Paternal Depression & Anxiety During the COVID-19 Pandemic

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Abstract

COVID-19 influences maternal mental health; however, paternal mental health must be examined. This study describes depression and anxiety and risk/protective factors among fathers of young children. Fathers (*N*=106) of children 0-8 years old self-reported mental health symptoms, while mothers (*N*=263) provided paternal depression reports. Fathers evidenced clinically significant depression (37.1%) and anxiety (22.9%), with financial strain and mental health history increasing risk. Maternal-reported paternal depression was prevalent (61.9%) and associated with financial strain, more children, and lower maternal-reported marital quality. Paternal depression and anxiety are elevated versus pre-pandemic comparisons. We must evaluate parental outcomes to promote family well-being and child development.

Résumé

COVID-19 influence la santé mentale maternelle; cependant, la santé mentale paternelle doit être examinée. Cette étude décrit la dépression et l'anxiété et les facteurs de risque / de protection chez les pères de jeunes enfants. Les pères (N=106) des enfants de 0 à 8 ans ont auto-rapporté leurs état de santé mentale, tandis que les mères (N=263) ont fourni un rapport de dépression paternelle. Les pères ont présenté une dépression cliniquement significative (37,1%) et de l'anxiété (22,9%) et ce risque était plus éminent chez ceux avec des tensions financières élevée et des antécédents de santé mentale. La dépression paternelle signalée par la mère était répandue (61,9%) et associée à des contraintes financières, à un plus grand nombre d'enfants et à une qualité matrimoniale inférieure déclarée par la mère. La dépression et l'anxiété paternelles sont élevées par rapport aux comparaisons prépandémiques. Nous devons évaluer les résultats des parents pour promouvoir le bien-être de la famille et le développement de l'enfant.

Keywords: depression; anxiety; mental health; paternal; fathers; COVID-19

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The COVID-19 pandemic has affected families worldwide. As such, there has been a call-to-action to evaluate and promote parental well-being during the COVID-19 pandemic (Peris & Ehrenreich-May, 2021). Recent research underscores the impact COVID-19-related restrictions and stressors have had on maternal mental health, with three- to five-fold increases in the prevalence of maternal depression and anxiety (Cameron et al., 2020b; Lebel et al., 2020). Yet, there is a dearth of research assessing the influence COVID-19-related factors have had on paternal mental health. This understudied area is particularly troublesome as results from previous quarantines and the current pandemic indicate an increased mental health risk amongst caregivers (Fegert et al., 2020; Patrick et al., 2020). As such, it is crucial to identify the extent to which COVID-19-related factors are influencing the mental health of fathers to promote the development and implementation of appropriate interventions for the family as a whole.

Paternal mental health concerns affect child developmental and mental health outcomes, negatively impact partner relationships and mental well-being, and impair overall family functioning. For instance, children of fathers who have mental health disorders are at a higher risk of developing internalizing and externalizing disorders as well as impaired social, emotional, and behavioral functioning (Fisher, 2017; Kvalevaag et al., 2013). Paternal depressive symptoms also increase the risk of marital dissatisfaction and poor marital quality (Cheung et al., 2019; Smith et al., 2013). In turn, marital dissatisfaction affects dyadic parenting behaviours (e.g., discipline, warmth/acceptance), decreases paternal-child interactions, and increases risk of poor child adjustment and child psychopathology (Stroud et al., 2018). Therefore, the effects of paternal depressive symptoms on children and partners may act individually or in concert to drive changes in family well-being. Accordingly, understanding not only the occurrence of paternal mental health concerns but the entire family dynamic during the COVID-19 pandemic is essential for providing effective measures to remediate poor family and child outcomes during and post-pandemic.

Emerging evidence and theoretical frameworks highlight the potential subsequent impact of COVID-19-related factors (e.g., role shifts in fatherhood, employment changes, financial strain, and reduced social functioning) on paternal mental health (Prime et al., 2020). More specifically, there are differential impacts of COVID-19-related stressors on men compared to women. For instance, compared to their female counterparts, men have experienced greater employment changes since the onset of the COVID-19 pandemic (Kochhar, 2020) and, in turn, women are experiencing a faster pace of employment growth since initial quarantine relative to men (Statistics Canada, 2020b). Interventions targeting parental mental health may need to focus on meeting the specific maternal and paternal needs identified separately, given evident sex and gender differences in how COVID-19-related factors influence parents.

