

Title: The role of perceived social support on pregnant women's mental health during the COVID-19 pandemic

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Abstract

Purpose: The present study aimed at investigating which sources of social support best account for pregnant women's levels of psychological distress and mental well-being during the COVID-19 pandemic. **Methods:** 274 Italian and Canadian expectant mothers completed an online-based survey including measures of perceived social support (from family, significant other and friends), state anxiety, depressive symptoms, and satisfaction with life. Correlation analyses and a multivariate analysis of covariance were performed to explore how social support from different sources was related to depressive symptoms, state anxiety and satisfaction with life. **Results:** Different sources of social support contributed to explaining women's psychological distress and mental well-being. Social support both from family and friends was significantly related to women's state anxiety and depressive symptoms. Social support from friends was specifically related to women's satisfaction with life. **Conclusion:** Our findings endorse the crucial role of perceived social support as a protective factor for pregnant women's mental health. In the context of the COVID-19 pandemic, our results suggest that support from family seems important in preventing psychological distress, whereas support from friends is also associated with mental well-being. These results may help designing future interventions aimed at improving women's perinatal mental health in life-threatening conditions.

Keywords: women; pregnancy; mental health; pandemic; COVID-19; social support

1. Introduction

Pregnancy represents a critical and potentially stressful experience, requiring women to modify their habits and lifestyles as well as their role and identity (Molgora et al., 2020). Since the spread of the COVID-19 virus and the consecutive restrictive measures adopted by local governments to contain and reduce the virus propagation, pregnant women have faced several novel and significant challenges, such as self-isolation, worries about the risk of infection for themselves and their foetus, and feelings of uncertainty arising from various unknown aspects of the situation (Haruna & Nishi, 2020; He et al., 2021; Ravaldi et al., 2021; Shah et al., 2020). Emerging evidence suggests that these COVID-19-related challenges took a toll on pregnant women's mental health (Ahmad & Vismara, 2021; Moyer et al., 2020), with studies indicating increased levels of depressive and anxiety symptoms as well as more general distress, and reduced positive affectivity in comparison to the pre-pandemic period (Ahlers-Schmidt et al., 2020; Berthelot et al., 2020; Cameron et al., 2020; Chaves et al., 2021; Matvienko-Sikar et al., 2020; Molgora & Accordini, 2020; Saccone et al., 2020; Wu et al., 2020; Zheng et al., 2020). Furthermore, pregnant women experienced significant limited access to their informal social network (e.g. friends, family members, peers, colleagues), especially during the lockdown periods, reporting decreased social support from family, friends and significant others (Matvienko-Sikar et al., 2020; Pope et al., 2021). In addition, pregnant women's access to their formal social network (e.g. health care services) was also significantly impacted by the pandemic, with an overall reduction of antenatal care and access to health services (Coxon et al., 2020; Meaney et al., 2021; Stampini et al., 2021). A growing number of studies have reported that these changes negatively affected pregnant women's well-being, indicating the need to guarantee their uninterrupted access to health system/medical services even in the context of worldwide disasters (Davis-Floyd et al., 2020; Groulx et al., 2021; He et al., 2021).

Understanding the role of social support during the perinatal period has been the objective of numerous studies (Battulga et al., 2021; Bedaso et al., 2021). The APA Dictionary of Psychology comprehensively defines social support as: The provision of assistance or comfort to others, typically to help them cope with biological, psychological, and social stressors. [. . .] It may take the form of practical help (e.g., doing

chores, offering advice), tangible support that involves giving money or other direct material assistance, and emotional support that allows the individual to feel valued, accepted, and understood (VandenBos, 2015, p. 1001).

Perceived social support, both practical and emotional, during the perinatal period is a well-established protective and resiliency factor for women's mental health as well as for the course of pregnancy and childbirth (Dunkel Schetter, 2011; Friedman et al., 2020; Huschke et al., 2020), while the lack of perceived social support has been found to be one of the key predictors of pregnant women's antenatal anxiety and depression (Biaggi et al., 2016; Denis et al., 2012; Fekadu Dadi et al., 2020; Figueiredo et al., 2018; Poggi et al., 2018; Racine et al., 2020). Furthermore, pregnant women who received support from their partner, a member of their social network or a member of the medical staff, reported an overall better birth experience as well as shorter labour and delivery (Hodnett et al., 2013; Karlström et al., 2015; Tani & Castagna, 2017). The protective role of perceived social support for pregnant women's mental health, in terms of anxiety and depressive symptoms, has been demonstrated also during the pandemic (Khoury et al., 2021; Lebel et al., 2020; Molgora & Accordini, 2020). Specifically, social support seemed to improve women's mental health during the COVID-19 pandemic, helping them to make sense of their experience (Charvat et al., 2021), and reducing their repetitive negative thinking (Harrison et al., 2021a). Partner's social support has been the source most investigated; studies showed that the lack of presence and support from the partner predicts pregnant women's greater anxiety and depressive symptoms and mothers' poorer life satisfaction after the childbirth (Chaves et al., 2021; Matvienko-Sikar et al., 2020). Furthermore, support from care professionals was found to play a protective role, reducing maternal, foetal and pregnancy risks (Jago et al., 2020).

The scientific literature provides a quite alarming scenario: the COVID-19 pandemic has undermined an important protective factor for pregnant women's mental health, perceived social support, and detrimental consequences are already coming to light. However, a question remains to be answered: How social support from different sources (e.g. significant other, friends, family) has influenced pregnant women's mental health during the COVID-19 pandemic? To the authors' knowledge, only one previous study has investigated multiple sources of support, distinguishing the role of perceived social support from different sources (i.e. family, friends and significant other) on postpartum women's mental health during the COVID-19 pandemic. Specifically, Harrison and colleagues (Harrison et al., 2021b) found that high levels of social support provided by friends buffered the effect of repetitive negative thinking on depression and anxiety in the post-partum period. However, no previous study has examined the role of different sources of social support on pregnant women's mental well-being during the COVID-19 pandemic.

