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17TH ANNUAL CHILD HEALTH RESEARCH DAYS

Nutrition for a Changing World

The Science of Nourishing the Next Generation

CHRD 2021: Abstract & Poster Submission Form

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Research Category:

- Basic Science
- Clinical
- Community Health / Policy

What was your role in the project?

- Design
- Perform Experiments
- Analyze Data
- Write Abstract
- First author for manuscript

Presenter Status:

- Undergraduate Students
- Masters Student
- PhD Student
- Post-Doctoral Fellows
- Residents
- Non-Trainee

Title

A Cross-sectional Survey Exploring the Impact of the COVID-19 Pandemic on the Cancer Care of Adolescents and Young Adults

Background

COVID-19 is responsible for one of the largest global pandemics experienced in almost a century. The enormous strain of COVID-19 on healthcare systems has prompted significant changes in the delivery of cancer care.

Objective

This study aimed to describe the negative and positive impacts of these changes in cancer care delivery for adolescents and young adults (AYAs) in Canada, correlates of negative impact, and perspectives of AYAs on optimization of cancer care.

Methods

We conducted an online, voluntary, self-administered, cross-sectional survey of AYAs diagnosed with cancer between the ages of 15 to 39 living across Canada between January to February 2021. Multiple logistic regression was used to identify the factors associated with the negative impact on cancer care.

Results

A total of 1063 participants completed the survey, with 258 being excluded for not meeting age criteria or not reporting their age. Of the 805 participants included in analysis, 173 (21.3%) experienced a negative impact on their cancer care: delays in diagnostic tests (N=96, 11.9%), cancer treatment (N=92, 11.4%) and appointments (N=89, 11.1%). A prior diagnosis of mental or chronic physical health condition, an annual income of <20,000\$, ongoing cancer treatment and province of residence were independently associated with a negative cancer care impact (p-value <0.05). The majority (N=767, 95.2%) stated a positive impact of the changes to cancer care delivery, including the implementation of virtual healthcare visits (N=601, 74.6%).

Conclusion

The changes to cancer care delivery during the pandemic have unfavorably and favorably influenced AYAs with cancer. The subgroups vulnerable to the adverse effects of the pandemic need more support to enhance their care. Integration of virtual care into cancer care delivery models is essential in the post-pandemic landscape.

Table 1. Descriptive characteristics of the study population ($n = 805$).

| Variable | Mean \pm SD, or n | % (Range) |
|---|--|------------------|
| Age (in years) | 30.27 \pm 5.27 | (18–39) |
| Gender ^a | | |
| - Man | 445 | 55.50% |
| - Woman | 357 | 44.50% |
| - Non-Binary | 3 | 0.00% |
| Ethnicity (White) | 770 | 95.60% |
| Relationship Status (in a relationship) | 484 | 60.10% |
| Province/Territory | | |
| - Prairies ^e | 233 | 28.90% |
| - Central Canada ^f | 222 | 27.60% |
| - Atlantic ^g | 169 | 21.00% |
| - Territories ^h | 93 | 11.60% |
| - British Columbia | 88 | 10.90% |
| Geographic Location ^b | | |
| - Urban | 605 | 75.50% |
| - Rural | 179 | 22.30% |
| - Remote | 17 | 2.10% |
| Education Status ^c | | |
| - Part-time student | 24 | 3.00% |
| - Full-time student | 75 | 9.30% |
| Employment Status ^c | | |
| - Employed (part or full time) | 562 | 70.00% |
| - Unemployed | 103 | 12.80% |
| - Disability or unemployment benefits | 32 | 4.00% |
| - Other ⁱ | 51 | 6.30% |
| Personal Income in year 2020 ^j | | |
| - <\$20,000 | 57 | 7.10% |
| - \$20,000 to <\$40,000 | 115 | 14.30% |
| - \$40,000 to <\$60,000 | 195 | 24.30% |
| - \geq \$60,000 | 389 | 48.40% |
| Pre-pandemic mental health condition (yes) ^d | 118 | 14.80% |
| Type of pre-pandemic mental health condition ^d | | |
| - Anxiety disorder | 75 | 9.40% |
| - Mood disorder | 65 | 8.10% |
| - Other ^k | 4 | 0.50% |
| Presence of a chronic physical health condition (yes) | 192 | 23.90% |

