Using public playgrounds during COVID-19 pandemic: A Survey of Parental Knowledge, Attitudes, and Beliefs

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Abstract

Background: The possibility of COVID-19 transmission by environmental surfaces such as playground equipment has been previously suggested. The objective of this study was to investigate how the parents' Knowledge and beliefs regarding using public playgrounds contribute to asymptomatic community transmission of the virus.

Methods: An online survey questionnaire was designed through SurveyMonkey (Palo Alto, California, USA), including 18 closed-ended and one open-ended question. Albertans having at least one non-school-aged child were invited to participate via a link placed on social media platforms. The initial survey was sent out in December 2020, and the survey period continued for 3 weeks. The survey results were summarized, graphed, and reported using SurveyMonkey.

Results: A total of 162 anonymous responses were included in this study. Overall, the dimensions evaluated have demonstrated remarkable levels of compliance with the current public health measures among parents (Average score 6.1/9.0 (68%)). However, most respondents believed a more stringent health measure is needed to improve public playground safety during this pandemic, such as regular cleaning and sanitizing the equipment, capacity restrictions, sanitizer available at playgrounds, etc. While the majority of respondents were aware of the possibility of COVID-19 transmission through public playgrounds, there were some indications of inappropriate use of playgrounds; a few parents used playgrounds even after the child was diagnosed with Covid-19 infection or identified as a close contact of someone who is confirmed as having COVID-19 by a health care provider.

Conclusions: Our study highlights the current lack of screening and risk assessments of public playgrounds that may contribute to an increase in a variety of pathogens, including COVID-19, that cause a range of health outcomes.

Introduction

Coronavirus Disease 2019 (COVID-19) has expanded as a global pandemic since December 2019(1). In Canada, as of November 7, 2020, over 9 million tests have been performed, with over 260,000 tests resulting in positive(2). This disease has resulted in over 10,000 deaths in Canada (2). At the time of conducting this study, Alberta had the 7,736, second-highest number of active COVID-19 cases per capita in all provinces after Manitoba. Of which, over 1100 cases have been identified among children under six years old in Alberta (3).

Few epidemiological studies so far have focused on COVID-19 in children, mainly because they are supposed to have a significantly milder clinical symptom (4). However, a novel post COVID-19 hyperinflammatory syndrome has been reported in children that is potentially lethal, and long-term outcomes from this condition are currently unknown (4–6). In addition, evidence shows that children may play an important role in asymptomatic community transmission of the virus(7). This is important

because evidence shows that of the 3,768 new cases reported in Alberta between October 27 and November 2, the source of infection could not be identified in 2,548 (67 %) cases (8).

Furthermore, children have been experiencing a high burden of indirect physical, social, and mental health effects due to reduced non-urgent care or general pandemic control measures(8). Therefore, the child health, while assessing the current outbreak, should not be neglected, and steps should be taken to mitigate the damage, especially now that the rise of the new variant, subsequently designated as delta, seems to have a higher transmission rate among children compared to previously identified variations (7).

Important roles of public playgrounds in the transmission of non-COVID diseases in non-school-aged children have been reported previously (9, 10), leading to the policy of preschool closure and disinfection of toys, and surfaces for outbreak control. So far, only one study has investigated playgrounds as a potential source of COVID-19 spread and reported that 4.6% of collected environmental samples tested positive for COVID-19. However, several studies have shown the Coronavirus can remain viable on metal, glass, and plastic for as long as nine days, and can even remain for up to 28 days in low temperatures unless they are properly disinfected (7–9). Given that the playground equipment is not currently being cleaned and sanitized regularly, there is a need for risk assessment. In addition, more studies are needed to clarify whether the recovery of viral RNA on outdoor surfaces also indicates the possibility of acquiring the virus and to monitor transmission dynamics in children by observing them and their parents or guardians. Therefore, in this study, we investigated how the parents' Knowledge and beliefs regarding using public playgrounds contribute to asymptomatic community transmission of the virus.