The present study aimed to: (1) describe the social support that pregnant women perceived from different sources (i.e. family, friends, and significant other), as well as pregnant women's levels of psychological distress (i.e. anxiety and depressive symptoms) and mental well-being (i.e. satisfaction with life) in the context of the COVID-19 pandemic; (2) explore which source of support distinctively contribute to understanding pregnant women's levels of psychological distress and positive mental well-being during the COVID-19 pandemic. We expected an overall protective role of perceived social support on pregnant women's mental health. However, due to the exploratory nature of this study, we did not have previous hypotheses concerning the role of each source of social support.

2. Methodology

2.1. Participants

The sample consisted of 274 pregnant women; 205 (74.82%) were Canadian residents and 69 (25.18%) were Italian residents. Self-reported pregnant women, 18 years old and older, who could read and understand French or Italian, and had access to Internet, were invited to participate to an online-based

survey regarding the impact of the COVID-19 pandemic on their pregnancy experience. Italy and Canada have similar universal public health-care systems. Canadian women do not pay for prenatal care, which consists, on average, of 12 prenatal visits, whereas the Italian Health Service offers four visits during pregnancy without any charge (Chiavarini et al., 2014; Heaman et al., 2018). During the pandemic, Canadian and Italian pregnant women had to face similar restrictions: women could not attend face-to-face antenatal classes, prenatal appointments were cancelled, postponed or delivered solely online, women had to attend prenatal in-person appointments (e.g. ultrasounds) unaccompanied, and childbirth plans were altered (e.g. access to birth location, epidural analgesia, birth support person were challenged; Groulx et al., 2021; Molgora et al., 2020).

2.2 Measures

Participants' sociodemographic and pregnancy-related characteristics

Pregnant women were asked information about sociodemographic, pregnancy-related variables, and if the COVID-19 pandemic changed their pregnancy care and birth plan (see, Table 1).

The Edinburgh postnatal depression scale

The Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987) is a 10-items self-report questionnaire scoring on a 4-point Likert scale, ranging from 0 (e.g. 'No, not at all') to 3 (e.g. 'Yes, quite a lot'), designed to assess postpartum depression. The authors of the questionnaire indicated that women who scored above the cut-off point of 12/13 (minimum score possible: 0, maximum score possible: 30) are likely to suffer from a depressive disorder (Cox et al., 1987). This questionnaire addresses the intensity of depressive symptoms within the previous seven days (example item: 'I have felt sad or miserable') and has been extensively used in studies both with pregnant and postpartum women (Adouard et al., 2005; Agostini et al., 2019; Bergink et al., 2011; Lydsdottir et al., 2014). In the present study, the EPDS showed good internal consistency (Cronbach's $\alpha = .838$).

Table 1 about here

Six-Item state anxiety scale

The Six-Item State Anxiety Scale (STAI-6; Marteau & Bekker, 1992), is a short self-report questionnaire derived from the State-Trait Anxiety Inventory (Spielberger et al., 1983). The 6-item questionnaire consisted of items 3, 6, 17 (presence of anxiety) (example item: 'I feel nervous') and 1, 15, 16 (absence of anxiety) (example item: 'I feel comfortable') retained from the original 20-items state version of the State-Trait Anxiety Scale. Items addresses the current state of anxiety, asking how respondents feel « right now » on a 4-point Likert scale (ranging from 1 = not at all, to 4 = very much so). In the original 20-item version, scores range from 20 to 80, and a score above 50 indicates high level of anxiety. In the STAI-6 tool scores can range from 6 to 24. In the present study, the STAI-6 showed good internal consistency (Cronbach's $\alpha = .810$).

Multidimensional scale of perceived social support

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) is a 12-item self-report questionnaire measuring, on a 7-point Likert scale (ranging from 1 = very strongly disagree to 7 = very strongly agree, total score ranges from 12 to 84), the perceived adequacy of social support received from family, friends and significant other (example item: 'I can talk about my problems with my friends'). Because of different Likert scales were used in the Italian (6-point Likert scale) and French (7-point Likert scale) version, Z-scores were computed for each subscale. In the present study, the MSPSS showed good

internal consistency in all the three subscales (MSPSS family Cronbach's $\alpha = .928$, $\alpha = .946$, respectively for the French and Italian version; MSPSS friends Cronbach's $\alpha = .935$, $\alpha = .921$,

respectively for the French and Italian version; MSPSS significant other Cronbach's $\alpha = .811$, $\alpha = .896$, respectively for the French and Italian version).

Satisfaction with life scale

The Satisfaction with Life Scale (SWL; Diener et al., 1985) is a 5-item self-report questionnaire designed to assess people's general satisfaction with their lives (example item: 'If I could live my life over, I would change almost nothing') using a 7-point scale (ranging from 1 = strongly disagree to 7 = strongly agree, total score ranges from 5 to 35, average/ neutral score: 20; Pavot & Diener, 2008). In the present study, the SWL showed good internal consistency (Cronbach's $\alpha = .845$).

2.3 Procedure

This cross-sectional, survey-based study was conducted over 9 months, from June 2020 to March 2021. Women were recruited via unpaid Facebook advertisements and word-of mouth. This study was approved by the ethical committee of University of Quebec in Outaouais (Quebec, Canada) and Department of Psychology of Catholic University of the Sacred Heart of Milan (Italy). Pregnant women provided written informed consent and allowed to use their anonymous data in compliance with current legislation regarding the protection of personal data (Helsinki Declaration of 1975, as revised in 2018; Canada's Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, 2018).