| | | |
|---|------------|---------------|
| Type of chronic physical condition | | |
| - Hypertension or Diabetes | 89 | 11.00% |
| - Lung or Heart Disease | 59 | 7.30% |
| - Kidney or Liver Disease | 58 | 7.20% |
| - Other ¹ | 22 | 2.70% |
| Cancer type | | |
| - Hematological malignancies | 155 | 19.30% |
| - Solid tumors (non-brain tumors) | 615 | 76.40% |
| - Brain tumors | 35 | 4.30% |
| Time since cancer diagnosis | | |
| - <2 years | 246 | 30.50% |
| - 2 years to <5 years | 421 | 52.20% |
| - ≥5 years | 138 | 17.10% |
| Currently receiving cancer treatment (yes)^c | 265 | 33.00% |
| Negative impact of COVID-19 pandemic on cancer care | | |
| - Yes | 173 | 21.50% |
| - No | 632 | 78.50% |

^a n = 802; ^b n = 801; ^c n = 803; ^d n = 800, ^e Alberta, Manitoba, Saskatchewan; ^f Ontario, Quebec; ^g Newfoundland and Labrador, Nova Scotia, New Brunswick, Prince Edward Island; ^h Yukon, Northwest Territories, Nunavut; ⁱ e.g., Caregiver/Homemaker; Leave of Absence; ^j in Canadian Dollars; ^k e.g., Personality disorder, ADHD; ^l e.g., Stroke, autoimmune diseases, seizure disorder.

Table 2. Factors associated with a negative impact of the COVID-19 pandemic on cancer care delivery.

| | Univariable Analysis (n = 805) | | | Multivariable Analysis (n = 707) | | |
|--|--------------------------------|----------------------|---------|----------------------------------|-----------------------|---------|
| | Adjusted Odds Ratio | 95% CI (Lower-Upper) | p-Value | Adjusted Odds Ratio | 95% CI (Lower, Upper) | p-Value |
| Age | | | | | | |
| - >25 years | 0.72 | 0.49–1.07 | 0.102 | 0.98 | 0.94–1.03 | 0.431 |
| - <18–25 years | (ref) | | | (ref) | | |
| Gender^a | | | | | | |
| - Woman | 1.73 | 1.23–2.43 | 0.001 | 1.41 | 0.90–2.20 | 0.13 |
| - Man | (ref) | | | (ref) | | |
| Ethnicity | | | | | | |
| - Non-White | 1.8 | 0.83–3.89 | 0.133 | 2.07 | 0.76–5.52 | 0.147 |
| - White | (ref) | | | (ref) | | |
| Province/Territory | | | | | | |
| - Central Canada ^e | 9.41 | 3.32–26.69 | <0.001 | 8.43 | 2.90–32.03 | <0.001 |
| - Prairies ^f | 7.37 | 2.59–20.96 | | 4.52 | 1.54–17.13 | 0.012 |
| - British Columbia | 8.83 | 2.93–26.62 | | 6.74 | 2.05–27.63 | 0.003 |
| - Atlantic Canada ^g | 2.99 | 0.99–9.02 | | 2.54 | 0.79–10.14 | 0.144 |
| - Territories ^h | (ref) | | | (ref) | | |
| Geographic Location^b | | | | | | |
| - Rural | 1.4 | 0.95–2.06 | | 1.06 | 0.63–1.76 | 0.815 |