Methods

Study design and population

An online survey questionnaire was designed through SurveyMonkey (Palo Alto, California, USA) to assess whether parents comply with COVID-19 rules using playgrounds, the risk of COVID transmission from playgrounds, and to obtain parents' perspective of the current COVID guidance for using playgrounds among Albertans having at least one non-school-aged child. In total, 19 questions, 18 closed ended and one open ended question, were included in this survey.

Volunteers were invited to participate via a link placed on social media platforms, including Facebook, Twitter, Instagram, and LinkedIn. In addition to an Ad on Facebook, a passive recruitment, which involves distributing recruitment materials (ads, posters, and SurveyMonkey link) was used to attract potential participants to contact the research team for more information and consideration of enrollment. The social media platforms gave us the option to target users by specific locations (i.e., Alberta) or demographic (e.g., adults, parents). Participation in this study was voluntary and anonymous, and no financial compensation was offered to the participants.

The initial survey was sent out in December 2020, and survey period continued for 3 weeks.

Statistical consideration

Survey results were summarized, graphed, and reported using SurveyMonkey and STATA software. Quantitative variables were expressed as mean $\pm$ standard deviation (SD), for normally distributed data, or median (interquartile range (IQR)), for non-normally distributed data, respectively. Categorical data were expressed as numbers (percentages). For sensitive data, a statistic was suppressed if the number of actual records used in the calculation (not rounded or weighted) was less than 10, in accordance with the Statistics Canada guidelines(11, 12).

Results

Characteristics of respondents and their children

A total of 162 anonymous responses were included in this study. Characteristics of participants are shown in Table 1, panels A and B. The mean age of the guardians was 35.8 years, 134 (82.7%) were females (mother or other female guardians), 27 (16.7%) were males (father or other female guardians), and 1 (0.6%) was unknown. In addition, the majority of the guardians, 110 (67.9%), had a post-secondary degree, and had only one child 80 (49.4%).

The mean age of the children was 3.47 years, 79 (48.8%) were females, 82 (50.6%) were males, and 1 (0.6%) was unknown. The most common type of childcare programs used by guardians during the pandemic were preschool programs 31 (19.1%), and full-time or part-time daycare 29 (18%), respectively. However, the majority of the guardians, 59 (36.4%), did not use any types of childcare programs during the pandemic (Table 1, panel B).

The majority of children, 99.4% (161), never diagnosed with COVID-19 (The data on positive test result suppressed due to low cell count). Moreover, the number of the children that have been identified as a close contact of someone who is confirmed as having COVID-19 by a health care provider was low (data suppressed due to low cell count), while the of them never had a similar experience. In addition, the majority of them, 123 (75.9%), had not been directed by a health care provider to isolate (Table 1, panel B).

Respondents' knowledge, and practices towards using indoor and outdoor playgrounds

During the pandemic, the majority of guardians, 73 (45.1%), indicated that they used the public outdoor playground for their children a few times a week, and 15 (9.3%) did not use it at all. Surprisingly, there were some indications of using public outdoor playgrounds even after knowing the children was diagnosed with a COVID-19 infection or was close contact with someone who is confirmed as having COVID-19 (data suppressed due to low cell count) (Table 2, panel A).

Regarding public indoor playground, 88.3% (n = 143) of the children did not use the playground during pandemic. Of these, only few of them used the playground after being close contact of someone who is

confirmed as having COVID-19 (data suppressed due to low cell count). As shown in Supplementary Table 1, most of the participants used outdoor, or indoor playgrounds located in NW, Calgary.

Interestingly, 48 participants indicated that they did not use public playgrounds even when they were not closed by a public health order. Among these, the main reported reason for not using public playgrounds was the COVID-19 pandemic 38 (79.2%).

The respondents were further asked in more detail about their compliance with health guidelines when using playgrounds. Collected data showed that the participants brought following equipment to playground as below: Hand sanitizer, wipes, water, and paper towels: 67.9% (n = 110), personal toys and sports equipment: 17.3% (n = 28), drinking water: 73.5% (n = 119), hats, sunscreen, or clothing for sun protection: 72.8% (n = 118), ABTraceTogether App installed on a cell phone: 11.7% (n = 19) (Table 3, panel A, and Supplementary Fig. 1).