2.4 Statistics

Statistics were performed using IBM SPSS, version 25. Since our research question was exploratory, we did not perform a priori sample size calculation using GPower. Pairwise deletion was used to handle missing data. Independent sample t-test and Pearson chisquare analysis were performed to explore the differences between Canadian and Italian women in terms of sociodemographic variables, pregnancy-related characteristics, and psychological profile. Pearson's correlation analysis was used to analyse the relationships between depressive symptoms, state anxiety, satisfaction with life and perceived social support from family, friends, and significant other. Finally, a multivariate analysis of covariance (MANCOVA) was performed to explore how social support from different sources was related to depressive symptoms, state anxiety and satisfaction with life. Cramer's V, Cohen's d, and η^2 effect sizes are reported (Cohen, 1988).

3. Results

When comparing women from the two different countries on sociodemographic characteristics and pregnancy-related variables, a few significant differences were found. Specifically, differences were found for women's age, education and relationship with the father of the baby. The number of nulliparous women did not significantly differ between the two countries ($p = .768$). However, a significant difference was found with respect to the trimester of pregnancy ($p = .020$): more participants from Italy were in their third trimester of pregnancy than participants from Canada ($p = .009$). The effect size for this finding, Cramer's V, was small, .18 (Cohen, 1988). Sociodemographic and pregnancy-related variables for the Canadian and Italian samples are presented in Table 1.

3.1 Pregnant women's psychological profile and perceived social support

Women's psychological characteristics and perceived social support from family, friends and significant other are presented in Tables 2 and 3. Canadian women, compared to Italian women, showed significant

higher levels of satisfaction with life ($p = .028$, Cohen's $d = .35$) and lower levels of state anxiety ($p = .036$, Cohen's $d = .34$). No significant difference was found in terms of depressive symptoms (see, Table 2).

Table 2 about here

Table 3 about here

Table 4 about here

3.2 Correlation analysis

Significant large positive correlations were found between the three sources of perceived social support (mean $r = .500$, $ps < .001$). All three sources of perceived social support were moderately and significantly correlated with all three indicators of psychological distress and mental well-being: negatively with both depressive symptoms and state anxiety (mean $r = .300$, $ps < .01$) and positively with satisfaction with life (mean $r = .341$, $ps < .001$). Pearson's correlation coefficients for the psychological variables and perceived social support are shown in Table 4.

3.3 Contribution of women's perceived social support in accounting for their psychological distress and positive mental well-being

A between-subjects MANCOVA was performed on three dependent variables: state anxiety, depressive symptoms and satisfaction with life, after controlling for the effect of perceived social support from family, friends and significant other. Because a significant difference for third trimester of pregnancy was found, this variable was included as covariate. Country of residency was the independent variable. Analysis of collinearity statistics do not suggest the presence of multicollinearity, as tolerance values were above 0.1 and Variance Inflated Factor (VIF) values were less than 10 (specifically, VIF scores were below 1.57, and tolerance scores were above 0.64; Field, 2018, p. 402). To investigate the impact of each significant effect on the individual dependent variables, a univariate F-test using an alpha level of .05 was performed. The covariate perceived social support from family was not significantly related to participants' satisfaction with life $F(1, 191) = 3.205$, $p = .075$, $\eta^2 = .017$, but was significant related to pregnant women's depressive symptoms $F(1, 191) = 11.538$, $p = .001$, $\eta^2 = .057$, and state anxiety $F(1, 191) = 6.972$, $p = .009$, $\eta^2 = .035$. The significant associations fall between the parameters for small ($\eta^2 = 0.01$) and medium ($\eta^2 = 0.06$) size effect, according to Cohen (1988). The covariate perceived social support from friends was significantly related to women's satisfaction with life $F(1, 191) = 10.273$, $p = .002$, $\eta^2 = .051$, and state anxiety $F(1, 191) = 8.773$, $p = .003$, $\eta^2 = .044$, as well as with depressive symptoms $F(1, 191) = 4.909$, $p = .028$, $\eta^2 = .025$. The covariate perceived social support from significant other was not significantly related to participants' satisfaction with life $F(1, 191) = 2.219$, $p = .138$, $\eta^2 = .011$, nor with depressive symptoms $F(1, 191) = .377$, $p = .540$, $\eta^2 = .002$, nor with state anxiety $F(1, 191) = .157$, $p = .693$, $\eta^2 = .001$. The covariate third trimester of pregnancy was not significant related to women's satisfaction with life $F(1,191) = .041$, $p = .839$, $\eta^2 = .000$, nor with depressive symptoms $F(1, 191) = 1.946$, $p = .165$, $\eta^2 = .010$, nor with state anxiety $F(1, 191) = .585$, $p = .445$, $\eta^2 = .003$. Using Wilks' Lambda, there was a significant effect of country of residency on the three dependent variables after controlling for the effects of the covariates, $F(3, 189) = 6.933$, $p = .000$, $V = .901$. Table 5 summarises the unadjusted means and the estimated marginal means from univariate tests following the MANCOVA, which suggest overall poorer mental well-being of Italian women.

4. Discussion

During the COVID-19 outbreak, expectant mothers experienced a reduced access to their social network (formal and informal), especially during the lockdown periods. This represents a specific context-related

challenge for their mental health, considering the well-established protective role of social support for pregnant women's mental health (Lebel et al., 2020).

