the individuals' knowledge or their clear and informed consent, notably due to language barriers. Others reported that IUDs were inserted without their knowledge. Some participants explained that healthcare workers forced them to have an abortion. Single parents reported these situations more frequently, for example, when healthcare workers felt that they had "too many" children already or judged their living conditions or parenting skills as inadequate.

The backdrop for these RC situations is systemic racism, which gives little weight to the harmful impact of nonconsensual medical treatments that clearly undermine contraceptive and reproductive autonomy [16]. Similar scenarios were identified by Aboriginal PCBP in Australia [13]. Black PCBP [17–19], those who have low income [18–20], or have cognitive or noncognitive disabilities [19] are also at greater risk for forced sterilisation in health institutions. In sum, PCBP are targeted by various forms of oppression, including sexism, racism, classism, and ableism, all of which generate situations that impede their contraceptive and reproductive autonomy, notably through the perpetration of RC [16, 17].

Public policies and legal systems also play a role in RC occurrence and continuance. The institutional cultures that inform these policies and systems are shaped by attitudes, beliefs, and social norms that tend to be paternalistic or male-dominant [13]. These institutions reinforce control over the reproductive autonomy of PCBP [9]. For example, the United States has laws that explicitly limit contraceptive and reproductive choices by linking welfare payments to certain birth control methods or by denying further financial assistance to welfare recipients by placing a "family cap" on child allowance payments [10]. The ceaseless efforts of diverse political actors in the United States who want to limit or prevent access to abortion are glaring examples of RC [21]. In some Canadian provinces, workforce shortages and underfunded healthcare facilities have resulted in limited access to abortion [22–24]. This forces people to travel greater distances to access abortion services, which means potential problems involving transportation, childcare during appointments, and loss of income due to job absences [21]. Considering all the above, a broader analysis is needed to account for the diverse contexts (intimate, interpersonal, community, and societal) that generate and sustain RC.

Conceptual framework

Our conceptual framework is informed by an intersectional feminist reading of both reproductive justice [25, 26] and the ecological model adapted to the issue of violence toward women,[1] and more particularly, reproductive coercion [8–10, 27, 28].

As a social group, women are the main victims of various forms of RC, according to reports of unequal and sexist gender relations [5, 29]. In various countries, feminist groups have rallied to defend women's right to choose in matters of abortion and contraception. In a departure from the currently dominant paradigm for the movement to defend reproductive rights [25], Black and racialised theorists and militants have introduced a new movement along with an anthology of alternative theory [26]. Refuting the individualist vision, they stress, among other factors, the need to consider the racial and economic inequalities that contribute to preventing marginalised women from exercising their reproductive rights and from accessing adequate sexual and reproductive health care [25, 26]. Reproductive justice also implies the recognition and defence of the rights of individuals to establish and raise a family on their own terms, along with respect to their autonomy and dignity in all reproductive issues. The consideration of reproductive justice widens the investigative lens and provides greater insights into the contributions of environmental justice, penal systems, migration, ableism, and heteronormativity, for example [26].

Reproductive justice inclusion in the critical ecological model serves to improve it [8]. For example, in Bronfenbrenner's [30] initial model, the individual experience takes place in different microsystems and macrosystems that directly or indirectly influence the experience. These multiple systems interact in a mutually and bidirectionally influential manner [27, 31]. In line with other authors [8–10], we propose that, beyond the interpersonal sphere (individual, partner, family), RC should be defined as incorporating its historic, social, institutional,

[1] Throughout this article, we occasionally use the category 'women' rather than 'people with the capacity to become pregnant' when discussing concepts and phenomena historically and socially constructed around sexism in a binary gender system. This choice reflects the significant body of prior research and societal norms that target individuals associated with the 'women' category, regardless of their true gender identity or bodily features. We acknowledge the limitations of this terminology and strive to use epicene and inclusive language whenever possible.

and community-based forms. In this sense, RC cannot be fully problematised, documented, or understood without recourse to a critical ecological model.

Methods

This study is part of a research partnership project conducted by an interdisciplinary team of coresearchers and field partners. We used a sequential multimethods research design to examine two sets of gathered data. First, we administered a quantitative cross-sectional online survey containing a series of quantitative measures and one open question. Based on trends identified in the survey responses, we conducted semidirected individual interviews with a convenience sample of women and nonbinary individuals to explore the RC situations they experienced and their perceptions of them more deeply. This study received ethical approval from the principal researcher's university Ethics Committee (Comité Institutionnel d'éthique de la recherche avec des êtres humains UQAM: 4016_e_2020).

Recruitment and data collection

For both study phases (online survey and individual interviews), the following inclusion criteria were applied: 1) aged 18 years or older; 2) French or English speaking; and 3) having the capacity to become pregnant.

Phase 1: online survey

We conducted the first data collection phase from September 2020 to April 2021 via the Qualtrics secure platform. We recruited participants via posters on social media, at sexual and reproductive health clinics, and at organisations addressing violence against women. The recruitment materials framed the study as exploring intimate relationships where contraception or pregnancy was a concern, without explicitly mentioning reproductive coercion, to capture a broad range of experiences. Individuals who wanted to participate had to read the consent form and then click a checkbox to agree to complete the survey. Those who completed the entire questionnaire were eligible to win one of five prizes worth $50 each. A list of support resources was also provided.