Furthermore, 122 (75.3%) of the participants stated that if the playground was busy, they came back when there are fewer people, 26 (16.1%) acknowledged that only adults and teenagers should stay 2 meters (6 feet) away from others, 133 (82.1%) tried to minimize their child's direct physical contact with people outside of the household, 137 (84.8%) asked their child cough and sneeze into their elbows or a tissue, 132 (81.5%) encouraged their child to keep their hands away from their eyes, nose and mouth, 127 (78.4%) didn't share toys, bikes or food with people outside of their household, 43 (26.5%) kept their pets away from others and didn't pet other people's animal as well, 136 (84%) used to wash hands often, especially before and after touching play equipment or shared areas, before and after eating or drinking, and finally 139 (85.8%) used a Health Canada approved hand sanitizer if soap and water weren't available, also, if hands were visibly dirty, first used wet wipes or water to clean hands, then dried them with paper towels and applied the hand sanitizer (Table 3, panel B and Supplementary Fig. 2).

Respondents' perspective of the current COVID guidance for using playgrounds.

Given rate of the participants toward the current public health measures to minimize the spread of COVID-19 through public playgrounds has been summarized in Table 4, Panel A. The mean score was 4.8, and the standard deviation was assessed as 2.82 (Table 4, panel A). Also, suggestions of the participants to improve the public playground safety during this pandemic have been included in Table 4, panel B.

Discussion

To our knowledge, this is the first study investigating how the parents' Knowledge and beliefs regarding using public playgrounds contribute to asymptomatic community transmission of the virus. In addition, this study describes the most important barriers to guideline implementation identified among parents. Overall, the dimensions evaluated have demonstrated remarkable levels of appreciation for the current public health measures among parents. However, most respondents believed a more stringent health measure is needed to improve public playground safety during this pandemic.

While the majority of respondents were aware of the possibility of COVID-19 transmission through public playgrounds, there were some indications of inappropriate use of playgrounds; a few parents used playgrounds even after the child was diagnosed with Covid-19 infection or identified as a close contact of someone who is confirmed as having COVID-19 by a health care provider. In addition, only a small proportion of participants believed they should keep their pets away from others and do not pet other people's animals. In addition, ABTraceTogether, a mobile contact tracing app, had a low uptake among participants, and only a small proportion of participants had it installed on a cell phone when they used a public playground.

Although going to a public playground has been considered low risk for exposure to COVID-19, a higher frequency of contact with high-touch surfaces (e.g., playground equipment) is presumed to be associated with a higher risk of COVID infection (13–15). In addition, physical distancing is usually difficult to maintain at playgrounds. Although governments have provided guidance outlining public health and infection prevention and control measures specific to this setting (16), there is still room for improvement. In addition, certain barriers exist that prevent the implementation of public health measures.

A recent study by Kozer et al(17), assessed the presence of SARS-CoV-2 in environmental samples collected at public playgrounds, and reported that 4.6% of collected samples from playground equipment tested positive for COVID-19. However, the authors indicated that it is unclear whether the recovery of viral RNA on outdoor surfaces also indicates the possibility of acquiring the virus. Considering there is very little information about the role of public playgrounds in COVID transmission in the available literature, more caution is needed for parents when using public playgrounds.

Our paper emphasizes an urgent need for effective interventions to increase adherence to public health. Although vaccinations process is being speed up in Alberta and rest of the world, the race against coronavirus variants in the coming months still depends on the public's ability to follow public health rules for the following main reasons: first, the vaccines do not provide 100% protection; second, those who have been vaccinated can be asymptomatic spreaders, and finally, we still need to protect those with compromised immune systems and those who cannot be vaccinated, and children younger than 12 years who use playground often are among this group(18–21).

Our study results suggest that to improve the public playground safety both during pre-and post- Covid-19 pandemic, the followings measures could be added to the current health guidelines: 1) cleaning and sanitizing the equipment regularly, 2) capacity restrictions, 3) having sanitizer available at playgrounds, 4) having a clearer posted guideline.

