Research

Parents' perspectives on SARS-CoV-2 vaccinations for children: a qualitative analysis

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Abstract

Background: Uptake of the SARS-CoV-2 vaccine for children aged 5–11 years has been lower than anticipated in Canada. Although research has explored parental intentions toward SARS-CoV-2 vaccination for children, parental decisions regarding vaccinations have not been studied in-depth. We sought to explore reasons why parents chose to vaccinate or not vaccinate their children against SARS-CoV-2 to better understand their decisions.

Methods: We conducted a qualitative study involving in-depth individual interviews with a purposive sample of parents in the Greater Toronto Area, Ontario, Canada. We conducted interviews via telephone or video call from February to April 2022 and analyzed the data using reflexive thematic analysis.

Results: We interviewed 20 parents. We found that parental attitudes toward SARS-CoV-2 vaccinations for their children represented a complex continuum of concern. We identified 4 cross-cutting themes: the newness of SARS-CoV-2 vaccines and the evidence supporting their use; the perceived politicization of guidance for SARS-CoV-2 vaccination; the social pressure surrounding SARS-CoV-2 vaccinations; and the weighing of individual versus collective benefits of vaccination. Parents found making a decision about vaccinating their child challenging and expressed difficulty sourcing and evaluating evidence, determining the trustworthiness of guidance, and balancing their own conceptions of health care decisions with societal expectations and political messaging.

Interpretation: Parents' experiences making decisions regarding SARS-CoV-2 vaccination for their children were complex, even for those who were supportive of SARS-CoV-2 vaccinations. These findings provide some explanation for the current patterns of uptake of SARS-CoV-2 vaccination among children in Canada; health care providers and public health authorities can consider these insights when planning future vaccine rollouts.

In November 2021, children aged 5–11 years became eligible to receive the SARS-CoV-2 vaccine in Canada.[1] Before regulatory approval of SARS-CoV-2 vaccines for children, about two-thirds of parents in Canada reported a willingness to have their child receive the vaccine.[2–4] However, uptake of the vaccine for this age group has been lower than initial evidence of parental intent suggested. As of October 2022, only 47% of 5- to 11-year-old children in Canada had received at least 1 dose of the SARS-CoV-2 vaccine, and 42% had completed their primary series, compared with 90% and 88%, respectively, of people aged 12 years and older; rates in Ontario were similar.[5]

Considerable research has evaluated parental intention to vaccinate their children against SARS-CoV-2 in Canada[2–4,6–8] and internationally,[9–16] but few studies have explored parents' decisions to have their children vaccinated or not, once eligible.[17] Given the observed discrepancy between parental intention and decision to seek vaccination for their children against SARS-CoV-2, it is critical to investigate how and why parents make their decisions. Understanding the factors that influence parents to seek vaccination against SARS-CoV-2 for their children, or not, would help inform policies and interventions focused on this population and would help health care professionals understand parents' perspectives and concerns.

Vaccine hesitancy is defined by the World Health Organization as a "delay in acceptance or refusal of vaccines despite availability of vaccination services."[18] This definition is often used to describe individuals who have apprehension about vaccination, choose to delay vaccination or refuse vaccines entirely.[19] Attitudes toward SARS-CoV-2 vaccination for children have received much attention in the literature, but most studies have used quantitative surveys to measure vaccine hesitancy; in-depth qualitative evidence on the reasons underlying those attitudes and decisions

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is needed. Although the spectrum of hesitancy for SARS-CoV-2 vaccination is acknowledged in the literature;[20–22] the full range and nature of these perspectives, and the experiences of parents related to SARS-CoV-2 vaccination decisions for their children, has not yet been explored. We sought to understand why parents chose to seek vaccination against SARS-CoV-2 for their children or not, and to capture the nuances of these decisions.