Table 5 about here

Our findings confirm the crucial role of perceived social support as a protective factor for women's mental health during the perinatal period. Indeed, other studies have reported that pregnant women's perceived social support can buffer the negative effects of life stressors on mental health and psychological well-being, and it has been associated with a lower sense of uncertainty, a greater sense of mastery of pregnancy-related outcomes, more pleasant experiences, and improved self-image (Collins et al., 1993; Faramarzi & Pasha, 2015; Giurgescu et al., 2006). Furthermore, in the present study the specific associations between multiple sources of support on different dimensions of psychological well-being emerged. Perceived support from one's family seems important in accounting for less anxiety and depressive symptoms, whereas perceived support from one's friends is associated with better outcomes on all of the outcomes considered. The statistical effects for perceived support from friend being of similar or slightly larger magnitude than that of perceived support from family highlights the importance of this network in accounting for not only lower levels of symptoms, but also the greater overall mental well-being of mothers-to-be, as assessed by their satisfaction with life. Although support provided by friends has been less investigated than family and partner support, previous studies have already underlined its importance in reducing psychological distress during pregnancy (Faramarzi & Pasha, 2015).

The present study suggests that family members and friends constitute complementary sources of support that may have distinctive contributions to pregnant women's mental health during the COVID-19 pandemic. Indeed, although pregnant women reported higher levels of perceived social support from their significant other compared to social support from friends and family, the availability of support of the former does not appear to be a determinant of pregnant women's mental health. Although, our results seem to suggest that during the COVID-19 pandemic, the perceived social support from an extended network (family and friends), which was the most potentially affected during the pandemic, played an essential role in preventing depressive and anxiety states and in promoting life satisfaction. These results confirm recent studies that specifically highlighted the role of family support and social resources during the COVID-19 pandemic (He et al., 2021) and the specific contribution of perceived social support from friends in counteracting depression and anxiety during the postpartum period (Harrison et al., 2021a). In our sample, support from the significant other did not influence participants' mental health. We could hypothesise that support from the significant other was likely less affected by pandemic restrictions compared to support from family and friends living in other households. The latter could have been potentially more affected by lockdown periods, social isolation and social distancing. The sudden lack of support from family members and friends could have eclipsed the importance of the support from the significant other. These hypotheses could be the object of future studies. Adopting a mixed methodology could significantly improve the understanding of this phenomenon.

Finally, our findings suggest that Italian pregnant women reported an overall poorer mental well-being compared to Canadian pregnant women. This result could be explained by the high percentage of Italian women who self-reported changes in pregnancy and childbirth plans due to the COVID-19 pandemic. Indeed, previous studies have indicated that changes in prenatal appointments and birth plan could be associated with higher odds of experiencing depressive and anxiety symptoms (Groulx et al., 2021). However, future studies should further explore the effect of changes in prenatal care and childbirth plan on pregnant women's mental well-being.

Knowing the unique contributions of different sources of support for women may allow maternity services to help women effectively cope with the post-pandemic period. Specifically, the results presented in this paper may shed light on the design of future interventions aimed at improving perinatal mental health in life-threatening conditions by favouring connections with a diverse social network, including not only the partner but also family members and friends.

Furthermore, we can hypothesise that social media platforms could be of help in ensuring that pregnant women maintain regular contact with friends and family, as shown by previous studies (Jang & Dworkin, 2014). Indeed, social media friends are an increasingly important source of support (Baker & Yang, 2018). This emphasises the likely usefulness of implementing supportive web-based interventions by expanding the proposed activities in order to make women more aware of the benefits that different social networks can bring to their well-being (Carissoli et al., 2021; Corno et al., 2018), especially in situation such as the COVID-19 pandemic in which face-to-face interactions are limited or forbidden.

It would be interesting to investigate the role of perceived social support from different sources in the post-pandemic period. Would family and friends still play an essential role for pregnant women mental health? Future longitudinal studies could help to shed light on the possible changes of the role of different sources on social support post-pandemic and during the postpartum.

It is nevertheless important to recognise some limitations in the present study. Firstly, this is a cross-sectional study that does not allow to interpret associations between variables as reflecting causal relations. Longitudinal studies could allow examining the long-term contribution of perceived social from family and friends on women's mental health and well-being. Secondly, the study relies on a convenience sample which cannot be considered representative of the populations of Italian and Canadian women who were pregnant during the COVID-19 pandemic. Given that the survey was distributed online, self-selected women accepted to participate in the study. Finally, we did not collect data about women's race and sexual orientation. These variables could have permitted to dress a more complete picture of our sample. In conclusion, the results of our study cannot be generalised to other populations. Therefore, future studies are needed to confirm our results.

5. Conclusions

Results of this study are consistent with research which has shown a protective role of perceived social support for pregnant women's mental health. Previous studies have demonstrated that the COVID-19 pandemic decreased pregnant women's perceived social support, entailing negative consequences on women's mental health. However, to the authors' knowledge, previous studies did not explore how different sources of perceived social support could influence pregnant women's levels of psychological distress and mental health during the COVID-19 pandemic. This study shed light on the importance of two distinct sources of social support – family and friends – which seem to have unique contributions to account for better mental health and well-being in pregnant women in situations, such as the pandemic, in which social interactions have been drastically restricted.