A significant strength of the study is that it provides a baseline which will allow future research to assess the risk of COVID and other pathogen transmission through public playgrounds. However, our study has several limitations. Firstly, the use of a convenience sample (those who volunteer to do the survey) may limit the generalizability of the results, as those who agree to complete the survey may be different than those who do not. Second, the self-reporting nature of the questionnaire; Parents/guardians may provide answers reflecting how they wish to be perceived versus answers that represent the true nature of the

situation. Third, this study provides the data from the second wave of the pandemic, and experiences are likely to change over time. Fourth, our study was not designed to assess risk of COVID-19 transmission by collecting samples from equipment. Finally, due to small sample size we were unable to explore the differences in responses according to characteristics of the child's parents or guardians.

Conclusion

Our results contribute to understanding of the risk of COVID transmission from playgrounds and how are parents' Knowledge and beliefs regarding using public playgrounds contribute to asymptomatic community transmission of the virus. In addition, our results highlighted the current lack of screening and risk assessments of public playgrounds that may contribute to an increase in a variety of pathogens that cause a range of health outcomes.

Declarations

Author Contributions: Dr. Taghizadeh had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Study concept and design (Taghizadeh); Acquisition of the data (Taghizadeh); Analysis and interpretation of the data (all authors); Drafting of the manuscript (Taghizadeh); Critical revision of the manuscript for important intellectual content (all authors). All authors approve final version of the manuscript.

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Availability of data and material: The data that support the findings of this study are available from STATCure Consulting Services Inc, but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of the Health Research Ethics Board of Alberta (HREBA).

Code availability

Code from Stata is available upon request.

Ethics approval: The study was approved by the Health Research Ethics Board of Alberta (HREBA) (protocol HREBA.CHC-20-0066).

Consent to participate: Participants signed an online consent form.

Consent for publication: The authors agree to the publication.

Conflict of interest: The researchers in this study received financial payment from the STATCure Inc. to cover the cost of conducting this study. The researcher at this centre did not receive any direct benefit for conducting this study.

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Tables

Table 1
Characteristics of the respondents (Panel A) and their children (Panel B).

Panel A_ Guardians' (Respondents') characteristics	Total, n = 162
Age, mean (SD)	35.8 (4.9)
Gender *	
Mother or other female guardian	134 (82.7%)
Father or other male guardian	27 (16.7 %)
Education	
High School graduate-associate degree	41 (25.3%)
Post-secondary degree	117 (72.2%)
Number of non-school age child (under 6 years old)	
1	80 (49.4%)
2	71 (43.8%)
> 2	11 (6.8%)
Panel B_ Children's characteristics	Total, n = 162
Gender*	
female	79 (48.8%)
Male	82 (50.6%)
Age, mean (SD)	3.47 (1.2)
What type of childcare programs are you currently using?	
Daycare, Full-time	26 (16.1%)
Daycare, part-time	12 (7.4%)
Dayhome, part time or full-time	29 (18%)
Preschool programs	31 (19.1%)
Living-in nanny or other	64 (39.5%)
Has your child ever been directed by a health care provider to isolate?	
Yes	39 (24.1%)
No	123 (75.9%)
*Missing = 1 (0.6%)	
*Missing = 1 (0.6%)	

Table 2
Have you been using public playground during pandemic? (Select all that apply)

ANSWER CHOICES	Indoor n (%)	Outdoor n (%)
No	15 (9.3%)	143 (88.7%)
Yes, a few times a week	73 (45.1%)	DS
Yes, a few times a month	58 (35.8%)	DS
Yes, once a month	10 (6.2%)	DS
Yes, less than once a month	16 (9.9%)	10 (6.2%)
Yes, before my child's COVID-19 diagnosis	DS	DS
Yes, after my child's COVID-19 diagnosis	DS	DS
Yes, before knowing that my child has been a close contact of someone who is confirmed as having COVID-19	DS	DS
Yes, after knowing that my child has been a close contact of someone who is confirmed as having COVID-19	DS	DS

* DS: Data suppressed due to low cell count

Table 3

Panel A-Do you bring the followings to playground with you? (Select all that apply)