Methods

Study design and setting

We used interpretivist qualitative inquiry to explore the attitudes of parents in Ontario, Canada, toward SARS-CoV-2 vaccination for their children. We applied markers of quality in qualitative research and reported our study according to the Consolidated Criteria for Reporting Qualitative Research (COREQ).[23,24]

Study participants were parents of children aged 5–18 years, enrolled in The Applied Research Group for Kids (TARGet Kids!), a primary care practice–based cohort study in the Greater Toronto Area.[25,26] We purposively sampled participants based on their participation in and responses to a TARGet Kids! COVID-19 survey, conducted January 2021 through January 2022. We sought to recruit 20 individuals to explore a range of views about SARS-CoV-2 vaccination for themselves and their children, as indicated by the following survey responses: SARS-CoV-2 vaccination was important for themselves, but not their children; SARS-CoV-2 vaccination was important for themselves, but they were neutral or unsure about its importance for their children; SARS-CoV-2 vaccination was important for both themselves and their children; or SARS-CoV-2 vaccination was not important for themselves or their children. We recruited participants by phone or email, and interviewers (J.W., J.A.P.) obtained verbal informed consent from all participants.

Data generation and analysis

We conducted individual interviews via telephone or video conferencing, according to participant preference, using a semi-structured guide developed by the research team, who have experience in qualitative inquiry (Appendix 1, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.221401/tab-related-content). Two authors (J.W., J.A.P.) conducted the interviews from February to April 2022. Interviews were about 60 minutes in length and were audio recorded and transcribed verbatim.

We concurrently generated and analyzed data using reflexive thematic analysis.[27,28] Two authors (J.W., K.H.) independently read, coded and analyzed all transcripts. They each generated preliminary codes and analytical themes. A subset of the team (J.W., K.H., J.A.P., C.J.-P.) then discussed the preliminary themes and, through discussion and further review of the data, iteratively generated a final set of themes. Another author (K.A.) reviewed a sample of 6 interviews and confirmed alignment of the data with themes. All authors reviewed the findings for cohesiveness and resonance. A summary of early themes was also presented and discussed with the TARGet Kids! Parent and Caregiver Team (an advisory committee); we reflexively and interpretatively updated the results with their input.

Table 1: Participant demographic characteristics

Characteristic	No. of participants $n = 20$
Age of parent, yr	
< 30	0
31–40	7
≥ 41	13
Sex of parent	
Male	2
Female	18
No. of children	
1	5
2	10
≥ 3	5
Age of children, yr*	
< 5	7
5–11	20
≥ 12	4
Parent country of birth	
Canada or United States	14
Europe or Middle East	3
South America or Caribbean	3
Ethnic background	
White	16
Black	2
Other	2
Highest level of education	
Elementary or high school	2
College	5
University degree	13
Household income, $	
< 79 999	5
80 000–149 999	7
150 000–200 000	6
Missing	2
SARS-CoV-2 vaccination status of parent	
Vaccinated	17
Unvaccinated	3
Parent survey responses regarding importance of SARS-CoV-2 vaccination†	
Important for parents, but not children	7
Important for parents, but neutral or unsure for children	5
Important for parents and children	1
Not important for parents or children	6
Previous SARS-CoV-2 infection of parent	
Yes	7
No	13

*All participants had at least 1 child who was 5–11 years old; ages of other children were not available in all cases.
†One participant was identified through snowball sampling rather than the survey.