Measurement tools

RC perpetuated by members of the entourage This article aims to draw attention to the fact that RC is not solely perpetrated by intimate partners, but also by members of the broader entourage and society. For clarity, the term *entourage* refers to all people other than intimate partners who were members of the victim-survivor's family or who were in a close or significant personal or professional relationships. This included in-laws, friends, and anyone who exerted a day-to-day influence, such as work colleagues, athletic coaches and trainers, religious and spiritual leaders, and some neighbours. We measured entourage-perpetuated RC with 11 items inspired by the Reproductive Coercion Scale [2, 32] and items from studies focusing on RC perpetrated by family and in-laws [12, 33]. The items in this RC Inventory addressed pregnancy pressure (5 items; e.g., *In your life, has someone close to you (other than an intimate partner) ever pressured you to become pregnant?; ever insulted, ridiculed, or excommunicated you because you didn't want to get pregnant?*) and control of pregnancy outcomes (6 items; e.g., *... ever forced you to continue a pregnancy when you didn't want to?; ... ever given you false information about abortion in order to influence your decision so that you would have an abortion?*). We used back translation to develop a version that was culturally adapted to the French Canadian context [34]. The participants responded to all the items in terms of lifetime occurrence or in the past two years (yes, in the past two years, 1; yes, but NOT in the past two years, 2; no, 0). The inventory showed an acceptable fidelity and reliability (a = 0.644 and w = 0.737).

Open question The open question was the last questionnaire item: *"Did this survey leave out any other experiences that you've had concerning contraception and reproduction? Would you like to share something else that happened to you? If yes, please describe your experience here."* No word limit was imposed.

Phase 2: individual interviews

We conducted a second data collection from May 2021 to March 2023 based on individual semidirected interviews with 33 women and nonbinary individuals who reported at least one lifetime RC experience. We recruited participants mainly via social media networks and women's organisations, using diverse strategies, such as posters, a video, conferences, and workshops. Prior to the interview, the participants signed an informed consent form and received a list of support resources. We used a thematic interview guide to explore RC behaviours in different contexts. The participants received $30 as financial compensation. With the participants' consent, all interviews were digitally audiotaped and transcribed verbatim. All transcripts were anonymised.

Data analysis

We performed a descriptive analysis of the quantitative data in SPSS 27 (IBM Corps., 2020, Version 27.0) to estimate the prevalence of each studied RC behaviour. We coded the qualitative data from the open question and the individual interviews independently using a discursive analysis approach with the support of NVivo 12 (QSR International Pty Ltd.). The qualitative data from the open question were gathered and treated prior to the collection of the interview data. Drawing on the notions

of power, class and social critique that were to be found there, we mobilized an inspired discursive analysis approach to explore the testimonials. We identified common themes in the corpus [35], aided with our conceptual framework. First, we iteratively identified events and discourses related to the research objective: we used coding to detect major themes in the interviewees' accounts and determine their ascribed meanings. In this step, we developed distinct matrices for each ecological level. Next, we combined, organised, and examined the qualitative data from the open question and the interviews to identify similarities and divergences. Once similar patterns with shared meanings and narrative structures were identified, we developed the main themes and reviewed them to ensure alignment with the research objectives. However, in order to remain as close as possible to our conceptual framework when presenting the results, we have reduced the themes to a very simple expression and chosen to present a detailed description of the behaviors studied to facilitate the combination of quantitative and qualitative results.

Participant description

After removing incomplete survey responses, double entries, and ineligible participants, we retained 427 survey respondents as participants. The majority (92%) were cisgender women. The participants identified as heterosexual (58.5%), bisexual (19.2%), pansexual (11.2%), or questioning their sexual orientation (8.7%). The majority (84%) were born in Canada. A few (7.5%) self-identified as racialised, with 1.9% being indigenous (First Nations, Métis, Inuit). The average age was 29 years (M = 29.01; SD = 6.64).

Of the survey completers, 124 shared their experiences through the open question. We observed that they described RC perpetuated by people other than intimate partners or entourage, which the survey specifically addressed. We retained the written accounts of RC perpetuated by one or more entourage members or healthcare workers or that were facilitated by sociocultural or societal contexts (*n* = 33). The accounts varied from 15 to 395 words and were written in French or English. The majority of this subsample comprised cisgender women (*n* = 29), with four individuals identifying as genderfluid, two-spirited, nonbinary, or questioning. The majority were heterosexual (*n* = 22), with three bisexual, two pansexual, one lesbian, and five questioning. Most were born in Canada (*n* = 31), except for two who were born in Western Europe. The participants' age varied from 20 to 48 years (M = 30.3).

We also conducted individual interviews with 33 women and nonbinary individuals who had experienced at least one lifetime incident of RC. The interview duration varied from 27 min to 2.5 h (M = 1.25 h). The majority of the interviewees were cisgender women (n = 31), with one nonbinary and one agender. The majority (22) identified as heterosexual, with six bisexual, four pansexual, and one questioning. Of this subsample, 24 were born in Canada and nine were immigrants. Age varied from 22 to 50 years (M = 34.8).

Results

Three major dimensions of the critical ecological RC model are presented below: 1) the interpersonal level; 2) the community level; and 3) the societal level. The distinction between the levels lies in the scale and nature of influence. The interpersonal level focuses on the direct, personal, daily relationships and interactions between individuals, such as those with intimate partners, family members, or close acquaintances. The community level comprises influences within localised, shared spaces or institutions, such as healthcare settings, workplaces, or cultural groups. These interactions often involve more indirect relationships or roles shaped by broader institutional or group norms—for example, a healthcare provider influenced by professional deontology. The societal level encompasses the broad systemic and structural factors that shape the cultural, legal, and economic environment, such as public health policies; gendered social expectations; and financial disparities affecting access to healthcare. Societal influences create the overarching context within which interpersonal and community interactions occur. Fig. 1 depicts the main components of this adapted ecological model.

Interpersonal level

This section addresses the interpersonal contexts in which RC occurs. We begin with an overview of the quantitative and qualitative results for RC perpetuated by intimate partners, followed by the quantitative and qualitative results for RC perpetuated by members of the entourage (friends, family, and in-laws).