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Data Availability Statement

The data for this study is available upon request addressed directly to the Research Ethics Boards (comite.ethique@uqo.ca). The dataset is not publicly available due to ethical restrictions.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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References

- Adouard, F., Glangeaud-Freudenthal, N. M. C., & Golse, B. (2005). Validation of the Edinburgh postnatal depression scale (EPDS) in a sample of women with high-risk pregnancies in France. *Archives of Women's Mental Health*, 8(2), 89–95. <https://doi.org/10.1007/s00737-005-0077-9>
- Agostini, F., Matthey, S., Minelli, M., Dellabartola, S., & Bonapace, S. (2019). Transient vs enduring distress in late pregnancy using the EPDS: A brief longitudinal exploratory study. *Journal of Reproductive and Infant Psychology*, 37(5), 513–526. <https://doi.org/10.1080/02646838.2019.1610730>
- Ahlers-Schmidt, C. R., Hervey, A. M., Neil, T., Kuhlmann, S., & Kuhlmann, Z. (2020). Concerns of women regarding pregnancy and childbirth during the COVID-19 pandemic. *Patient Education and Counselling*, 103(12), 2578–2582. <https://doi.org/10.1016/j.pec.2020.09.031>
- Ahmad, M., & Vismara, L. (2021). The psychological impact of COVID-19 pandemic on women's mental health during pregnancy: A rapid evidence review. *International Journal of Environmental Research and Public Health*, 18(13), 7112. <https://doi.org/10.3390/ijerph18137112>
- Baker, B., & Yang, I. (2018). Social media as social support in pregnancy and the postpartum. *Sexual & Reproductive Healthcare*, 17, 31–34. <https://doi.org/10.1016/j.srhc.2018.05.003>
- Battulga, B., Benjamin, M. R., Chen, H., & Bat-Enkh, E. (2021). The impact of social support and pregnancy on subjective well-being: A systematic review. *Frontiers in Psychology*, 12, 710858. <https://doi.org/10.3389/fpsyg.2021.710858>
- Bedaso, A., Adams, J., Peng, W., & Sibbritt, D. (2021). The relationship between social support and mental health problems during pregnancy: A systematic review and meta-analysis. *Reproductive Health*, 18(1), 162. <https://doi.org/10.1186/s12978-021-01209-5>
- Bergink, V., Kooistra, L., Lambregtse-van den Berg, M. P., Wijnen, H., Bunevicius, R., Van Baar, A., & Pop, V. (2011). Validation of the edinburgh depression scale during pregnancy. *Journal of Psychosomatic Research*, 70(4), 385–389. <https://doi.org/10.1016/j.jpsychores.2010.07.008>
- Berthelot, N., Lemieux, R., Garon-Bissonnette, J., Drouin-Maziade, C., Martel, É., & Maziade, M. (2020). Uptrend in distress and psychiatric symptomatology in pregnant women during the coronavirus disease 2019 pandemic. *Acta Obstetrica et Gynecologica Scandinavica*, 99(7), 848–855. <https://doi.org/10.1111/aogs.13925>
- Biaggi, A., Conroy, S., Pawlby, S., & Pariante, C. M. (2016). Identifying the women at risk of antenatal anxiety and depression: A systematic review. *Journal of Affective Disorders*, 191, 62–77. <https://doi.org/10.1016/j.jad.2015.11.014>
- Cameron, E. E., Joyce, K., Delaquis, C., Reynolds, K., Protudjer, J., & Roos, L. E. (2020). Maternal psychological distress & mental health service use during the COVID-19 pandemic. *Journal of Affective Disorders*, 276, 765–774. <https://doi.org/10.1016/j.jad.2020.07.081>
- Carissoli, C., Gasparri, D., Riva, G., & Villani, D. (2021). Mobile well-being in pregnancy: Suggestions from a quasi-experimental controlled study. *Behaviour & Information Technology*, 1–13. Advance online publication. <https://doi.org/10.1080/0144929X.2021.1894484>
- Charvat, E., Kranstuber Horstman, H., Jordan, E., Leverenz, A., & Okafor, B. (2021). Navigating pregnancy during the COVID-19 pandemic: The role of social support in communicated narrative sense-making. *Journal of Family Communication*, 21(3), 167–185. <https://doi.org/10.1080/15267431.2021.1932503>

- Chaves, C., Marchena, C., Palacios, B., Salgado, A., & Duque, A. (2021). Effects of the COVID-19 pandemic on perinatal mental health in Spain: Positive and negative outcomes. *Women and Birth*. Advance online publication. <https://doi.org/10.1016/j.wombi.2021.01.007>
- Chiavarini, M., Lanari, D., Minelli, L., & Salmasi, L. (2014). Socio-demographic determinants and access to prenatal care in Italy. *BMC Health Services Research*, *14*(1), 174. <https://doi.org/10.1186/1472-6963-14-174>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed. (Hillsdale, NJ: Lawrence Erlbaum Associates) ed.).
- Collins, N. L., Dunkel-Schetter, C., Lobel, M., & Scrimshaw, S. C. (1993). Social support in pregnancy: Psychosocial correlates of birth outcomes and postpartum depression. *Journal of Personality and Social Psychology*, *65*(6), 1243. <https://doi.org/10.1037//0022-3514.65.6.1243>
- Corno, G., Etchemendy, E., Espinoza, M., Herrero, R., Molinari, G., Carrillo, A., Drossaert, C., & Baños, R. M. (2018). Effect of a web-based positive psychology intervention on prenatal well-being: A case series study. *Women and Birth*, *31*(1), e1–e8. <https://doi.org/10.1016/j.wombi.2017.06.005>
- Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item edinburgh postnatal depression scale. *The British Journal of Psychiatry*, *150*(6), 782–786. <https://doi.org/10.1192/bjp.150.6.782>
- Coxon, K., Turienzo, C. F., Kweekel, L., Goodarzi, B., Brigante, L., Simon, A., & Lanau, M. M. (2020). The impact of the coronavirus (COVID-19) pandemic on maternity care in Europe. *Midwifery*, *88*, 102779. <https://doi.org/10.1016/j.midw.2020.102779>
- Davis-Floyd, R., Gutschow, K., & Schwartz, D. A. (2020). Pregnancy, Birth and the COVID-19 Pandemic in the United States. *Medical Anthropology*, *39*(5), 413–427. <https://doi.org/10.1080/01459740.2020.1761804>
- Denis, A., Michaux, P., & Callahan, S. (2012). Factors implicated in moderating the risk for depression and anxiety in high risk pregnancy. *Journal of Reproductive and Infant Psychology*, *30*(2), 124–134. <https://doi.org/10.1080/02646838.2012.677020>
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13
- Dunkel Schetter, C. (2011). Psychological science on pregnancy: Stress processes, biopsychosocial models, and emerging research issues. *Annual Review of Psychology*, *62*(1), 531–558. <https://doi.org/10.1146/annurev.psych.031809.130727>
- Faramarzi, M., & Pasha, H. (2015). The role of social support in prediction of stress during pregnancy. *Journal of Babol University of Medical Sciences*, *17*(11), 52–60 <http://jbums.org/article-1-5334-en.html>
- Fekadu Dadi, A., Miller, E. R., Mwanri, L., & Alebel, A. (2020). Antenatal depression and its association with adverse birth outcomes in low and middle-income countries: A systematic review and meta-analysis. *PLoS one*, *15*(1), e0227323. <https://doi.org/10.1371/journal.pone.0227323>
- Field, A. (2018). *Discovering Statistics Using SPSS* (5th ed.). Sage Publications. Figueiredo, B., Canário, C., Tendais, I., Pinto, T. M., Kenny, D. A., & Field, T. (2018). Couples' relationship affects mothers' and