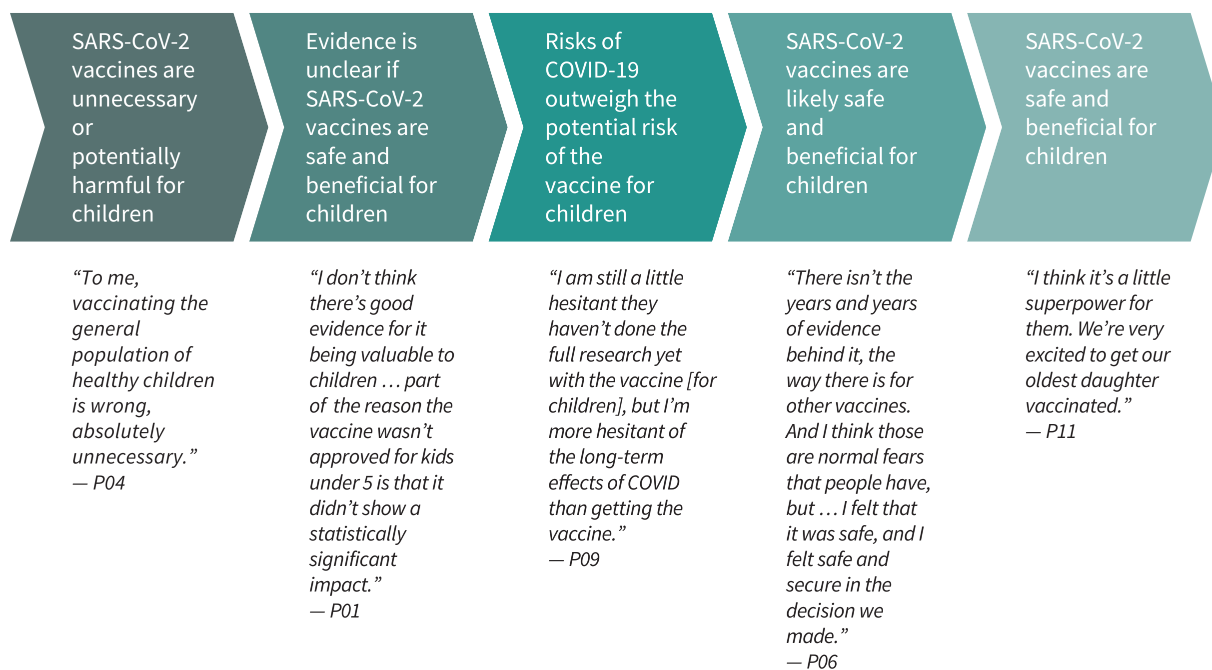

Figure 1: The continuum of parental concern about SARS-CoV-2 vaccines for children.

We engaged in reflexivity throughout this process. Specifically, we acknowledged our social positions as parents, clinicians and health researchers, and how our own perceptions of SARS-CoV-2 vaccinations might frame our analysis. As such, we approached data generation and analysis by questioning and challenging the assumption that there are right or wrong attitudes toward vaccination.

Ethics approval

We received ethics approval for this study from the research ethics boards of Unity Health Toronto, the Hospital for Sick Children and the University of Toronto.

Results

We interviewed 20 parents, 19 of whom were recruited based on their survey responses; we recruited 1 additional participant within the TARGet Kids! study cohort through snowball sampling strategies to elicit the perspective of male caregivers. Participants' demographic characteristics are summarized in Table 1.

Our analysis indicated that parental attitudes toward SARS-CoV-2 vaccinations for their children represented a complex continuum of concern (Figure 1), which was influenced by 4 crosscutting themes: the newness of SARS-CoV-2 vaccines and their supporting evidence; the perceived politicization of guidance for SARS-CoV-2 vaccination; the social pressure surrounding SARS-CoV-2 vaccinations; and the weighing of individual versus collective benefits of vaccination. These findings are described in detail below and are synthesized in Table 2. Supporting quotes are presented in Table 3.

A continuum of concern

The choice of whether or not to seek vaccination against SARS-CoV-2 for their children represented a challenging decision for nearly all parents interviewed. Despite high vaccination rates among parents (Table 1), most participants expressed some degree of concern about vaccinating their children, which did not represent a dichotomy of pro-vaccine versus anti-vaccine views, but rather a spectrum of perspectives between these possibilities (Figure 1).