Intimate partner

The results for RC perpetuated by an intimate partner are summarised, with the focus placed on the contexts nested within the levels of the ecological model. Interested readers are invited to learn more about RC perpetuated by intimate partners in other articles published by the research team ([36]; [37]).

The *quantitative data from the online survey* revealed that 63.9% of the participants reported at least one RC experience perpetuated by an intimate partner. The majority reported contraceptive sabotage (62.8%), including nonconsensual condom removal (23.7%) and noncompliance with withdrawal before ejaculation (41.2%). In addition, 9.8% reported that their intimate partner was controlling over pregnancy outcomes, for example,

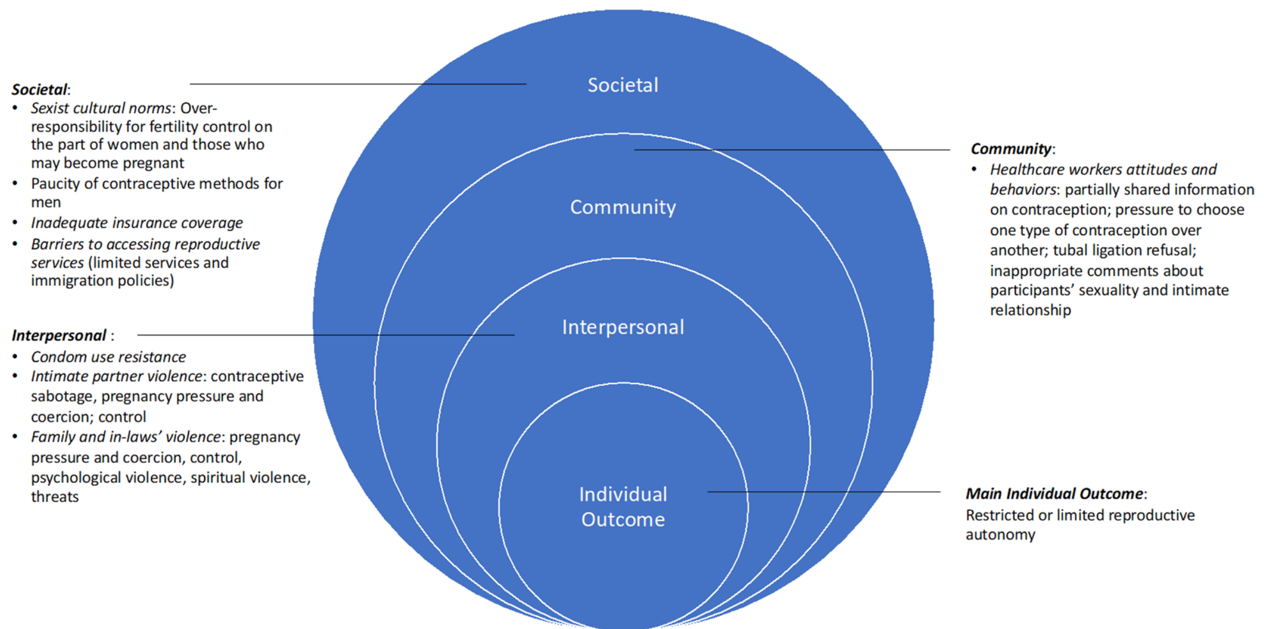

Fig. 1 Adapted ecological model of reproductive coercion

threatening to force them to have an abortion against their will (6.1%) or to continue a pregnancy against their will (2.1%).

The *written online accounts* illustrated various situations of contraceptive sabotage involving resistance to condom use ($n = 26$), refusal to use one ($n = 12$) and insistence on not using one ($n = 12$). According to one participant:

> *Lots of men insist on having sex without a condom because it's not comfortable (they can't come with a condom) or else for preference (they don't like the feeling with a condom). Lots of them complain or try to negotiate when you ask them to use a condom. (ID19)*

Others ($n = 7$) wrote that their partner insisted on a birth control method that they did not want, for example:

> *He kind of strongly insisted that I get an IUD, even though it made me really scared (and in the end, I had a strong reaction to the copper!), just so he could come inside me, so the sex would be better. (ID158)*

The vast majority of those who were *individually interviewed* had experienced at least one form of RC (contraceptive sabotage, pregnancy pressure, or controlling pregnancy outcomes) by an intimate partner ($n = 29$), most often in the context of intimate partner violence ($n = 23$). For example, one participant described the atmosphere of terror that her partner instilled at home in order to dominate her: […] breaking dishes against the walls, overturning furniture, tossing the baby's swing around. (P1) The violent behaviours described by the participants created an environment of fear, which could severely limit the victim-survivor's ability to resist or escape RC. In this instance, the atmosphere left the participant feeling unable to challenge her partner's reproductive demands or act according to her own reproductive needs.

A significant proportion of participants ($n = 26$) said that they had experienced at least one episode of contraceptive sabotage by an intimate partner in their lifetime. Although many situations involved nonconsensual condom removal, others involved behaviours intended to restrict their access to contraception (i.e., applying pressure to not use birth control, destroying or hiding birth control methods, forcing unprotected sex in the absence of other birth control methods). Many interviewees also mentioned that an intimate partner had previously pressured them to become pregnant ($n = 14$). Some partners used subtle but persistent pressure tactics (repeated arguments in favour of parenthood and expressing strong intentions to become a parent), whereas others used physical and/or psychological violence:

> *He slammed me against a fence. Then he told me he couldn't live just for my dreams anymore, that I don't understand the meaning of life, and that him, he's very serious about this relationship, not like me, and that if we don't have a baby soon, well, it makes no sense. […] It was an ultimatum, and a very aggressive one. (P18)*