QUIZ STATISTICS		
Average Score		
2.4/5.0 (49%)		
ANSWER CHOICES	SCORE	RESPONSES
Hand sanitizer, wipes, water and paper towels	1/5	110 (67.90%)
Your own toys and sports equipment	1/5	28 (17.28%)
Drinking water	1/5	119 (73.46%)
Hats, sunscreen or clothing for sun protection	1/5	118 (72.84%)
ABTraceTogether App installed on a cell phone	1/5	19 (11.73%)
Not Applicable	0/5	22 (13.58%)

Table 3

Panel B-Which of the following statements do you agree with? (Select all that apply)

QUIZ STATISTICS		
Average Score		
6.1/9.0 (68%)		
ANSWER CHOICES	SCORE	RESPONSES
If the playground is busy, come back when there are fewer people	1/9	122 (75.31%)
Only Adults and teenagers should stay 2 meters (6 feet) away from others	1/9	26 (16.05%)
Try to minimize your child's direct physical contact with people outside of your household.	1/9	133 (82.10%)
Ask your child cough and sneeze into their elbows or a tissue.	1/9	137 (84.57%)
Encourage your child to keep their hands away from their eyes, nose and mouth	1/9	132 (81.48%)
Don't share toys, bikes or food with people outside of your household.	1/9	127 (78.40%)
Keep your pets away from others; do not pet other people's animal.	1/9	43 (26.54%)
Wash hands often, especially: Before and after touching play equipment or shared areas, Before and after eating or drinking.	1/9	136 (83.95%)
If you can't wash with soap and water, use a Health Canada approved hand sanitizer (read the label as some are not approved for children). If hands are visibly dirty, first use wet wipes or water to clean hands, then dry them with paper towels and apply the hand sanitizer.	1/9	139 (85.80%)

Table 4

Do you have any suggestions to improve the public playground safety during this pandemic?

Respondents	Responses
1	Close them.
2	Cleaning of high touch surfaces
3	Have sanitizer available at playgrounds.
5	Hand sanitizer made available at all playgrounds.
6	Unfortunately, I have not allowed my child on playground, nor would I if he was older, due to the pandemic. You can't really reason with young children so safety measures including avoiding touch eyes, nose mouth etc and sanitizing cannot be guaranteed by a child. My child has not been to any public places due to the pandemic, except for the regular pediatrician's follow up. I have created my own play backyard for him. We follow hand hygiene protocols and I know what he is touching in my house and backyard has been thoroughly cleaned.
7	It is tough because all of the age groups mix in public playgrounds. At daycare - each group has their own segregated playground
8	I think using at your own risk and encouraging everyone to sanitize hands.
9	No- I believe they are quite safe and will be very disappointed if measures are put in place to shut them down again.
10	None. It is my understanding that outdoor public space transmission is low and therefore as long as my child is wearing a mask, socially distancing themselves from individuals outside of their household/cohort and washing their hands when they are removing their mask, they can use outdoor public playgrounds safely.
11	I will not go till it is safe to do so.
12	What public health measures? You guys don't enforce anything, playground or not. You wanna prevent spread? Close malls and crack down on other retail.
13	Enforce maximum capacity of outdoor gatherings at play grounds by the amount of space provided. 1 parent is most likely bringing 1-3 children to the park so saying 5 adults on the grounds as a maximum would be helpful.
14	It should be sanitize each hours with completely spray Put lot of hand sanitizer station And the they have to provide only COVID alert for each play grand separate than everybody know what going on there
15	Similar to stores and businesses, clearly post the maximum number of people who can / should be playing on the playground at the same time.
16	No. Kids are far less likely to have symptoms or discomfort from COVID than adults. We should stop worrying about anyone under 30 from a health perspective while protecting people who are at risk.
17	Close them. Or limit number of people allowed