The current study aimed to replicate a previous study conducted with mothers (Cameron et al., 2020b) while extending the analysis to fathers, an understudied population. The previous study assessed the prevalence rates of maternal depression and anxiety while also identifying risk and protective factors associated with clinically-relevant symptoms. The current study evaluated the prevalence of paternal depression and anxiety in fathers of young children and the associated risk and protective factors among this population. To our knowledge, this is the first description of paternal mental health in fathers during the COVID-19 pandemic.

Methods

Participants

A convenience sample was recruited between April 14, 2020 and August 26, 2020 for the Parenting During the Pandemic study. Recruitment strategies included social media, partnerships with community organizations, and indirect recruitment through knowledge translation mediums (Cameron et al., 2020b). The current study utilized the sample of available men ($N = 70$) who identified as a father ≥ 18 years old (e.g., biological, step-parent, adoptive parent) who was either expecting or parenting a child up to 8 years old. Partner-reports from self-identified perinatal mothers ($N = 263$) was also used for paternal depression. With respect to inclusion/exclusion criteria, fathers had to be at least the age of majority (i.e., ≥ 18 years old) to legally provide consent to participate. Further, most research on fathers focuses on the perinatal period or into childhood, but rarely are both samples analyzed together. This study included fathers of children during both the perinatal period and into childhood, providing a more inclusive sample of fathers.

Procedure

Informed consent was obtained from all participants before beginning the online survey which were completed via the electronic data capture program (REDCap) – a metadata-driven methodology and workflow process for providing translational research informatics support (Harris et al., 2009). Participants who completed the survey were entered to win one of five electronic gift cards valued at $100. The University of Manitoba Psychology/Sociology Research Ethics Board approved the study protocol.

Measures

The current study is a replication of Cameron et al. (2020b) with fathers; all variables and scales previously reported are included in the current study. The survey assessed sociodemographic information, COVID-19-related sociodemographics, mental health history and current mental health symptomology, child socioemotional and behavioural functioning, and family functioning (e.g., parenting, social support, relationship functioning). Fathers were administered validated measures specific for different child age ranges (i.e., 0-18 month old or >1.5-8 years old).

Sociodemographic Information. Fathers were asked to identify the following socioeconomic information on behalf of the family: paternal age, marital status, parental education, gross annual family income, and current residence location. Information regarding household employment and financial information were collected, including the impacts of the COVID-19 pandemic on employment status. This information included the likelihood of applying for federal benefits and financial strain (e.g., ability to cover unexpected expenses) as a result of the COVID-19 pandemic, where higher scores indicated greater financial strain.

COVID-19. Specific questions regarding COVID-19 included known exposure or vulnerability to COVID-19, if the household as a whole was following physical distancing guidelines, and how often members of the household were leaving the house for both essential and non-essential services.

Measures of Depression. Depressive symptoms were measured using the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) and Center for Epidemiologic Studies Depression (CESD) (Radloff, 1977) or – Revised (CESD-R) (Eaton et al., 2004) for fathers of children 0-18 months and > 1.5-8 years old, respectively. Within the larger study, the first 351 surveys completed contained the CESD, while the remainder contained the CESD-R. Both scales

will be referred to as CESD hereafter. The CESD has good two week to one-year test re-test reliability, r = 0.40-0.70 (Eaton et al., 2004). Partner-reports of paternal perinatal depression were also available from mothers on the EPDS – Partner (EPDS-P) (Fisher et al., 2012). The clinical cut-off scores of EPDS > 10 (Edmondson et al., 2010), CESD ≥ 16 (Eaton et al., 2004; Radloff, 1977), and EPDS-P ≥ 5 (Fisher et al., 2012) indicates the optimum identification of a depressive case, although it does not equate to a clinical diagnosis.

   Measures of Anxiety. Anxiety was measured using the Perinatal Anxiety Screening Scale (PASS) (Somerville et al., 2014) and Generalized Anxiety Disorder 7-item Scale (GAD-7) (Spitzer et al., 2006) for fathers of children 0-18 months and >1.5-8 years old, respectively. GAD-7 items were rated on a scale from "*not at all*" to "*nearly every day*", with higher levels indicating elevated anxiety symptoms. A clinical cut-off score of PASS ≥ 26 (Somerville et al., 2014) and GAD-7 ≥ 10 (Spitzer et al., 2006) was used to indicate clinically-significant anxiety.