Table 1 Detailed lifetime prevalence of reproductive coercion perpetuated by members of the entourage

Item	Lifetime RC perpetuated by entourage % (n)
Pregnancy pressure (*n* = *415)*	**35.2% (146)**
Pressured you to become pregnant	18.3% (76)
Prevented you from using or limited your access to a birth control method so that you would become pregnant	1.0% (4)
Insulted, ridiculed, or excommunicated you because you didn't want to get pregnant	12.7% (53)
Physically harmed you or threatened to do so because you didn't want to become pregnant	0.7% (3)
Put pressure on you to prevent you from becoming pregnant or forced you to use a birth control method	13.2% (55)
Control of pregnancy outcomes (*n* = *186)*	**10.8% (20)**
Forced you to continue a pregnancy when you didn't want to	0.5% (1)
Prevented you from having access to an abortion or given you false information about abortion to influence your decision and continue a pregnancy	3.2% (6)
Threatened you so that you would get an abortion even though you wanted to continue a pregnancy	7.5% (14)
Given you false information about abortion to influence your decision so that you would have an abortion	5.4% (10)
Physically harmed you in hopes to induce a miscarriage	1.1% (2)
Pressured or threatened you to give a child up for adoption after birth	1.6% (3)

Some interviewees reported that their partner committed RC with the intention of forcing the continuation of the pregnancy (*n* = 7). For example, one partner's behaviour grew increasingly intense:

> *Me, I wanted an abortion. […] But, I also knew that he'd be against it, and at the same time, that he'd […] He started to work himself into a lather with his arguments. You know, like, 'Oh, this is the fruit of our love.' […] Then after that, it's like it turned into, 'Oh, but you can't do that. It's my child too.' (P6)*

Some partners also used coercive behaviours to force pregnancy termination (*n* = 9). These participants were victims of control as well as physical, psychological, verbal, and economic violence.

Entourage – family, in-laws, and friends

We used *quantitative data from the online questionnaire* to explore reports of RC behaviours perpetuated by the entourage (see Table 1). The results show that 35.2% of the survey respondents reported pregnancy pressure (e.g., insisting that they become pregnant), with 10.8% reporting pregnancy coercion (e.g., threats of reprisals if a pregnancy is terminated), all by someone in their entourage. For example, they were forced to terminate a pregnancy (9.7%) or to continue a pregnancy (3.2%). Note that they could report the two situations at separate times in their lifetimes.

Although none of the *written responses* directly addressed RC perpetuated by the entourage, the *data from the individual interviews* provided complementary qualitative information on entourage-perpetuated RC. Thus, slightly less than one-third of the interviewees (*n* = 9) reported RC committed by one or more members of their entourage, and most frequently by mothers-in-law and mothers. At the same time, in the majority of those cases (*n* = 6), a partner was also involved, either as an accomplice to family-instigated strategies or as the initiator and ringleader. Although no interviewees reported entourage-perpetuated contraceptive sabotage or attempts to sterilise them, some said that entourage members had pressured them to become pregnant (*n* = 7), end a pregnancy (*n* = 3), or continue a pregnancy (*n* = 1).

First, family and in-laws were the main perpetrators of pregnancy pressure. For example, one interviewee's mother urged her to become pregnant and enlisted the partner in her campaign. In another case, the partner pressured one interviewee to become pregnant and attempted to rally the family and in-laws in support of his cause, all while claiming that he respected his partner's choices. Thus, behind his partner's back, he enlisted the whole family to exert pressure:

> *My father told me, you know, 'He [the intimate partner] asked me […] he asked me to talk to you and persuade you to have kids.' (P29)*

Although only one interviewee was pressured by a friend, the case deserves special mention. Even though this participant had made several attempts to get a tubal ligation, a close friend advised against it:

> *And so, she, she'd decided that she was going to convince me. She'd decided that she was going to fix my problem. For weeks, she sent me articles [promoting pregnancy]. Every time we met up, she introduced me to guys. (P10)*

In addition, the friend accused her of being egotistical, implied that she had mental health problems, and sent her numerous emails to try and persuade her to have kids. To end this invasive and hostile campaign, the interviewee broke off the friendship.

Second, three interviewees had undergone coercion to terminate a pregnancy. The family and friends of one tried to provoke a miscarriage, and the family and friends of three others forced them to have an abortion. In the

case of the one interviewee whose family and friends tried to provoke a miscarriage, she recounts that while she lived with her in-laws, the mother-in-law colluded with the husband to withhold her food and medicine, even though she was several weeks pregnant, apparently in an attempt to end the pregnancy:

> *[My mother-in-law], she is too much strict about my food [...] about my medicine [...] She is not giving me my medicine [...]. (P22)*

Others reported being pressured to terminate a pregnancy against their wishes. One interviewee felt that she had not had enough time to weigh her options and exercise her free and informed will. In the end, she caved in under her mother's persistent urging:

> *Yes, anyway, I felt pressured by my family to have an abortion […] My mother called the clinic for me. […] I felt like I had no time to think it over. (P26)*

Another interviewee said she was locked up at home and her partner and in-laws brought in a woman to perform an abortion against her will (abortion was illegal in the country where this occurred).

