Association between COVID-19 and mental health and coping responses of family/friend caregivers of residents in assisted living in Alberta and British Columbia

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Research Question

Among a sample of family/friend caregivers of Assisted Living (AL) residents in Alberta and British Columbia, was the presence of depressive symptoms (or a clinically significant anxiety disorder) during the initial wave of the COVID-19 pandemic associated with an increased likelihood of engaging in select coping strategies, including seeking counseling, starting an OTC medication for sleep and/or prescription medication for anxiety or depression, starting or increasing their alcohol use, and starting or increasing their smoking or cannabis use.

Methods

The current study employed a cross-sectional study design. The baseline sample included 673 family caregivers of AL residents residing in 104 homes distributed across 5 health zones in Alberta (64 homes) and 4 health authorities in British Columbia (40 homes). An open web-based caregiver survey was conducted between October 28, 2020 and March 31, 2021, by the Survey Research Centre (SRC) at the University of Waterloo. The open survey link was distributed by our engaged AL homes and partners (e.g., provincial and regional government continuing care decision-makers and family caregiver societies) via their email lists, newsletters, websites and social media.

Eligibility criteria for AL homes included those in operation for ≥ 6 months, that did not primarily serve psychiatric clients and with a minimum number of residents aged 65+ years (4 for small and 10 for large AL homes). To be eligible for study inclusion, family (or friend) caregivers had to identify as the primary caregiver (i.e., most informed or involved in the care of the care recipient) of a resident who was aged 65+ years and who had lived in the AL facility for 3+ months prior to March 1, 2020.

Measures

Validated measures used in the ACCES study (an earlier cohort study of AL and LTC residents and family caregivers in AB), and the Canadian Longitudinal Study on Aging were used to develop this survey. Characteristics of family/friend caregivers assessed in the survey included their age, gender, ethnicity, household income, number of chronic health conditions, self-rated health and social support, depression, anxiety, COVID-19 status, and changes in health behaviours over a set period. Additional items in the survey captured caregiver's relationship to the resident, their specific involvement in the resident's care, and their assessment of communication from the facility.

Depressive symptoms were assessed using the Center for Epidemiologic Studies 10-item depression scale (CES-D-10), with a score of 10+ indicating clinically significant depressive symptoms. Anxiety symptoms were measured using the 7-item Generalized Anxiety Disorder Questionnaire (GAD-7), with a score of 8+ indicating a clinically significant anxiety disorder.

Coping responses were assessed with the question "During the 3 months AFTER March 1, 2020, please indicate what, if any, of the following you used because of your experiences during the COVID-19 pandemic: sought counselling services, started an over-the-counter drug product to help with sleep, started a prescription drug to help with anxiety, started a prescription drug to help with depression, started to consume alcohol or increased level of consumption, started to smoke cigarettes or increased level of smoking, started to consume cannabis or increased level of cannabis use, other (with a space to specify), none of the above, prefer not to answer."

Results

Figure 1. Family/friend caregiver coping responses by presence of depressive symptoms
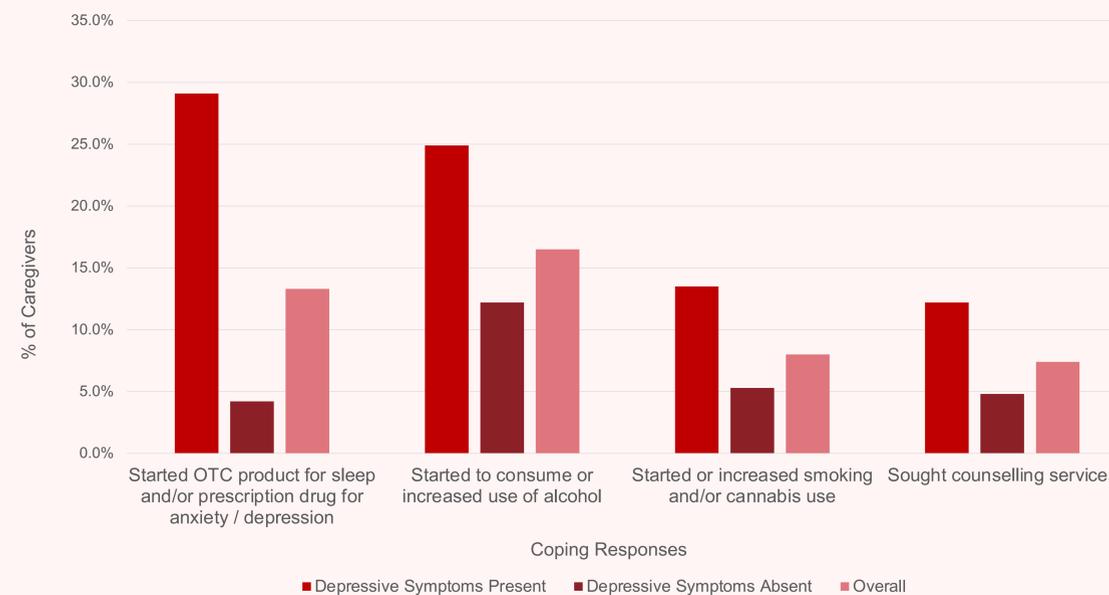

Analyses

Descriptive analyses examined the distribution of caregiver characteristics. Separate modified Poisson regression models were used to estimate unadjusted and adjusted risk ratios for the associations between caregivers' mental health measures (depression and anxiety) and their select coping strategies. Multivariable models included relevant sociodemographic characteristics and considered clustering of caregivers by AL homes. All analyses were two-tailed, with p<0.05 defined as the level of statistical significance and conducted using SAS version 9.4 (SAS Institute, Inc., Cary, NC).