   Multidimensional Scale of Perceived Social Support (MSPSS). The 12-item MSPSS (Zimet et al., 1988) assessed paternal perceived social support. Items were scored on a 7-point scale ranging from "*very strongly disagree*" to "*very strongly agree*". Higher cumulative scores on the MSPSS are indicative of higher levels of perceived social support.

   Revised Dyadic Adjustment Scale (RDAS). The 14-iem RDAS (Busby et al., 1995) examined relationship quality. Items are scored on a 5-point scale and are broken down into 3 subscales, including (a) consensus, (b) satisfaction, and (c) cohesion. Lower scores suggest greater relationship distress.

   Recent Stressful Experiences (RSE). The RES was an author-compiled measure which assessed for the presence of stressors within the past month (referred to as RES past month) and the past 2-12 months (referred to as RES past year). The RES was developed based on recommendations of the JBP research network on toxic stress at Harvard's Center on the Developing Child.

Statistical Analysis

   Statistical analyses were conducted using IBM SPSS Statistics Version 25. Little's Missing Completely at Random (MCAR) indicated that missing data on the EPDS, CESD, PASS, and GAD-7 were MCAR (p > .500) while the EPDS-P was not MCAR (χ^2 = 66.62, p < .001).[1] Descriptive analyses were conducted to assess sample characteristics and average scores on independent and dependent variables. Father-reported depressive and anxiety symptoms were dichotomized based on clinical cut-off scores and combined into a single measure for depression (using the EPDS and CESD) and anxiety (using the PASS and GAD-7). Bivariate correlations were conducted to identify significant relationships between relevant variables. Significant correlations with outcome variables then informed binomial logistic regression to examine risk and protective factors for paternal depression and anxiety.

Results

Participant Characteristics

   Fathers (N = 106) were M = 37.25 years old (SD = 6.31) and parenting M = 1.62 (SD = 0.77) children. Participants were largely residing in Canada (75.5%) or the United States (19.8%) and married or common-law (93.4%). Most fathers had at least a bachelor's degree (61.9%) and

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[1] EPDS-P missing data was imputed (n = 10) using expectation maximization. The regression produced nearly identical predictors; parity was removed blockwise but was significant if included in the final model. Original raw data is reported.

an annual income > $100,000 (53.0%). Nearly all fathers (98.1%) had not experienced a diagnosis of COVID-19 within their household, but 25.5% reported knowing someone personally who had been diagnosed with COVID-19. Financial strain due to the pandemic was prevalent (38.7%), with 21.0% reporting that someone in the household had been laid off or lost at least half of their regular work hours. Prevalence of paternal mental health history was 44.3%.

Prevalence and Correlates of Depression

Total depression prevalence above respective clinical cut-off scores was 37.1% ($n =$ 26/70; Figure 1). Of fathers with a child 0-18 months, 58.3% ($n = 7/12$) scored > 10 on the EPDS ($M = 10.50$, $SD = 4.08$; Figure 1). Of fathers with a child > 1.5-8 years old, 32.8% ($n = 19/58$) scored $\geq$ 16 on the CESD ($M = 13.50$, $SD = 13.93$; Figure 1). Rates did not differ across age groups as represented by the measure completed ($\chi^2 = 2.79$, $p = .095$).

Depression prevalence was correlated with mental health history and financial strain during the COVID-19 pandemic (Table 1). Binomial logistic regression indicated that financial strain (OR = 2.57, 95% Confidence Interval (CI) [0.81, 8.18], $p = .111$) was not a significant predictor over and above a history of mental health concerns (OR = 7.18, 95% CI [2.27, 22.73], $p < .001$).