Only one interviewee reported pressure to continue a pregnancy. She said that her mother, a professional nurse, managed to obtain her medical records and so discovered that she was pregnant. When she thought about having an abortion, her mother did everything in her power to convince her to change her mind. For example, the mother said that she herself would take care of the baby and that she really needed someone to love. At the time, the interviewee was in a couple with a violent partner who enacted RC behaviours. Under this relentless pressure and violence, she gave up:

> *I ended up accepting it. It was kind of like grieving for my freedom a little, and then I really went through the grief steps. The denial, the anger. In the end, I achieved acceptance. I accepted that I was pregnant. I accepted what was, that I was pregnant. Everybody wants it. I delivered. (P23)*

For these participants, most of the RC strategies involved some form of control, psychological violence, spiritual violence, or financial and/or emotional extortion. For example, one interviewee was threatened with disinheritance if she kept on refusing to have children. Another described the psychological and spiritual violence that her mother brought to bear when both her mother and her partner pressured her to get pregnant:

> *It's been a very traumatic journey. Coming from that tradition where not having children is perceived as evil or sinful, or a curse [...] very traumatic […]." (P13)*

Her mother also told her to listen to her partner:

> *And she would tell me, like. 'Oh, it's your husband. You have to do what your husband says,' and, 'The man is the Lord of life.' So she was, like, supporting all of that stuff. (P13)*

Several interviewees remarked that their entourage felt that their partner's violence was simply a normal part of conjugal life.

Community level – the healthcare system and healthcare workers

This section explores the RC situations that occurred in institutional contexts and, more specifically, during contact with healthcare workers. Although the online questionnaire did not directly address these situations, several survey participants ($n = 33$) spontaneously shared *written accounts* of their healthcare experiences. Some participants in the *individual interviews* ($n = 10$) also shared stories of RC situations in the healthcare system.

In the *written responses*, some participants ($n = 3$) complained that healthcare workers withheld information about the birth control methods and sexual and reproductive services that were available to them. This incomplete and contradictory information limited their practical options:

> *All the specialists that I've seen since I was sexually active, they disagree on the appropriate contraceptive choices, so I'm left in kind of an impasse as to the best choice for me. (ID158)*

In addition, they complained that the responsibility for finding the best contraceptive was left up to them so that many ended up finding information online. Some participants ($n = 5$) also wrote that physicians implicitly or explicitly imposed hormonal birth control methods, despite their stated preference.

> *Because I'm intolerant to synthetic oestrogen, they had to take me off pills several times, and my doctor just gave me the choice of an IUD. I had to do my research on contraceptives to find a method that was good for me, and that didn't limit me to these two choices. (ID182)*

When some participants who had explored alternative options online discussed them with healthcare workers,

they quickly met all manners of resistance. First, some ($n = 3$) wrote that their physician refused to prescribe or insert an IUD. Furthermore, although they were opposed to the IUD, they received no alternative suggestions:

> *It was really hard for me to get it. My doctor would only prescribe the pill, and although I had a lot of side effects, he wouldn't suggest any other birth control methods. I had to do the research by myself online, and when I asked him for an IUD, he not only refused to install it, he wouldn't even prescribe it. (ID48)*

Some participants wrote that they had tried many times, unsuccessfully, to obtain a referral for a tubal ligation ($n = 3$). Despite wanting to have the operation, most had been unable to obtain it at the time of the study. Furthermore, the refusals were accompanied by forms of exhortations to become parents, accompanied by a slew of arguments against tubal ligation. For those who had never been pregnant, the fact that they had no children was a sufficient reason to refuse tubal ligation from the outset:

> *There were also those [nurse, doctor, pharmacist] who didn't want me to get a tubal ligation under the pretext that I had never had a full-term baby. The medical establishment has a lot of control over contraception, and they have a lot of influence over what women do with their bodies. (ID143)*

Despite a series of unwanted pregnancies owing to unreliable contraceptive methods, some participants had to deal with repeated refusals of their requests for tubal ligation. This increases the risks for miscarriage and termination of unwanted pregnancies, all of which could be prevented by access to the desired contraception:

> *Really hard to get a tubal ligation despite seven unwanted pregnancies (2 miscarriages and 5 abortions), because none of the birth control methods that I took properly (the pill, Depo-Provera, IUD, etc.) worked. (ID413)*

Moreover, they had to endure the healthcare workers' disparaging and contemptuous attitudes and comments, even when they had sought help due to an RC situation such as contraceptive sabotage:

> *The partner who got me pregnant by removing a condom without my consent did it two different times (because I went through this again after the first abortion). The doctor at the abortion clinic made a derogatory comment during the second abortion, because I was very emotional ("You'll be careful next time."). (ID203)*

Some participants (n = 10) in the *qualitative interviews* also described RC episodes in institutional settings, usually when interacting with healthcare workers. These workers made inappropriate and uncalled for remarks about their sexuality and intimate relationships. Sometimes, they pressured the participants to become parents; otherwise, they viewed their lack of desire to have a child with suspicion or contempt:

> *The comments by the medical staff were horrible. The kind of thing like: 'You must be a lesbian. You just don't know it.' That's got nothing to do with it. […] 'You must have been a victim of sexual aggression.' (P10)*

Some interviewees complained about the numerous access barriers to tubal ligation ($n = 6$). Healthcare workers used various strategies to dissuade them from having one, and repeatedly refused to respect their decision. For example, one participant told us that during an appointment to request a tubal ligation, the physician suggested the pill, which the participant had declined. The physician then refused tubal ligation, explaining that it would not be covered by insurance because she was an immigrant. Although the participant was ready to pay and the physician promised to call her, that never happened.

In other situations, some healthcare workers refused to provide the requested care under the pretext that the decision to not have children was only temporary or a reaction to a situation and that they would probably change their mind later.

> *Oh, I asked many times [for a tubal ligation]. I asked maybe [30 times], or […] I don't know how many, but many, you know. I asked for it many times, and every time it was "No." You know, "We're going to insert an IUD. Anyway, it's […] a long-term birth control method, we're going to proceed with […]." (P29)*

Another argument that healthcare workers used was age. The physicians told them that they were too young to obtain tubal ligation.