Newness of SARS-CoV-2 vaccines and supporting evidence

Many participants voiced concern with the newness of SARS-CoV-2 vaccines, the novelty of the technology (e.g., mRNA vaccines), and the paucity of evidence around their associated risks and benefits in children. Some participants wanted to wait for further evidence of the vaccine's potential long-term adverse effects. Others described being open to SARS-CoV-2 vaccinations for children, but were unconvinced by the evidence of efficacy to date, particularly compared with routine childhood immunizations:

> "I am fully supportive of all other vaccines. My kids are fully vaccinated. We're fully vaccinated. I believe in herd immunity and I believe in getting a vaccine even if you don't need it, if it will protect other people. But it doesn't seem like this vaccine does that [for children]." — P01

Participants remarked on the considerable burden of researching and evaluating evidence on SARS-CoV-2 vaccinations to inform their decision-making. They spoke of balancing information from scientific data (e.g., government websites), advice from friends and colleagues, personal experiences of family and friends, and anecdotes about vaccine adverse effects. Individuals' previous experiences within the health care system also affected their trust of public health interventions, including SARS-CoV-2 vaccination.

Table 2: Summary of participant perspectives on factors related to SARS-CoV-2 vaccinations for children

Theme	Dissuading factors	Persuading factors
Newness of SARS-CoV-2 vaccines and supporting evidence	• Uncertainty about vaccine risks and adverse effects, given their newness • New mRNA technology and limited understanding thereof • Lack of clear evidence of benefit or need of SARS-CoV-2 vaccine for children • Perception that SARS-CoV-2 vaccine is different, and therefore less trustworthy, than other (routine) childhood vaccines • Perception that risk of vaccine outweighs risk of COVID-19 (based on either sparse evidence regarding long-term adverse effects or individual stories of adverse effects) • Reduced opportunities for in-person discussions with health care providers because of the shift to virtual care	• Trust in evidence supporting vaccines, despite their newness • Perception that risk of COVID-19 outweighs potential risk of vaccine (based on appraisal of evidence or experience witnessing individuals contracting SARS-CoV-2) • Consultation with trusted sources (e.g., health care providers, colleagues)
Politicization of SARS-CoV-2 guidance	• Perception that guidance for SARS-CoV-2 vaccination is politically or financially motivated • Distrust of politicians who may have biases or agendas • Distrust of media who are seen as having taken sides or fear mongering • Dissatisfaction with government involvement in health care decisions, including public health measures for COVID-19 (e.g., masking and social distancing requirements).	• Widespread messaging (from politicians, news sources, social media, etc.) keeping vaccination top of mind
Social pressure surrounding SARS-CoV-2 vaccinations	• Pressure from family members to not get vaccinated • Inability to ask questions or voice concerns for fear of being labelled "anti-vax"	• Pressure from family members to get vaccinated • Fear of stigma or exclusion if unvaccinated (e.g., kids being excluded from sports teams, being ostracized at school)
The weighing of individual v. collective benefit	• Unease about putting foreign substances into children who are still developing (most concerning for younger children) • Concern about potential vaccine adverse effects because of perceived parental responsibility or child's specific medical condition • Lack of perceived need for their own child because of previous infection, adherence to measures such as masking or perceived health of child • Lack of convincing evidence of the public health benefits of vaccinations for children • Perception that children should not be responsible for the health of others	• Individual protection against SARS-CoV-2 • Public health benefits (e.g., reducing spread, herd immunity, protecting others) • Desire for return to normalcy (e.g., kids socializing again, no longer wearing masks, returning to in-person classrooms) • Allowing children to make choice for themselves

Perceived politicization of guidance for SARS-CoV-2 vaccination

Participants spoke extensively about their perceptions of politicization of guidance around SARS-CoV-2 vaccination and their struggle to decipher the truth. Many expressed that guidance regarding vaccination of children appeared to support political agendas, rather than to be scientifically motivated, which undermined their trust in the information:

> "Parents that are trying to make the best decisions are always concerned that they're not getting the full truth when they see the media... that probably has a lot to play with people's anxiety and comfort level in making decisions, especially around COVID. Everything feels very political." — P05

Although most parents conveyed respect and trust in health care providers and the health care system, some expressed mistrust of drug manufacturers ("Big Pharma") and those communicating recommendations (e.g., politicians, media), given their perceived biases. Several attributed this distrust to their experiences living in countries with other types of governments. Many noted a preference for guidance regarding COVID-19 to be communicated by health care providers, rather than politicians, with one implicating the politicization of SARS-CoV-2 vaccinations in her decision to not seek vaccination for herself or her child:

> "I'm very uncomfortable with politicians selling vaccines on TV or on social media… I just feel it's a decision that should have been between my doctor and myself for my children… Maybe if the government had stayed out of it, maybe we would have [gotten vaccinated]." — P08

Conversely, other participants outlined their trust in COVID-19 guidance and the government's involvement ("Whatever the government says… I'm going to follow it." — P19), indicating that they believed this guidance helped to ensure public safety.

Table 3: Supporting quotes by theme

Theme	Supporting quotes
Newness of SARS-CoV-2 vaccines and supporting evidence	"It's so new, it's a little scary and … a little guinea pig-ish." — P06 "My main motivation for not doing it right now is, I just feel the comfort in the vaccine being around a longer time, like it being studied on more people and looking at the effects of it for a longer time, because it's so new." — P13 "A primary decision not to get vaccinated as of yet is because there is not enough information out there for anybody. It's not just that I don't get it, the doctors don't have it, because there was not enough time to study those vaccines and the adverse reactions from the vaccines." — P15
Politicization of SARS-CoV-2 guidance	"I feel more than ever that, unfortunately, our mainstream media doesn't always have it right, which is frustrating. I feel like you used to be able to trust the news and now not so much." — P07 "[I trust] my doctor … [But] not the government. Not the news … not the people that are making billions off of these vaccines, that's for sure." — P10 "We ultimately have trust in the recommendations. And I think that the government or the governing bodies are always making the best choices for us, or … getting the information to us in the right way." — P11
Social pressure surrounding SARS-CoV-2 vaccinations	"Right now, it seems like you are either pro-vaccine or anti-vax. And if you haven't gotten a [SARS-CoV-2] vaccine, even if you're not anti-vax, but you just don't want *that* one, you're still lumped into the [anti-vax] category." — P07 "[My friends and I] just chose to … not talk about [SARS-CoV-2 vaccines] because that would have gone the wrong way and we wouldn't be friends anymore." — P04 "The second you say anything negative about the vaccine, [or have] questions about COVID, you're instantly, your social media is shut down. You can't question anything. Who would want to put something like that in their body, when people can't even vocalize their experiences, to be comfortable to even consider it?" — P10
The weighing of individual v. collective benefit	"I guess with the 5- to 11-year-olds, it's a little more of doing it altruistically for society, versus, the single benefit to kids getting the vaccine just for themselves … getting back [to] normalcy and protecting our society as a whole." — P06 "The decision to not get vaccinated and to not vaccinate a family member is not an easy decision to make… But I think in the end, if it's the right decision for us, [then] I think that's how society has to look at this. We can't look at it as a group decision. We have to look at it as an individual family decision." — P08 "Who will be responsible 5 years from now? Nobody. It's only me and my decision, that I have to pay for, my own body and my children's body in the end." — P15 "As an adult, I made a decision to be vaccinated right away because I felt that was my social responsibility, but I don't know children have that same responsibility." — P20

Social pressure surrounding vaccination against SARS-CoV-2

Participants discussed social pressure surrounding SARS-CoV-2 vaccinations and the stigma of being unvaccinated. Some noted finding this pressure unfair since they felt they had legitimate questions and concerns they could not voice for fear of being labelled an "anti-vaxxer." Moreover, they highlighted their support for other routine childhood immunizations to underscore that they should not be categorized alongside radical "anti-vax" groups:

> "I am not against vaccines. I am not an anti-vaxxer. I am not anti-Western medicine. I am just trying to gather information and make the best decision." — P15

Even some parents who were supportive of SARS-CoV-2 vaccines indicated they were motivated to seek vaccination for their children to avoid stigma. Others noted feeling vilified for not wanting to do so, and several noted that the threat of social exclusion led them toward vaccination:

> "Because of the fact that my daughter was going to be ostracized in school and my son was not going to be allowed to play baseball, we collectively made a decision to vaccinate our children… but I feel they were coerced into being vaccinated." — P04

To many, vaccination represented the only route back to normalcy and to the activities they deemed vital for their children's social and emotional needs.