| | | | | | | |
|--|-------|------------|--------|-------|------------|--------|
| - Remote | 0.52 | 0.12–2.32 | 0.146 | 0.69 | 0.09–3.12 | 0.661 |
| - Urban | (ref) | | | (ref) | | |
| Income in year 2020 ^l | | | | | | |
| - <\$20,000 | 4.34 | 2.41–7.80 | <0.001 | 4.21 | 2.03–8.75 | <0.001 |
| - \$20,000 to <\$40,000 | 1.51 | 0.90–2.53 | | 0.89 | 0.45–1.72 | 0.732 |
| - \$40,000 to <\$60,000 | 1.51 | 0.98–2.32 | | 1.17 | 0.67–2.00 | 0.583 |
| - \$60,000+ | (ref) | | | (ref) | | |
| Pre-pandemic mental health condition ^d | | | | | | |
| - Yes | 10.93 | 7.08–16.88 | <0.001 | 12.14 | 6.98–21.66 | <0.001 |
| - No | (ref) | | | (ref) | | |
| Presence of a chronic physical health condition ^d | | | | | | |
| - Yes | 2.71 | 1.88–3.92 | <0.001 | 2.22 | 1.34–3.67 | 0.002 |
| - No | (ref) | | | (ref) | | |
| Time since cancer diagnosis | | | | | | |
| - <2 years | 0.9 | 0.53–1.53 | 0.32 | 1.08 | 0.53–2.24 | 0.84 |
| - 2 to <5 years | 1.21 | 0.75–1.94 | | 1.23 | 0.65–2.39 | 0.529 |
| - ≥5 years | (ref) | | | (ref) | | |
| Cancer type | | | | | | |
| - Hematologic | 0.95 | 0.61–1.48 | 0.828 | 0.83 | 0.43–1.54 | 0.569 |
| - Non-hematologic ^j | (ref) | | | (ref) | | |
| Currently receiving cancer treatment ^c | | | | | | |
| - Yes | 1.1 | 0.77–1.57 | 0.596 | 1.69 | 1.03–2.77 | 0.036 |
| - No | (ref) | | | (ref) | | |

^a *n* = 802 for univariable analysis; ^b *n* = 801 for univariable analysis; ^c *n* = 803 for univariable analysis; ^d *n* = 800 for univariable analysis, ^e Ontario, Quebec; ^f Alberta, Manitoba, Saskatchewan ^g Newfoundland and Labrador, Nova Scotia, New Brunswick, Prince Edward Island; ^h Yukon, Northwest Territories, Nunavut; ⁱ in Canadian Dollars; ^j Solid tumors and brain tumors.

Figure 1. Type of negative impact of the COVID-19 pandemic on cancer care (*n* = 173).