> *I asked how many times to get my tubes tied, or to, like, something else, you know. So, it's always, the answer, it's always, "You're too young. It's no." You know, total refusal. […] I'm, like, fed up trying to defend myself and convince the doctors that I don't want any children. That, it's really tiring [sighs]. (P14)*

In this respect, one interviewee asked, after the physician's refusal, if age was a contraindication for a tubal ligation. The physician explained that it was not, but nevertheless insisted that the interviewee would want to become a parent someday, with a potential intimate partner. This heterosexist vision was all the more problematic because the interviewee was bisexual:

So then, I asked her, me, if there was [...] something physical or medical that prevented women my age from getting a tubal ligation. She told me, 'No, but imagine that your future husband wants children. You really haven't thought this through.' (P19)

Among those who ultimately managed to receive tubal ligation, several noted that they had to get older before healthcare workers would respect their wishes:

The coercion by the healthcare system. I consulted many times just to, get myself [...] sterilised [...] many times, but it's not easy, that. [...] What changed, what got me accepted, it was because I [...] I reached age 40, so that when I said, "I'm 40 years old," they said, "OK, now we can take you." but before [...] before I was 40 years old it was [...] it was "No." So [...] the kind of question like, "Your husband, does he agree?" (P29)

Some healthcare workers also gave this advice when the interviewees already had children, implying that they were unable to put an end to their fertility when they wanted to. For example, one interviewee remembered a comment by a physician when she asked him for tubal ligation and how he refused to consider her request. At that time, she had already gone through several unwanted pregnancies, miscarriages, and abortions. Her partner had behaved violently for several years and had enacted various forms of RC behaviours in addition to sexual and physical violence. The interviewee recalled that upon seeing in her file a number of terminated pregnancies, a healthcare worker reacted by saying that this was not a birth control method. There were no questions about the patient's relationship or overall well-being. She felt judged. At the time of the appointment with her physician, she already had several children and did not want to have another pregnancy. In her words:

I had been to see a doctor, and I told her that, basically, I explained a little about my story like this, that I had some [...] one after another, some [...] miscarriages, some [...] some [...] some [...] some [...] curettages, some [...] some abortions, that I didn't want any more, I couldn't do it anymore, like this [...] with my body. You know, at that time, I had just given birth, and I didn't want any more. I don't want any more children [...] So then, what she told me [...] she told me [...], "We can't do a tubal ligation just because you don't want to get pregnant by someone who doesn't respect you. You know, we don't know what life has in store for us." She said, "Maybe one day, you're going to want to have more children, and this, this will all be behind you, you know. After all, it's an operation, at the end of the day." And she didn't want to do it. (P31)

Some time later, when they were separated, her ex-partner sexually assaulted her, so she became pregnant again and had to have another abortion.

Many interviewees reported that when they made an appointment for an abortion, the healthcare workers' comments and attitudes put pressure on them. All the RC situations reported in this study occurred during ultrasound appointments prior to abortion. For some ($n=3$), the healthcare workers spent the appointment encouraging them to continue their pregnancy. For example, they referred to the foetus as a "baby" when they questioned the decision to abort:

I felt that she was really against the abortion. Because she told me, 'Look at it, look [...] look at your baby there, look at it. So, are you sure you want to abort it?' (P23)

Similarly, for another interviewee:

He made me feel really responsible by saying, 'There's a human being in your tummy and you want to get rid of it. It's a beautiful baby.' (P3)

In another situation, when she had been refused tubal ligation for several years and had endured several unwanted pregnancies as well as abortions and miscarriages, one interviewee was advised to continue her pregnancy to term and have the baby adopted:

And she urged me to have the baby and then give it up for adoption. That was her solution. [...] So I told myself, damn, you're thick. Hell no! I don't want a baby! You don't want to operate! So this means that every year, I'm going to have a baby and then give it for adoption? Come on! (P10)

In contrast, one interviewee felt that healthcare workers had pushed her to abort. She felt that she had been targeted by these RC strategies because she was a single parent with several children and precarious finances. The healthcare workers acted as if she no longer had the right

to have as many children as she wanted, and they pressured her to have an abortion:

> *I was mad [...] I felt that I was being manipulated by the system to encourage me to have an abortion. (P08)*

Societal context – social inequalities, cultural norms, and institutional barriers

The *online questionnaire* did not specifically address how social inequalities, cultural and social norms, and laws influenced RC experiences. However, the *written responses to the open question* provided information on how social discourses and structural contexts contributed to restricting reproductive autonomy. They revealed that the limited choice of available contraceptive methods constituted a contraceptive burden for PCBP. Almost all the hormonal and nonhormonal methods target this population, although a more varied market offer of contraceptives would better respond to their needs:

> *The lack of choice for nonhormonal contraceptives for people who can get pregnant is a contraceptive barrier for me. The lack of contraceptive choices for the ones who can get people pregnant is a huge barrier to a more egalitarian sharing of the contraceptive burden in my relationship. (ID13)*

Some participants (n = 10) wanted contraceptives to be developed specifically for men:

> *I would like there to be oral contraception or other methods for men besides the condom. (ID175).*

One wrote that these male contraceptives would reduce the contraceptive burden for those who can become pregnant:

> *It would be great if male contraception were accessible in Canada. This way contraception could be shared, or at least it could be done in alternation, and the same person would not always be responsible for it. (ID298)*

The participants noted that not only were contraceptive choices unavailable but also those that were available were not always affordable. One complained about the inconsistent insurance coverage for different contraceptive methods, particularly the copper IUD:

> *I find it completely ridiculous that this birth control method isn't covered by all the medical insurance plans. (ID105)*