- fathers' anxiety and depression trajectories over the transition to parenthood. *Journal of Affective Disorders*, 238, 204–212. <https://doi.org/10.1016/j.jad.2018.05.064>
- Friedman, L. E., Gelaye, B., Sanchez, S. E., & Williams, M. A. (2020). Association of social support and antepartum depression among pregnant women. *Journal of Affective Disorders*, 264, 201–205. <https://doi.org/10.1016/j.jad.2019.12.017>
- Giurgescu, C., Penckofer, S., Maurer, M. C., & Bryant, F. B. (2006). Impact of uncertainty, social support, and prenatal coping on the psychological well-being of high-risk pregnant women. *Nursing Research*, 55(5), 356–365. <https://doi.org/10.1097/00006199-200609000-00008>
- Groulx, T., Bagshawe, M., Giesbrecht, G., Tomfohr-Madsen, L., Hetherington, E., & Lebel, C. A. (2021). Prenatal care disruptions and associations with maternal mental health during the COVID-19 Pandemic. *Frontiers in Global Women's Health*, 2, 20. <https://doi.org/10.3389/fgwh.2021.648428>
- Harrison, V., Moulds, M. L., & Jones, K. (2021a). Perceived social support and prenatal wellbeing; The mediating effects of loneliness and repetitive negative thinking on anxiety and depression during the COVID-19 pandemic. *Women & Birth*, S1871-5192 (20), 30404–2 . Advance online publication. <https://doi.org/10.1016/j.wombi.2020.12.014>
- Harrison, V., Moulds, M. L., & Jones, K. (2021b). Support from friends moderates the relationship between repetitive negative thinking and postnatal wellbeing during COVID-19. *Journal of Reproductive and Infant Psychology*, 1–16. Advance online publication. <https://doi.org/10.1080/02646838.2021.1886260>
- Haruna, M., & Nishi, D. (2020). Perinatal mental health and COVID-19 in Japan. *Psychiatry and Clinical Neuroscience*, 74(9), 502–503. <https://doi.org/10.1111/pcn.13091>
- He, D., Ren, J., Luo, B., Xiang, J., Wang, G., Gu, L., & Chen, P. (2021). Women's psychological health, family function, and social support during their third trimester of pregnancy within the COVID-19 epidemic: A cross-sectional survey. *Disaster Medicine and Public Health Preparedness*, 1–5. Advance online publication. <https://doi.org/10.1017/dmp.2021.244>
- Heaman, M. I., Martens, P. J., Brownell, M. D., Chartier, M. J., Thiessen, K. R., Derksen, S. A., & Helewa, M. E. (2018). Inequities in utilization of prenatal care: A population-based study in the Canadian province of Manitoba. *BMC Pregnancy and Childbirth*, 18(1), 1–18. <https://doi.org/10.1186/s12884-018-2061-1>
- Hodnett, E. D., Gates, S., Hofmeyr, G. J., & Sakala, C. (2013). Continuous support for women during childbirth. *The Cochrane Database of Systematic Reviews*, 7 (7), CD003766 . . <https://doi.org/10.1002/14651858.CD003766.pub3>
- Huschke, S., Murphy-Tighe, S., & Barry, M. (2020). Perinatal mental health in Ireland: A scoping review. *Midwifery*, 89(1), 102763. <https://doi.org/10.1016/j.midw.2020.102763>
- Jago, C. A., Singh, S. S., & Moretti, F. (2020). Coronavirus Disease 2019 (COVID-19) and Pregnancy. *Obstetrics & Gynecology*, 136(1), 33–36. <https://doi.org/10.1097/AOG.0000000000003946>
- Jang, J., & Dworkin, J. (2014). Does social network site use matter for mothers? Implications for bonding and bridging capital. *Computers in Human Behavior*, 35, 489–495. <https://doi.org/10.1016/j.chb.2014.02.049>