Respondents	Responses
18	Hand sanitizer stations at very popular locations, more advertising to parents about best practices for playing safely on playgrounds, keeping indoor public playgrounds closed due to high indoor transmission rates.
19	During early days of pandemic, June, July and August I personally washed downplay equipment with soap and hot water before my grandchildren played. I think if asked communities would volunteer to clean the equipment. (I got a system going - it took about 30min to clean.
20	Is there even any measures in place for playgrounds? If there is they should be made more obvious, I follow guidelines very closely and am unaware
21	Allow kids to be kids
22	Masks? Parents will do what they want based on their own beliefs, having stricter or less strict rules will most likely not affect what people choose to do...
23	Capacity signs, sanitizer stations, clear 2m signage
24	Suggesting one family at a time at smaller playgrounds Sharing more information about transmission at playgrounds Providing wipes or sanitizer at playground areas
25	Close indoor playgrounds
26	Fomite transmission is relatively rare. Covid is spread through droplets and aerosols. Outdoor playgrounds are relatively safe and necessary to maintain our sanity with our high-energy toddler. Specific guidance/signage on outdoor masking would be welcome and valuable. Transmission among young children now seems much more likely than it did based on earlier research in the spring, but I don't believe many parents have adjusted their family's behaviours ie. Some people let their kids get too close to others.
27	Playgrounds (outdoors) are extremely low risk and should never have been closed or restricted in anyway whatsoever.
28	Unfortunately, many do not follow the recommendations even when the playgrounds were shut down. I think actual coverage of people suffering with COVID will be the only thing to educate people better. They do not believe it until they see for themselves and that makes it dangerous for the rest of us.
29	Regular daily cleaning, suggested occupancy, hand sanitizer
30	No clue, it's definitely one of the bigger risks we take. However, we can't afford a play structure for our backyard.
31	Just don't take away playgrounds. We have been isolating everywhere else and the playgrounds provide something important for our kids.
32	I think that is parent responsibility in the outdoor space

Respondents	Responses
34	Indoors should be closed, outdoors ok as I believe most contagion is airborne as much research points out.
35	Public education on aerosol spread of virus so parents understand the risks and how to mitigate them so as to allow children to still recreate outdoors with other children in a safe way. Helping children understand not being too close to other kids etc. Outdoors is much safer than indoors, particularly with distancing, in terms of what we know about aerosols and ventilation etc.
36	I recognize that I am lucky enough to have a large backyard and my kids have bikes, rollerblades, nearby neighborhood paths, ice skates, and a backyard rink etc all of which allow us to keep active without visiting shared spaces. However, I do not think anything is being done at public playgrounds to encourage safety, so we have completely avoided them as I have a high risk child. I don't think there's much that can be done and do think they should stay open for children who do not have all the alternatives that mine do. I would rather money, time, and effort be put into affordable high-quality preschool and childcare spots than public playground enforcement since I think it will have a greater overall impact on child health and safety.
37	Clean and sanitize playground daily
38	Signs reminding people to physically distance, and signs indicating maximum suggested occupancy of playground
39	I think public playgrounds are low risk for spreading Covid, particularly during winter in Alberta. However, having hand sanitizer stations available would be great.
40	Depending on the severity of the pandemic come springtime, it might be wise to close them until cases are minimized
41	Should be closed or limited capacity. As it is impossible to enforce the above, I think it is up to everyone to be responsible.
42	No I don't believe playgrounds present much of a risk. Keeping them open a letting kid have a place to play is very important
43	Figure out an appropriate number of kids that can use the playground at the same time. During summer some playgrounds were very busy.
44	Enhanced cleaning measures.
45	I have no issues with how public playgrounds are functioning currently.
46	open playgrounds. consequences of stay at home for long term and not doing social and physical activities, is worse than covid 19 for people, specially kids.
47	Just keep them closed until there is a vaccine
48	I don't think there is much you can do besides asking kids/parents to keep distancing.
49	We haven't been to the park since the summer, but with all of the unknowns and poor government communication we instead added to our own playground for the kids. Including adding in a heated pool, swings, and hammock.