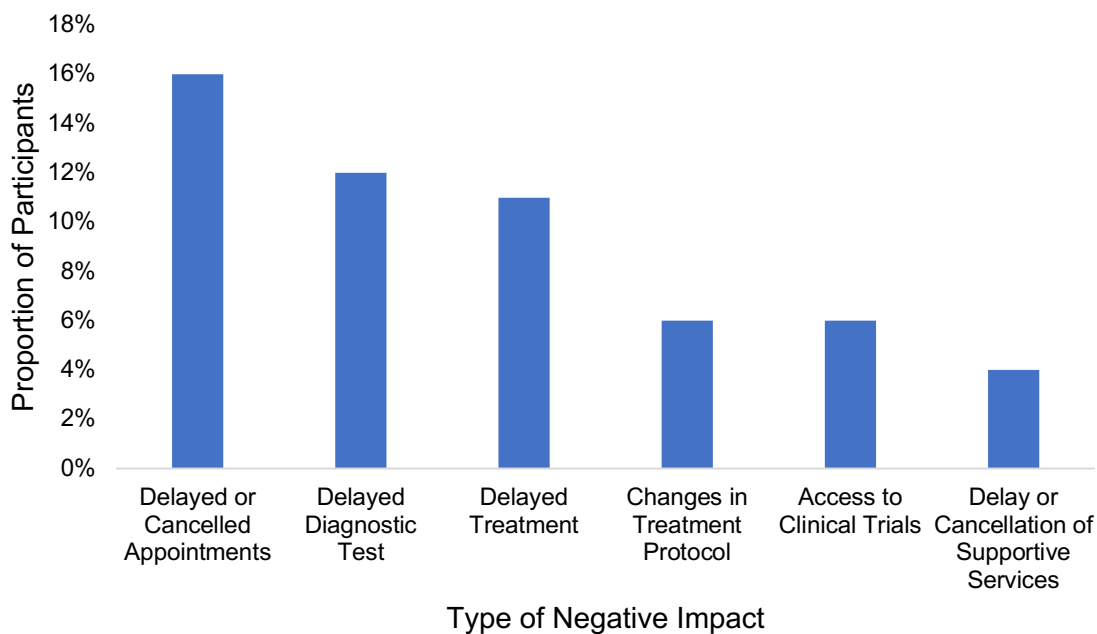
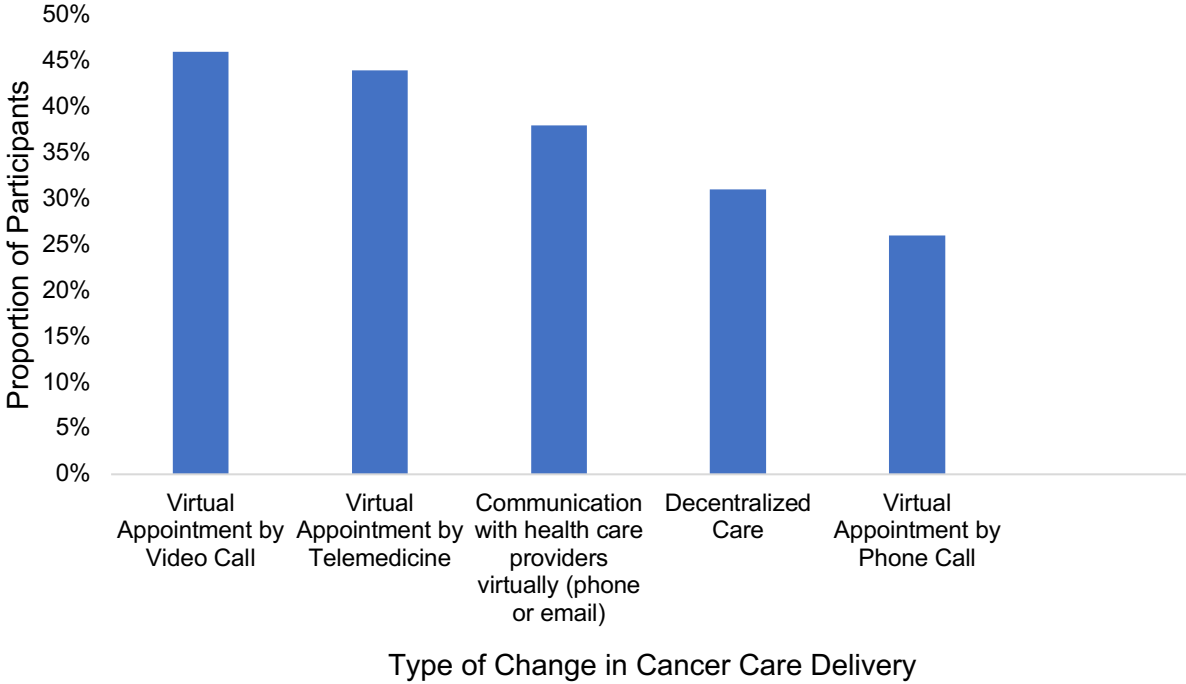


Figure 2. Changes in cancer care delivery associated with a positive impact (n = 767).



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