Table 1

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Depression	-	.73**	-	.46**	-.02	-.23	-.23	-.12	-.17	.21	.16	.15	.28*	-.10	.06	.03	-.11	-.09
2. Anxiety	.57**	-	-	.28*	-.04	-.24	-.24	-.14	-.19	.23	.13	.15	.27*	-.07	-.01	.03	-.12	-.17
3. EPDS-P*	.23**	.24**	-	-	-	-	.	-	-	-	-	-	-	-	-	-	-	-
4. MH history	.30**	.32**	.05	-	-.08	-.15	-.10	-.07	-.15	.01	.16	-.14	.12	.07	.02	.30*	-.04	-.12
5. MSPSS	-.20**	-.16**	-.08	-.09*	-	.30*	.32*	.39**	.08	-.43**	-.17	.15	-.07	-.37**	.26*	.09	.20	.10
6. RDAS total	-.21**	-.14**	-.16*	-.18**	.25**	-	.90**	.82**	.77**	-.40**	-.20	-.18	-.33*	-.36**	-.06	-.18	.07	.12
7. RDAS consensus	-.11*	-.08	-.11	-.10*	.21**	.83**	-	.77**	.46**	-.39**	-.32*	-.14	-.22	-.18	-.04	-.12	.11	.13
8. RDAS satisfaction	-.26**	-.23**	-.13	-.20**	.19**	.79**	.52**	-	.38**	-.43**	-.16	-.27	-.33*	-.37**	-.02	-.12	.03	.09
9. RDAS cohesion	-.19**	-.06	-.11	-.17**	.19**	.79**	.41**	.50**	-	-.20	-.01	-.00	-.27	-.34*	-.10	-.21	-.03	.04
10. RSE past month	.24**	.23**	.15*	.16**	-.16**	-.10*	-.05	-.14**	-.06	-	.59**	.33**	.18	.13	-.12	-.13	-.23*	-.14
11. RSE past year	.22**	.19**	.08	.17**	-.12**	-.08	-.02	-.08	-.09*	.51**	-	.09	.23*	.02	-.10	.07	-.04	-.26**
12. Employment Loss	.11**	.07	.10	.04	-.04	-.07	-.05	-.05	-.08	.26**	.10**	-	.12	-.06	-.09	-.33**	-.19	-.30**
13. Financial Strain	.17**	.19**	.26**	.06	-.09*	-.03	-.03	-.06	.02	.21**	.16**	.25**	-	-.02	-.02	.11	-.23*	-.37**
14. Parent Age	-.11**	-.14**	-.09	-.06	.00	-.12*	-.06	-.08	-.14**	-.09**	-.12**	-.07*	-.08*	-	.03	.18	.08	.36**
15. Marital Status	-.05	-.10*	-.02	-.11**	.18**	-.00	-.00	.01	-.01	-.15**	-.21**	-.03	-.18**	.02	-	.17	.07	.15
16. Parity	-.06	-.09*	-.15*	.01	-.07	.01	.01	.06	-.01	.06	-.03	.09**	.02	.15**	.02	-	.14	.11
17. Parent Education	-.11**	-.07	.02	-.10**	.12**	-.00	-.01	.02	-.02	-.16**	-.09**	-.19**	-.17**	.30**	.12**	-.15**	-	.20*
18. Household Income	-.14**	-.09*	-.16*	-.13**	.11**	.02	-.01	.04	.01	-.22**	-.21**	-.22**	-.37**	.31**	.35**	-.04	.34**	-

Bivariate correlations of sociodemographic and predictor variables for mothers and fathers of children age 0-8 years