Weighing of individual versus collective benefits of vaccination

In their decision-making, almost all parents highlighted the tension between individual and collective vaccination benefits. Some expressed wanting to do what is best for society (e.g., reduce spread of SARS-CoV-2), but felt an immense responsibility of making the best decision for their children:

"I do believe that the more people that are vaccinated, including children, the better it is for everybody... But, for some reason, I think it's just my own anxiety when it comes to [my] own children that something might happen or they might get a reaction." — P03

Several participants were swayed by the collective benefit and ultimately chose vaccination for their children because of broader public health goals: "We all have to do our part. I do strongly believe in that" (P03). However, others emphasized more individually focused perspectives about vaccination, stating their own children did not need to be vaccinated because they were healthy or that families should make this decision for themselves; the needs and interests of others should not influence individual health care decisions:

"One doctor said, 'Well, it's not about the individual needs, it's about the greater good of society'. But… I don't think it's a good answer… we all live different lifestyles. What I need isn't necessarily what you need, and what's good for me or what's good for my child isn't necessarily what's good for another child." — P08

Some parents noted collective motivations for vaccinating themselves, but did not believe children should be held responsible for the health of others. Others recognized the potential collective importance of vaccinating children for SARS-CoV-2, but were unconvinced by evidence on the safety of vaccinating children relative to its benefits, or by evidence that vaccinating children would reduce spread, particularly given emerging SARS-CoV-2 variants.

Interpretation

We explored parents' decisions regarding whether or not to seek vaccination against SARS-CoV-2 for their children to understand the nuances surrounding decision-making, and to unpack the notion of vaccine hesitancy among parents. Although vaccine hesitancy is often used to broadly describe an attitude of opposition to vaccination, our findings suggest that parents who had not yet sought vaccination against SARS-CoV-2 for their children are not a homogeneous group, nor can parents' attitudes be dichotomized as for or against vaccination. Instead, we observed a continuum of concern related to SARS-CoV-2 vaccinations for children, ranging from being opposed to vaccination, to questioning the safety and necessity of vaccination, to supporting vaccination but being uncompelled by sources of information or the evidence to date regarding vaccine efficacy. Parents' concerns appeared to be influenced by an intersection of multiple forces, including the newness of SARS-CoV-2 vaccines and supporting evidence, individual versus collective benefits of vaccination, degree of trust of government and drug manufacturers, and social pressure to seek vaccination for one's children for fear of stigma and ostracism.

Our conceptualization of parents' continuum of concern aligns with research depicting vaccine hesitancy as a spectrum, rather than a dichotomy.[20–22] Our study shows that this continuum is applicable to understanding attitudes about SARS-CoV-2 vaccines, and highlights some of the gradations of concern and influencing factors. Participants' concerns about the newness of the SARS-CoV-2 vaccine and supporting evidence, and the uncertainty of its long-term adverse effects for children, align with previous studies that found concerns that the potential risks of the vaccine often outweighed concerns over one's child acquiring SARS-CoV-2 infection.[2,3,6–12,14–17] Some study participants placed more emphasis on stories of the adverse effects experienced by others who received the vaccines than scientific evidence of the vaccines' safety and benefits, a finding consistent with research on the influence of personal stories on vaccine attitudes, and the challenges of understanding health statistics and risks.[29–31] Further to these studies, our findings illuminate the effort that parents expended to source and weigh evidence and that, irrespective of their attitudes toward being vaccinated themselves, they found the decision regarding vaccination against SARS-CoV-2 for their children to be challenging. Our study also highlights the additional complexities that influenced decision-making, notably, the varying effects of social pressure on vaccination behaviour. Although fear of stigma or exclusion led some participants to seek vaccination for their children, it prevented others from asking the questions that might have persuaded them toward vaccination. This barrier to asking questions may have been exacerbated by the reduced opportunities for in-person discussions with health care providers during the COVID-19 pandemic.[32]