- Karlström, A., Nystedt, A., & Hildingsson, I. (2015). The meaning of a very positive birth experience: Focus groups discussions with women. *BMC Pregnancy Childbirth*, *15*(1), 251. <https://doi.org/10.1186/s12884-015-0683-0>
- Khoury, J. E., Atkinson, L., Bennett, T., Jack, S. M., & Gonzalez, A. (2021). COVID-19 and mental health during pregnancy: The importance of cognitive appraisal and social support. *Journal of Affective Disorders*, *282*, 1161–1169. <https://doi.org/10.1016/j.jad.2021.01.027>
- Lebel, C., MacKinnon, A., Bagshawe, M., Tomfohr-Madsen, L., & Giesbrecht, G. (2020). Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. *Journal of Affective Disorders*, *277*, 5–13. <https://doi.org/10.1016/j.jad.2020.07.126>
- Lydsdottir, L. B., Howard, L. M., Olafsdottir, H., Thome, M., Tyrfinngsson, P., & Sigurdsson, J. F. (2014). The mental health characteristics of pregnant women with depressive symptoms identified by the edinburgh postnatal depression scale. *The Journal of Clinical Psychiatry*, *75*(4), 393–398. <https://doi.org/10.4088/JCP.13m08646>
- Marteau, T. M., & Bekker, H. (1992). The development of a six-item short-form of the state scale of the Spielberger State–Trait Anxiety Inventory (STAI). *British Journal of Clinical Psychology*, *31*(3), 301–306. <https://doi.org/10.1111/j.2044-8260.1992.tb00997.x>
- Matvienko-Sikar, K., Pope, J., Cremin, A., Carr, H., Leitao, S., Olander, E. K., & Meaney, S. (2020). Differences in levels of stress, social support, health behaviours, and stress-reduction strategies for women pregnant before and during the COVID-19 pandemic, and based on phases of pandemic restrictions, in Ireland. *Women and Birth* *34* (5), 447–454 . . <https://doi.org/10.1016/j.wombi.2020.10.010>
- Meaney, S., Leitao, S., Olander, E. K., Pope, J., & Matvienko-Sikar, K. (2021). The impact of COVID-19 on pregnant women's experiences and perceptions of antenatal maternity care, social support, and stress-reduction strategies. *Women and Birth* *S1871-5192* (21), 00079–2 . . <https://doi.org/10.1016/j.wombi.2021.04.013>
- Molgora, S., & Accordini, M. (2020). Motherhood in the time of coronavirus: The impact of the pandemic emergency on expectant and postpartum women's psychological well-being. *Frontiers in Psychology*, *11*, 567155. <https://doi.org/10.3389/fpsyg.2020.567155>
- Molgora, S., Fenaroli, V., & Saita, E. (2020). Psychological distress profiles in expectant mothers: What is the association with obstetric and relational variables? *Journal of Affective Disorders*, *262*, 83–89. <https://doi.org/10.1016/j.jad.2019.10.045>
- Moyer, C. A., Compton, S. D., Kaselitz, E., & Muzik, M. (2020). Pregnancy-related anxiety during COVID-19: A nationwide survey of 2740 pregnant women. *Archives of Women's Mental Health*, *23* (6), 757–765. <https://doi.org/10.1007/s00737-020-01073-5>
- Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, *3*(2), 137–152. <https://doi.org/10.1080/17439760701756946>
- Poggi, L., Goutaudier, N., Séjourné, N., & Chabrol, H. (2018). When fear of childbirth is pathological: The fear continuum. *Maternal and Child Health Journal*, *22*(5), 772–778. <https://doi.org/10.1007/s10995-018-2447-8>

- Pope, J., Olander, E. K., Leitao, S., Meaney, S., & Matvienko-Sikar, K. (2021). Prenatal stress, health, and health behaviours during the COVID-19 pandemic: An international survey. *Women and Birth*. Advance online publication. <https://doi.org/10.1016/j.wombi.2021.03.007>
- Racine, N., Zumwalt, K., McDonald, S., Tough, S., & Madigan, S. (2020). Perinatal depression: The role of maternal adverse childhood experiences and social support. *Journal of Affective Disorders*, 263, 576–581. <https://doi.org/10.1016/j.jad.2019.11.030>
- Ravaldi, C., Wilson, A., Ricca, V., Homer, C., & Vannacci, A. (2021). Pregnant women voice their concerns and birth expectations during the COVID-19 pandemic in Italy. *Women & Birth*, 34(4), 335–343. <https://doi.org/10.1016/j.wombi.2020.07.002>
- Saccone, G., Carbone, F. I., & Zullo, F. (2020). The novel coronavirus (2019-nCoV) in pregnancy: What we need to know. *European Journal of Obstetrics, Gynecology, and Reproductive Biology*, 249, 92–93. <https://doi.org/10.1016/j.ejogrb.2020.04.006>
- Shah, K., Kamrai, D., Mekala, H., Mann, B., Desai, K., & Patel, R. S. (2020). Focus on Mental Health During the Coronavirus (COVID-19) Pandemic: Applying Learnings from the Past Outbreaks. *Cureus*, 12(3), e7405. <https://doi.org/10.7759/cureus.7405>
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R., Vagg, P. R., Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- Stampini, V., Monzani, A., Caristia, S., Ferrante, G., Gerbino, M., De Pedrini, A., & Surico, D. (2021). The perception of Italian pregnant women and new mothers about their psychological wellbeing, lifestyle, delivery, and neonatal management experience during the COVID-19 pandemic lockdown: A web-based survey. *BMC Pregnancy and Childbirth*, 21(1), 1–12. <https://doi.org/10.1186/s12884-021-03904-4>
- Tani, F., & Castagna, V. (2017). Maternal social support, quality of birth experience, and post-partum depression in primiparous women. *The Journal of Maternal-Fetal & Neonatal Medicine*, 30(6), 689–692. <https://doi.org/10.1080/14767058.2016.1182980>
- VandenBos, G. R. (Ed.). (2015). *APA Dictionary of Psychology* (Second ed.). American Psychological Association.
- Wu, Y., Zhang, C., Liu, H., Duan, C., Li, C., Fan, J., Li, H., Chen, L., Xu, H., Li, X., Guo, Y., Wang, Y., Li, X., Li, J., Zhang, T., You, Y., Li, H., Yang, S., Tao, X., & Huang, H. F. (2020). Perinatal depressive and anxiety symptoms of pregnant women during the coronavirus disease 2019 outbreak in China. *American Journal of Obstetrics and Gynecology*, 223(2), 240–e1. <https://doi.org/10.1016/j.ajog.2020.05.009>
- Zheng, Q.-X., Jiang, X.-M., Lin, Y., Liu, G.-H., Lin, Y., Kang, Y.-L., & Liu, X.-W. (2020). The influence of psychological response and security sense on pregnancy stress during the outbreak of coronavirus disease 2019: A mediating model. *Journal of Clinical Nursing*, 29(21–22), 4248–4257. <https://doi.org/10.1111/jocn.15460>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