Note. Above the diagonal = father report; Below the diagonal = mother report. Abbreviations: EPDS-P = Edinburgh Postnatal Depression Scale – Partner (maternal-reported paternal depression); MH = Mental Health; MSPSS = Multidemensional Scale of Perceived Social Support; RDAS = Revised Dyadic Adjustment Scale; RSE = Recent Stressful Events. *p <.05, ** p < .01
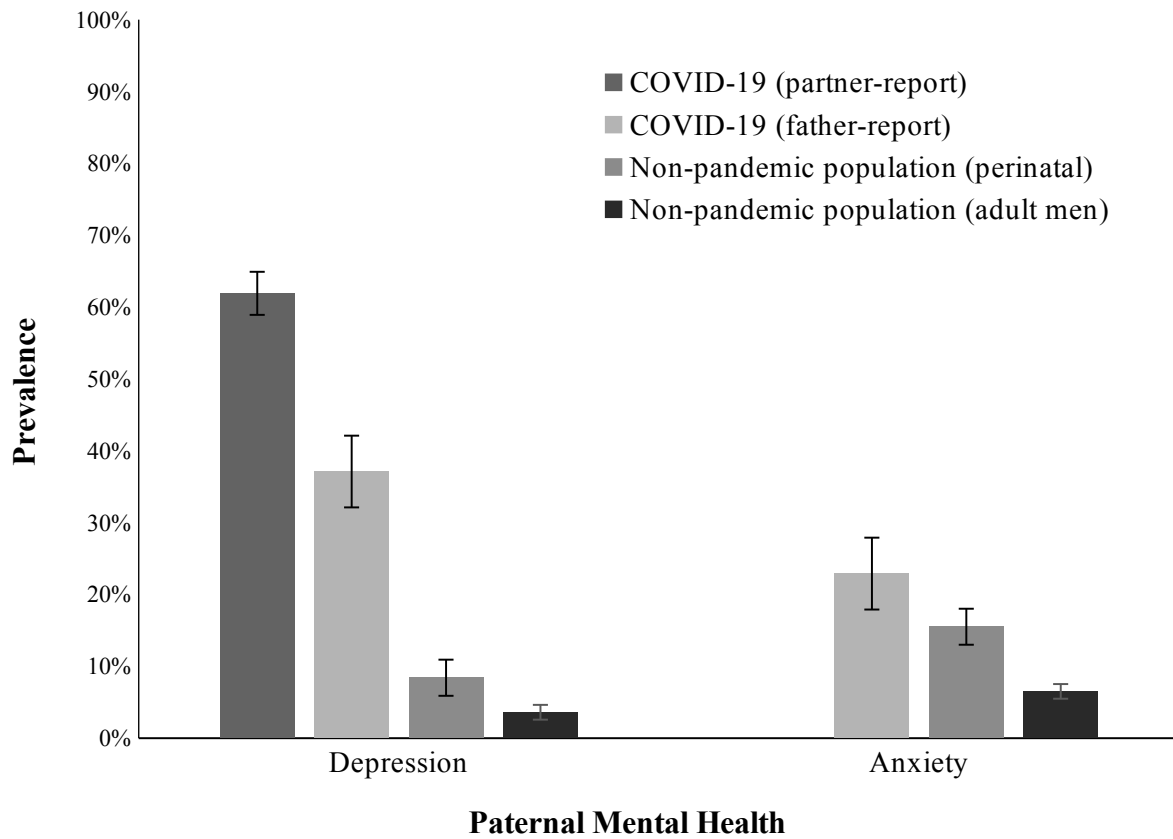
Figure 1. Prevalence rates of depression and anxiety during the COVID-19 pandemic with standard error bars and pre-pandemic comparisons

Corroboration from Maternal Reports of Paternal Depression

For fathers with a partner who was expecting or up to 18 months post-partum, mothers completed the EPDS-P (N = 236) which assessed paternal depression. Total prevalence of depressive symptoms above the recommended clinical cut-off score of ≥ 5 was 61.9% (n = 146/236; M = 6.36, SD = 4.64), consistent with fathers' self-reported perinatal depression prevalence of 58.3% (Figure 1).

Partner-rated paternal depression was significantly associated with lower maternal marital quality and household income as well as greater recent stressful events in the past month, financial strain, and parity (Table 1). Blockwise binomial logistic regression indicated that in a model of non-modifiable factors household income (OR = 0.94, 95% CI [0.86, 1.03], p = .198) was not significantly related to paternal depression over and above other risk factors; household income was removed from the model. In the final model, financial strain (OR = 3.29, 95% CI [1.56, 6.95], p = .002) increased odds of paternal depression while fewer children in the home (OR = 0.61, 95% CI [0.41, 0.91], p = .016) and better marital quality (OR = 0.95, 95% CI [0.91, .996], p = .034) were protective against paternal depression; recent stressful events was not significant (OR = 1.09, 95% CI [0.68, 1.72], p = .728).

Prevalence and Correlates of Anxiety

In the total sample, 22.9% (n = 16/70) of fathers met clinical cut-off scores for anxiety (Figure 1). Anxiety prevalence rates on the PASS ≥ 26 was 33.3% (n = 4/12) for fathers with a child between 0-18 months old (M = 19.86, SD = 17.50; Figure 1). For fathers with a child > 1.5-8 years old, anxiety prevalence on the GAD-7 ≥ 10 was 20.7% (n = 12/58; M = 5.97, SD = 6.26; Figure 1). Rates did not differ across age groups (χ^2 = 0.90, p = .342).