Our findings also suggest that attitudes toward vaccination were influenced by how evidence was communicated and by whom. Some participants distrusted guidance communicated by politicians or the media, echoing the inclination for people to want medical information from health care professionals, who were seen as trusted arbiters of evidence.[10,33,34] The importance of concerns about politicization of medical information should not be underestimated, as Goldenberg[35] argues that, generally, vaccine hesitancy can be attributed to a crisis of public trust rather than poor understanding of evidence. In addition, some participants experienced misalignment between their perspectives on vaccination and broader public health communications; those who saw health care decisions as individual choices found messaging about the collective benefits of vaccinations to be inappropriate. Although some may be encouraged by collective messaging, others, particularly those most concerned with the risks of SARS-CoV-2 vaccination, may be motivated more by information on the individual benefits of vaccination than their collective gains.[36,37] Many participants expressed wanting individualized information from their doctor about vaccination, as people tend to question whether evidence applies to them personally.[34]

Collectively, these findings have implications for how information on SARS-CoV-2 vaccination is communicated by governments and health care providers. Future guidance should highlight both individual and collective benefits of SARS-CoV-2 vaccination for children; however, health care providers should prioritize individualized discussions with parents to help interpret

evidence, understand risks and benefits and provide tailored recommendations.[38–41] Providers may assuage fears about the newness of the vaccine by clarifying the vaccine approval process, potential adverse effects and the strength of evidence on SARS-CoV-2 vaccines to date.[42] It is important for health care providers to understand that parents who seem hesitant to vaccinate their children may have a variety of reasons for feeling this way, and may be reticent to ask questions for fear of stigma; these conversations should therefore be approached with empathy and openness. Future research that explores health care providers' approaches to conversations with parents regarding SARS-CoV-2 vaccination is needed to better understand these interactions and to learn how parental decision-making might be further facilitated. Exploring parental and health care provider perspectives toward vaccinations for children younger than 5 years is also critical, given the recent approval of SARS-CoV-2 vaccinations for children aged 6 months to 5 years.[43] In light of the continuum of concern we observed among parents, we suggest that future research disaggregate those who have not yet chosen to vaccinate their children and seek to understand the varying perspectives and motivations of these individuals.[44] It would seem wise to move away from labelling people as "hesitant" and instead find ways to promote dialogue and attend to the nuance and complexity of attitudes toward vaccination.

Limitations

Participants were mostly women who lived in Ontario households with high levels of income and education, selected from from an existing cohort study of families willing to engage in longitudinal research.[25] Thus, our findings may not be representative of all parents in Canada. However, purposive sampling allowed us to elicit a range of perspectives related to vaccination. In addition, providing rich empirical data to support the production of themes may offer the opportunity to generalize findings to other situations or contexts.[45] We conducted this study during a period of protests against SARS-CoV-2 vaccine mandates and restrictions in Canada, which may have affected participants' views on SARS-CoV-2 vaccination.[46] Our findings represent participants' perspectives amidst evolving public health measures, at a time when the government's role in health care was prevalent in the media and public discourse.

Conclusion

We observed a complex continuum of concern among parents in our study regarding seeking vaccination against SARS-CoV-2 for their children. Our findings highlight that parents' decisions are influenced by how they weigh evidence, their trust in the sources and communicators of evidence, their views concerning individual and collective responsibility, and their responses to social and political pressures. This study provides insights regarding on the pattern of uptake of SARS-CoV-2 vaccination for children aged 5–11 years in Canada, and regarding the parental intention–behaviour gap;[29] these insight could prove important for the planning of future vaccine rollouts. Future public health communication may benefit from highlighting both individual and collective benefits of SARS-CoV-2 vaccination for children, prioritizing health care providers as messengers of this information and incorporating opportunities for personalized discussions with families about the risks and benefits of SARS-CoV-2 vaccination for their children.

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