The participants in the *individual interviews* reported similar experiences in societal contexts that facilitated RC behaviours or that contributed to maintaining them in RC situations. For example, one recent immigrant to Canada attributed the main responsibility for the RC she experienced to the provincial government and only after that to her violent partner. Because her financial position was precarious, with no work permit, she had to stay in the relationship with her partner. Thus, the lengthy delays imposed by the government kept her in a relationship of economic dependence:

> *As soon as I arrive here, the government should give me access to healthcare, and a work permit, and that's why I tell myself that the government is responsible, in part, for all the violence that I've gone through. (P24)*

This economic dependence was combined with her limited reproductive autonomy due to lack of access to tubal ligation, which she had requested:

> *She [the nurse] advised me to 'Use the pill. I'll write you a prescription.' I don't want that. I don't want that. I want the operation. That, for me, is what I want. But she told me it's not possible because I don't have health insurance, so I would have to pay. (P24)*

When she eventually became pregnant, her partner pressured her to terminate the pregnancy. A precarious financial situation coupled with a housing crisis (high occupancy rate, skyrocketing rents) obliged another interviewee (P17) to remain living with a partner who forced her to have unprotected sex with the intention of getting her pregnant.

The services that are offered to parents and their costs can also be determinant for PCBP's reproductive autonomy. One interviewee who wanted to have another child had to abandon this plan because of her financial situation and the high costs of child rearing:

> *At this point, with the economy the way it is, financial considerations are really important. There was a time after my separation when I [...] would have been ready to have another baby, but my finances wouldn't allow me, not with the means I had at my disposal. So, even if I would have wanted to have more children, [...] with the living conditions I was in [...] I made a choice not to have any more. And it feels like a loss, because it really affects me. (P15)*

While social contexts can keep PCBP in RC situations and/or restrict their reproductive autonomy, the inverse may also be true: they may help them recognise

RC, reduce their feelings of guilt, and stop them from downplaying RC behaviours. For example, social movements can foster awareness of RC behaviours. This was the case for one interviewee (P2), who realised that she had been subjected to contraceptive sabotage when she learned about the allegations against Julian Assange, who was accused of rape and unprotected sex with a woman. Similarly, another interviewee (P17) realised that she was a victim of nonconsensual condom removal when she learned on Instagram that it was a criminal offense.

Discussion

In this study, we adopted an ecological conceptual model informed by a feminist perspective. In line with other researchers [8, 9], we chose to empirically illustrate the various forms of reproductive coercion (RC), defined here as violence and discrimination used with the intention to restrict the reproductive autonomy of PCBP.

This study is innovative in the sense that very few authors, to our knowledge, have explored, within the same study, the diverse factors that contribute to undermining reproductive autonomy at different ecological levels and are based on the testimonies of individuals who are directly affected. Some studies have addressed intimate relationships [5, 38], while others have targeted the machinations of family and in-laws [12] or have analysed public policies, laws, and regulations [9, 21]. Our results have broader relevance by revealing 1) interrelations between the diverse environments that affect PCBP and 2) the multiple and cumulative forms of RC that these individuals experience, along with the barriers they must overcome to escape them.

The results for the interpersonal level indicate alarming rates of contraceptive sabotage, particularly nonconsensual condom removal and noncompliance to withdraw before ejaculation, even when these methods were agreed upon by both partners. These acts occurred in committed contexts (e.g., monogamous couples) and uncommitted contexts (e.g., occasional sexual partners). As described in the individual interviews, many of the committed relationships were tainted by coercive control, where RC was used to control the partner [7, 39, 40]. Moreover, the results on entourage-perpetuated RC reveal that it does not occur in isolation: one-third of the interviewees said that they had been pressured by their entourage to become pregnant, with one out of ten reporting control over pregnancy outcomes. Concurring with the results of Grace and Fleming's [41] systematic review, these interviews shed light on alliances between the partner and family or in-laws, who combined their efforts to influence or restrict their reproductive choices. In some cases, the partner instigated the RC, and in others, the RC was perpetuated mainly by the entourage with the partner as an accomplice. This constraint on the reproductive autonomy of PCBP is worrying, particularly because it questions the assumption that the entourage, and especially the family, would provide support for victims of intimate partner violence [42]. When combined with the partner's behaviours, the RC perpetuated by family and in-laws acts to further isolate victim-survivors and prevent them from accessing resources.

The results for the community level were obtained from the individual interviews and the written responses to the online questionnaire. They showed that healthcare workers contributed to restricting reproductive autonomy, mainly by imposing contraceptive choices that failed to meet their patients' needs and wishes. Moreover, they imposed the risk of unwanted pregnancy when they refused, without medical justification, to perform the requested tubal ligations. The participants clearly believed that the healthcare workers felt that they were mistaken in assuming that they would never want any more children and that they would regret their decision in hindsight. This attitude is infantilisation at best, and it belittles the ability of individuals to decide for themselves.

The healthcare workers enacted these RC behaviours during sonograph appointments prior to abortions where some participants reported being encouraged to continue the pregnancy. We also observed the opposite case for one single-parent mother who wanted more children: she felt pressured to abort, against her stated wishes. Thus, healthcare workers transmitted their biases and prejudices through their words and attitudes. In this sense, they provided differentiated care that changed according to how they perceived the patient. This echoes the research on forced sterilisation of Aboriginal women: many women from First Nations communities in Québec [15] and elsewhere in Canada [43–45] have received tubal ligations without their knowledge or consent. Although these behaviours may also be considered gynaecological violence, they contribute to reducing the capacity to act, to choose, and to retain control over one's reproductive autonomy, and therefore fall under our definition of RC.