Key Findings

An estimated 28.6% of overall participants met the criteria for clinically significant anxiety disorder, and 38.8% met the criteria for depressive symptoms. Women were significantly more likely than men to reach the threshold for anxiety (31.2% vs 20.1%, respectively) and depressive symptoms (42.1% vs 28.3%, respectively).

Caregivers with depressive symptoms were significantly more likely than those without to have sought counselling (adjusted risk ratio [adjRR] = 2.18, 95% CI=1.21-3.94), started an OTC medication for sleep and/or prescription medication for anxiety or depression (adjRR = 6.13, 95% CI=3.63-10.35), started or increased their alcohol use (adjRR = 2.03, 95% CI=1.42-2.88), and started or increased their smoking or cannabis use (adjRR = 2.04, 95% CI=1.17-3.55). Similar findings were observed for associations between anxiety and coping responses.

Caregivers aged 18-44 years were significantly more likely than those aged 65+ years to report seeking counselling services (adj RR=2.53, 95% CI=1.01-6.31) and to have started or increased smoking and/or cannabis use (adj RR=5.16, 95% CI=2.30-11.56). Caregivers with a high school education or less were significantly less likely to seek counselling services, compared to those with a university education (adj RR=0.41, 95% CI=0.17-1.00). Non-white caregivers were significantly less likely than white caregivers to report starting or increasing their alcohol use (adj RR=0.36, 95% CI=0.14-0.93) but more likely to have started or increased smoking and/or cannabis use (adj RR=1.99, 95% CI=1.05-4.08).

Implications

Our study demonstrated the need for targeted mental health and substance use screening for this population, as caregivers with depression and/or anxiety were significantly more likely to start or increase alcohol, smoking, and/or cannabis use during the first 3 months of the pandemic restrictions in Canada. Further research on psychotropic medication prescribing trends should be conducted, as a significantly higher proportion of caregivers with depression reported starting one of the medications of interest. The feasibility of caregiver-specific counseling resources should be investigated, particularly among older caregivers with depression, who were less likely to have sought counselling.

Strengths of this study include capturing a diverse range of homes and caregivers in 2 provinces, as well as using standardized and validated survey items. Limitations include recall and response biases potentially affecting self-report data. Additionally, there was a relatively low proportion of men in the sample, as well as low prevalence of certain coping strategies. This may have led to the analysis not being sufficiently powered to detect statistically significant associations between caregiver gender and the coping responses of interest.

Table 1. Unadjusted and adjusted associations between family/friend caregiver depression and select coping responses

Caregiver Characteristics	Caregiver Coping Response							
	Sought counselling services		Started OTC product for sleep and/or prescription drug for anxiety/depression		Started to consume or increased use of alcohol		Started or increased smoking and/or cannabis use	
	Unadjusted Risk Ratio (95% CI)	Adjusted† Risk Ratio (95% CI)	Unadjusted Risk Ratio (95% CI)	Adjusted† Risk Ratio (95% CI)	Unadjusted Risk Ratio (95% CI)	Adjusted† Risk Ratio (95% CI)	Unadjusted Risk Ratio (95% CI)	Adjusted† Risk Ratio (95% CI)
Depressive symptoms	2.56 (1.46-4.51)	2.18 (1.21-3.94)	6.86 (4.08-11.53)	6.13 (3.63-10.35)	2.04 (1.44-2.89)	2.03 (1.42-2.88)	2.55 (1.49-4.34)	2.04 (1.17-3.55)
Age (65+=ref group)								
18-44		2.53 (1.01-6.31)		1.27 (0.68-2.39)		2.33 (1.30-4.16)		5.16 (2.30-11.56)
45-54		2.11 (0.84-5.29)		1.33 (0.75-2.35)		2.17 (1.31-3.59)		2.17 (0.87-5.41)a
55-64		1.68 (0.80-3.55)		0.82 (0.52-1.28)		1.54 (1.01-2.34)		1.89 (0.97-3.68)a
Gender								
Woman		1.64 (0.69-3.89)		1.04 (0.65-1.68)		0.82 (0.54-1.24)		0.60 (0.34-1.07)a
Ethnicity								
Non-White		1.33 (0.60-2.91)		0.35 (0.11-1.15)a		0.36 (0.14-0.93)		1.99 (1.07-3.71)
Income Reduction (3 months post Mar 1/20) & Level of Concern (No=ref group)								
Yes, Not / Somewhat concerned		1.08 (0.54-2.18)		1.17 (0.71-1.93)		0.62 (0.38-1.04)a		0.82 (0.41-1.66)
Yes, Very / Extremely concerned		1.31 (0.59-2.91)		1.49 (0.92-2.41)		0.96 (0.58-1.57)		1.48 (0.75-2.93)
Highest Education (University=ref group)								
College / Trade		0.70 (0.39-1.26)		0.99 (0.62-1.56)		0.78 (0.53-1.13)		2.07 (1.05-4.08)
High School or Less		0.41 (0.17-1.00)		1.39 (0.86-2.27)		0.64 (0.40-1.04)a		1.75 (0.76-4.04)
Missing values for ≥1 model variables	n=59	n=68	n=59	n=68	n=59	n=68	n=59	n=68

ap<0.10; †adjusted for all covariates listed in Table.

Acknowledgments