Anxiety prevalence across age groups was associated with mental health history and financial strain (Table 1). In a blockwise binomial logistic regression model, neither financial strain (OR = 2.77, 95% CI [0.81, 9.51], p = .106) nor mental health history (OR = 3.46, 95% CI [0.99, 12.08], p = .052) significantly affected the odds of paternal anxiety when included in a model together. However, both remained significantly associated in independent models (mental health history: OR = 3.88, 95% CI [1.14, 13.19], p = .030; financial strain: OR = 3.63, 95% CI [1.13, 11.61], p = .030).

Mental Health Service Use

Of the fathers indicating unmet mental health needs, a minority of fathers reported accessing individual (n = 3/16; 18.8%) or group counselling services (n = 1/14; 7.1%). A larger percentage of fathers had sought mental health information online (n = 5/16; 31.3%) or used well-being phone apps (n = 5/16; 31.3%). No fathers reported accessing instant messaging mental health services, a mental health crisis line, or faith-based counselling services.

Discussion

To our knowledge, this study was the first to assess the prevalence of depression and anxiety among primarily Canadian fathers with young children aged 0-8 years. Findings highlight that fathers are facing significant mental health concerns during the COVID-19 pandemic. Clinically-significant depression (37.1%) and anxiety (22.9%) were prevalent amongst the entire sample. Perinatal fathers may experience an even greater mental health need, with 58.3% meeting clinically-significant cut-offs for depression and 33.3% for anxiety. A self-reported history of mental health concerns was identified as a risk factor for paternal depression

during the COVID-19 pandemic. Moreover, financial strain was a risk factor for paternal depression while having fewer children and higher partner-reported marital quality were protective against paternal depression, based on partner-reported paternal depression. A history of mental health concerns and financial strain were independent risk factors for the development of paternal anxiety during the COVID-19 pandemic. Finally, few fathers reported using mental health services despite high reports of depression and anxiety.

Prevalence rates of depression and anxiety in fathers of young children are elevated in comparison to pre-pandemic rates. Rates of depression among perinatal fathers was 8.4% pre-pandemic (Cameron et al., 2016), while the 12-month prevalence of depression in Canadian adult men is 3.6% (Knoll & MacLennan, 2017). Similarly, the prevalence rates of anxiety in the Canadian pre-pandemic population was estimated at 15.5% (Cameron et al., 2020a) and 6.5% (Pakula et al., 2016) in perinatal fathers and adult men, respectively. These pre-pandemic comparisons suggest a 4- to 10-fold increase in depression and 1.5- to 3-fold increase in anxiety among fathers during the pandemic, consistent with emerging literature on COVID-19 (e.g., Carroll et al., 2020). Thus, there is a critical need to identify fathers with unmet mental health needs during this time and promptly address these concerns through mental health interventions and policies that address underlying risk factors to avoid long-term implications of the pandemic on paternal mental health.

Within the current sample of fathers, depression and anxiety were linked to a history of mental health concerns and financial strain. These findings are consistent with maternal correlates of depression and anxiety previously reported elsewhere (Cameron et al., 2020b). The epigenetic hypothesis of mental illness (Nestler, 2014) may help explain the mechanism by which pandemic-related stressors trigger a reoccurrence of mental health concerns. The epigenetic hypothesis of mental illness (Nestler, 2014) posits that severe environmental stressors, such as the stressors associated with the COVID-19 pandemic, may trigger changes at the genetic level which contributes to depression amongst at-risk individuals. The transaction theory of stress and coping (Biggs et al., 2017) also hypothesizes that there is an interaction between multiple systems (e.g., cognitive, physiological, psychological) and an individual's complex environment which decreases the availability of factors that protect against depression and anxiety. This theory indicates that during the pandemic, COVID-19-related stressors may increase one's susceptibility toward developing mental health concerns, specifically among those who are already at-risk (i.e., those who have a history of mental health concerns). Cumulatively, the epigenetic hypothesis of mental illness (Nestler, 2014) and the transaction theory of stress and coping (Biggs et al., 2017) provide strong theoretical evidence to highlight the increased vulnerability some fathers face during this worldwide pandemic. Findings underscore the need to screen and monitor fathers with a history of mental health concerns, with the aim of enabling early intervention and avoiding the long-term detrimental impacts on the father, their children, and the family unit. Further, these findings suggest that policies to improve financial strain, such as the related COVID-19 financial relief efforts (e.g., Canada Emergency Wage Subsidy, Canada Emergency Response Benefit), and increased access to financially prohibitive mental health services during and following the pandemic will be essential for supporting families.