The results at the societal level reveal some of the structural barriers that undermine the ability to make choices and the right to control one's reproductive autonomy. The participants mentioned the limited range of birth control methods that were available to them, which narrowed their choices. They also reported limited financial resources with which to purchase them. Unlike British Columbia (another Canadian province), which defrays the costs of oral and intrauterine contraceptives, the copper IUD, and emergency oral contraception, regardless of age, Québec residents must pay their own way. Some contraceptives are reimbursed by insurance, whether private or public. However, this does not eliminate insurance costs such as monthly premiums and deductibles,

which means that insured individuals ultimately assume the bulk of their contraception costs. Moreover, uninsured individuals receive no financial assistance for contraception, despite their financial precarity.

The elements at the interpersonal, community, and societal levels are interwoven in their influences on reproductive autonomy. For example, societal norms, such as those emphasising gendered responsibility for fertility control, shape institutional practices within healthcare systems (e.g., clinical guidelines that recommend questioning patients about contraception when they seek an abortion), which in turn influence community-level interactions between healthcare providers and patients (e.g., gynaecologists pressuring patients to choose and efficiently use contraceptive methods). In interpersonal dynamics, partners or family members may internalise societal expectations and exert reproductive control through direct behaviors. The cumulative effects of interpersonal experiences can reinforce and perpetuate broader community and societal patterns in a multidirectional flow between levels. For example, a partner sabotaging contraception, leading to an unintended pregnancy, can place the burden of responsibility solely on the pregnant person when they seek an abortion, as societal norms and healthcare practices often blame them for failing to prevent pregnancy.

Akin to Graham et al.'s [9] ecological framework, our findings thus illustrate the interconnectedness of multiple levels of influence on RC, spanning individual, community, and societal dimensions. Graham et al. argue that adopting an ecological perspective serves primary prevention efforts by situating individual experiences within broader systemic and cultural contexts. This approach not only identifies the diverse sources of RC but also elucidates how these forces interact to undermine autonomy. Addressing these intersecting dimensions enables a shift from tertiary responses, which focus on victim-survivors, to a preventative framework aimed at transforming societal structures and cultural norms to mitigate RC at its roots (primary prevention). This multi-level strategy aligns with our findings and underscores the need for approaches that integrate education, policy reform, and community engagement to safeguard reproductive autonomy, rights, and justice.

Limitations and strengths

This study has limitations. The results were obtained from a multimethod study comprising two data collections addressing slightly different research objectives. Consequently, the measurement tools and interview questions were not systematic. This could generate disparities in terms of data depth or volume for different ecological levels.

While the use of a convenience sample limits the generalisability of the findings to broader populations, the rich qualitative data and the integration of multiple methodological approaches enhance the transferability of the results. Indeed, some of our results (e.g., the role of healthcare workers in undermining reproductive autonomy through practices such as withholding information, pressuring individuals into contraceptive methods, or refusing tubal ligations; and the influence of family and societal pressures, such as patriarchal systems and natalist expectations, in perpetuating RC) could be transferable to contexts where reproductive coercion is shaped by similar interpersonal, cultural, and systemic factors. This may be the case for other high-income countries with patriarchal gender structures, limited male contraceptive options, and healthcare systems that have power over reproductive decision-making.

This study makes a significant contribution to the understanding of RC. Unlike prior research, which often focuses strictly on intimate partner perpetration, this study broadens the scope to include RC perpetrated by members of the social network (entourage) and explores the interplay of interpersonal, community, and societal factors. The sequential multimethod design, which combines quantitative prevalence data with qualitative insights, allows for a more complete understanding of RC that integrates breadth and depth. This study also shows the cumulative and intersecting influences of various ecological levels. These findings are particularly valuable for informing global, evidence-based interventions aimed at promoting reproductive autonomy and addressing RC as a public health and social justice issue.

Conclusion

A deeper understanding of the contexts in which RC takes place is needed to develop adequate interventions to address this social and health issue. Whereas RC acts and behaviours occur mainly at the interpersonal level, the attitudes, comments, and behaviours of healthcare workers, who regularly provide front-line support for victim-survivors, appear to pose additional barriers to the exercise of reproductive autonomy. To these, we may add the cultural norms that place the responsibility for fertility on PCBP's shoulders and the social inequalities that limit their access to contraception. Changes across all the levels are needed to create environments that facilitate and promote health and reproductive autonomy. For example, professional associations related to reproductive health could raise awareness of the restrictions that healthcare workers impose and remind them of their ethical obligations. Universal coverage of all contraceptive methods should also be implemented to ensure affordability and accessibility for everyone, regardless of socioeconomic status. Moreover, public awareness campaigns

are needed to challenge cultural and societal norms that place disproportionate responsibility for contraception on people with the capacity to become pregnant, and to promote shared responsibility for reproductive health.

Further empirical studies are also needed to examine RC experienced by PCBP while considering interpersonal, community, and societal contexts. The legal aspects of restricting reproductive autonomy should also be explored. A fuller understanding of RC would enable the deployment of preventive strategies that are adapted, holistic, and consistent with a public health approach that aims to achieve universal access to health, well-being, and social justice.

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Authors' contributions
The authors confirm contribution to the paper as follows: Study conception and design: SL, MF, SLapierre, MMC; JL Data collection: SL, CR, CB; Analysis and interpretation of results: CR, CB, AB, SL; Draft manuscript preparation: SL, CR, CB, AB. All authors reviewed the results and approved the final version of the manuscript: SL, CR, CB, MF, SLapierre, AB, MMC, JL.

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Data availability
Since the data contain potentially sensitive information about study participants, the Universite du Quebec à Montreal (UQAM) Human Research Ethics Board has only approved storage of the dataset on secure institutional servers. Any requests to access the data can be made to Universite du Quebec à Montreal Human Research Ethics Board: ciereh@uqam.ca; Reference Ethics Protocol Number: 2020–3064.

Declarations

Competing interests
The authors declare no competing interests.

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