Respondents	Responses
50	Capacity restrictions, not letting families who aren't attending schools go to school playgrounds during school hours.
51	Limit the number of kids at the playground. We did use playgrounds in the summer but most of the times it was just us and when somebody else was there we moved away from them. Not everyone is doing that, they let kids touch each other and interact. That is why we avoid busy places
52	I don't think there is much that can be done other than hoping people take precautions seriously and do their best to sanitize and distance etc. Overall, people I have encountered at the playground seem to be doing the best
53	No, bigger things to worry about in the pandemic.
54	Keep the playgrounds open
55	<p>In my experiences, most families and kids are respectful of maintaining distance from others in outdoor playgrounds. Keeping them open does allow for a sense of normalcy. The Calgary indoor location we went to do a great job at consistently sanitizing high, and even low touch areas once kids were immediately done playing.</p> <p>Items that are hard to clean (soft foam balls for example) should be banned due to their inability to adequately clean and kids' chance for biting them.</p>
56	Please leave to the choice of the individual. I am aware of our current global situation and judge our risk vs reward in each situation including visiting a playground.
57	Maximum participants based on size of playground
59	Public sanitizer and max capacity limit indicator signs
60	The only challenge would be people getting too close at playgrounds, but I'm not sure if there is much that can be done for that.
61	I like it as is. I think the risk is pretty low. We stay away from other households if we are able.
63	Sanitize if possible
64	For question 13 we also have been to outdoor public playgrounds in NW and SW Calgary, and once to NE Calgary. We usually go to the ones in the SE near our house, but it's been fun to go to others. Honestly, I don't think much more can be done to increase covid safety.... in above zero weather you could disinfect them daily, but that would be extremely challenging. Allow the federal Covid app to be used in Ab. The Ab one has been pretty much useless.
65	I don't think the any current data supports rampant surface transmission of Covid.
66	Encourage masks and distancing for children under 6
68	No. It is up to parents to sanitize and limit contacts.
69	Outdoor playgrounds felt relatively safe and were/are critical throughout the pandemic to entertain small, energetic children.
70	No

Respondents	Responses
71	Leave it the way it is. Use at your own risk. When playgrounds were closed at the beginning of the pandemic it had a substantial impact on mental and physical well-being for my children.
72	Keep them closed!
73	More information for people, we weren't even sure they were still open with recent measures. It should be listed on AB covid site as to if they are still open and what people should do if utilizing the parks. Lay it out very clearly, should ppl wear masks? Is there a limit on how many ppl? It should not be left to us to just assume to take same precautions as before, especially since many ppl didn't take notice of them before.... Remind them in the same section used for recreation
75	Don't close outdoor playgrounds. It makes sense to close indoor play areas that cannot adhere to strict sanitation policy, but outdoor play is one of the few things these kids have! We live in Canada...often, kids are wearing gloves anyway. Focus on education on hand washing/proper use of sanitizer. Provide hand washing stations. Set limits for number of kids on the playground. Hire someone to go from playground to playground and wipe down the equipment. There are lots of things that can be done to mitigate risk without having to close playgrounds completely.
76	The city should be cleaning them up too
77	Having sanitizer available onsite (provided). Not allowing groups to use public playgrounds. We were at a neighbourhood park when an entire class of students with a teacher came to use the park. 25 + junior high students crowded around the equipment and my kids. It was not the school park.
78	Have clear posted guidelines for numbers
79	Availability of hand sanitizer at playgrounds Limit number of people at the playground
81	Clearer guidelines for children playing and information in risks and safety.
82	Needs to be sanitizer / regular cleaning / more bins
83	Close them or have protocol for sanitization
85	Wipes could be provided at the playground. As well, summer playground staff, who were not hired this year, could have been hired to clean playground equipment and encourage distancing measures.
86	Keep them open and let kids be kids. Outdoor time and socialization are so important
87	A sign to remind people of the risks of using playground equipment during Covid and to bring hand sanitizer or wipes.
88	The playgrounds are safe, it's the parents who "don't believe" in science or think "their freedoms" are more important than the risk. Those parents who feel that way, let their kids do whatever they want. So unless there's social distance security guards everywhere, a total lockdown for a set period of time and no travel in and out afterwards, or the people who are respecting the global pandemic continue to leave when there's people who don't care places. I think that's all that can be done.

Respondents	Responses
89	Public Playgrounds should also be closed when other restrictions are in place (ie. you cannot currently have an outdoor public gathering, regarding of number of people, but you are allowed to bring your children to the playground where there are many other families).

Figures

Figure 1

How would you rate the current public health measures to minimize the spread of COVID-19 through public playgrounds on a scale of 0 to 10 (0 is low and 10 is high)?

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [SupplementaryMaterials.docx](#)