In addition to self-reported depression, paternal depression was assessed via partner reports. Findings suggested that marital quality and parity also impact paternal depression. More specifically that better marital quality protects against paternal depression. Results are consistent with previous reports of an inverse relationship between marital quality and maternal mental health (Cameron et al., 2020b). Perinatal fathers with a greater number of children in the

household may have additional elevated risk for developing paternal depression during the pandemic. Future research should examine parenting and father-child relationship factors that may explain the mechanism between depression risk and number of children.

Our research also evidenced a lack of fathers (i.e., $N = 70$) completing research on parental mental health. For example, Cameron et al. (2020b) had 641 mothers complete their study on parenting during the pandemic within three weeks, relative to the 70 fathers who completed the same survey between April 14, 2020 and August 26, 2020. Findings suggest fathers are less likely to complete studies on their mental health. These findings are consistent with the mental health literature suggesting that men are less likely to participate in research on mental health and to receive mental health services (Ellis et al., 2014). Collectively, results indicate a need for targeted efforts to identify and meet the mental health needs of fathers.

Strengths and Limitations

The findings of this study should be interpreted with some limitations in mind. First, results are based on cross-sectional data collected between April 14, 2020 and August 26, 2020, which provides a short snapshot of depression and anxiety among fathers. Thus, in combination with the sample size, the current study is unable to evaluate changes over time as a function of the pandemic. Future research should assess the influence of time since the onset of the COVID-19 pandemic on paternal depression and anxiety. Fathers also reported household income well-above the average Canadian (e.g., 53% reported a household income of > $100,000 versus the $61,400 Canadian average household income; Statistics Canada, 2020a). As such, results may not generalize to fathers within lower socioeconomic classes. Additionally, fathers were included in each appropriate child age range analysis, which allowed for classification of fathers with multiple children. Despite requiring some fathers to be included twice across analyses, this data analysis method increases the clinical utility of the findings. Finally, it should be noted that psychometric properties of the PASS have not been described for fathers to date and self-reported levels of depression and anxiety are not equivalent to a clinical diagnosis.

Despite these limitations, this study focuses on an understudied population within the larger context of family well-being during a significant worldwide stressor. In addition to the novelty of this study, a strength of this work was the use of partner-rated measures for paternal depression given the generally lower research participation seen for fathers. This approach allowed for greater data collection from mothers. Further, fathers of children up to age 8 years were included, while the majority of research on paternal mental health has primarily focused on the perinatal period. As such, the current study provides important insights into the mental health of fathers to inform future research and clinical directions.

Clinical Implications

There is an immediate need for interventions that address paternal mental health within the context of the COVID-19 pandemic. Transdiagnostic psychological interventions, such as the Unified Protocol (Barlow et al., 2017) or Dialectical Behavior Therapy (Ritschel et al., 2015), that target underlying mechanisms of both depression and anxiety may be critical in mitigating overall mental health concerns in fathers. An additional consideration for therapeutic intervention is family and/or couple-based interventions that may increase maternal marital quality and subsequently improve both maternal (Cameron et al., 2020b) and paternal depression. Interventions delivered within public health guidelines to reduce physical contact, such as through virtual means, may be especially helpful to fathers, as the majority of fathers

seeking mental health support did so through self-directed online informational searches. Future research is needed during and following COVID-19 on the specific supports that would benefit fathers and families as a whole.

Conclusions

The COVID-19 pandemic has had a large impact on paternal mental health. In this cross-sectional study, with a relatively small sample of fathers, fathers (like mothers) are reporting large increases in clinically-significant depression and anxiety since the onset of the COVID-19 pandemic. Results provide preliminary evidence to encourage future studies to examine fathers in COVID-19-related mental health research to promote positive family health and well-being.

Contributions to Knowledge
- This is the first study to describe the mental health concerns of fathers during the COVID-19 pandemic
- Prevalence rates represent a 4- to 10-fold increase in depression and 1.5- to 3-fold increase in anxiety among fathers
- Risk factors included a previous mental health history, experiencing financial strain during the pandemic, with a greater number of children, and lower maternal relationship quality
- Only 1 in 4 fathers reported seeking professional support
- Findings highlight a critical need for mental health interventions and policies that improve financial strain and increase access to financially prohibitive mental health services during and following the pandemic

Declarations

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