Table 1. Sociodemographic characteristics of pregnant women participating to the survey during the COVID-19 pandemic

Characteristics	Total sample	Italian sample (n= 69)	Canadian sample (n= 205)
	$M \pm SD$ or n (%)	$M \pm SD$ or n (%)	$M \pm SD$ or n (%)
Age ^a	32.79 \pm 4.08	33.72 \pm 4.09	32.39 \pm 4.03
Trimester of pregnancy ^b			
First (0-12 w)	32 (14.7)	4 (7.1)	28 (17.3)
Second (13-26 w)	94 (43.1)	20(35.7)	74 (45.7)
Third (27-40 w) ^c	92 (42.2)	32 (57.1)	60 (37.0)
Type of pregnancy			
Spontaneous	204 (93.2)	52 (91.2)	152 (93.8)
Assisted procreation	15 (6.8)	5 (8.8)	10 (6.2)
First child	92 (42.0)	23 (40.3)	69 (42.6)
Relation with the father of the baby ^d			
Married	77 (38.50)	36 (63.3)	41 (28.7)
Cohabitant	116 (58.0)	21 (36.8)	95 (66.4)
In a relationship (not cohabitant)	4 (2.0)	0 (0)	4 (2.8)
Separated/divorced	1 (.5)	0 (0)	1 (0.7)
Widow	/	0 (0)	/
Other	2 (1.0)	0 (0)	2 (1.4)
Education ^e			
Less than high school	16 (7.6)	3 (4.3)	13 (9.1)
High school	38 (18.0)	13 (18.8)	25 (17.6)
University certificate	5 (2.4)	/	5 (3.5)
Bachelor's degree	92 (43.6)	43 (62.3)	49 (34.5)
Postgraduate	60 (28.4)	10 (14.5)	50 (35.2)
Occupation before pandemic			
Autonomous	15 (7.5)	8 (14.0)	7 (4.9)
Employee (part time)	16 (8.0)	7 (12.3)	9 (6.3)
Employee (full time)	133 (66.8)	35 (61.4)	98 (69.0)
Unemployed	3 (1.5)	2 (3.5)	1 (0.7)
Housewife	9 (4.5)	2 (3.5)	7 (4.9)
Student	5 (2.5)	/	5 (3.5)
Leave (invalidity/sickness)	2 (1.0)	/	2 (1.4)
Other	16 (8.0)	3 (5.3)	13 (9.2)
No changes in pregnancy care and birth plan ^f	81 (35.2)	34 (49.3)	47 (29.2)

Note. M: Mean;SD: Standard deviation; %: valid percent.

^a Significant difference between countries, $t(299) = 2.296$, $p = .023$, Cohen's $d = .33$

^b Significant difference between countries, $\chi^2(2, 218) = 7.860$, $p = .020$, Cramer's $V = .19$

^c Significant difference between countries, $\chi^2(1, 218) = 6.897$, $p = .009$, Cramer's $V = .18$

^d Significant difference between countries, $\chi^2(4, 200) = 21.533$, $p = .000$, Cramer's $V = .33$

^e Significant difference between countries, $\chi^2(4, 211) = 19.131$, $p = .001$, Cramer's $V = .30$

^f Significant difference between countries, $\chi^2(1, 230) = 8.538$, $p = .003$, Cramer's $V = .19$

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Table 2. Mean scores and standard deviations of pregnant women’s psychological measures reported during the COVID-19 pandemic

	Total sample			Italian			Canadian			Statistic
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	
EPDS	203	7.93	5.16	55	7.22	5.90	148	8.20	4.86	$t(82.68)$ = -1.099 ^a
STAI-6	201	11.85	3.21	54	12.63	3.30	147	11.56	3.14	$t(199)$ = 2.116 ^b
SWL	205	28.65	4.86	54	27.41	5.07	151	29.09	4.72	$t(203)$ = -2.207 ^c

Note. *M*: Mean; *SD*: Standard deviation.

EPDS: Edinburgh Postnatal Depression Scale; STAI-6: Six-Item State Anxiety Scale; SWL: Satisfaction with Life Scale.

^a $p = .275$; ^b $p = .036$; ^c $p = .028$

Table 3. Mean scores and standard deviations of perceived social support from three sources

	Italian participants			Canadian participants		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
MSPSS Family	55	19.55	4.49	144	21.71	6.32
MSPSS Friends	55	18.95	3.10	144	22.88	5.39
MSPSS Significant other	55	21.13	2.64	144	25.44	3.63

Note. Raw scores for each subscale of the Multidimensional Scale of Perceived Social Support (Family, Friends and Significant other) are reported. Specifically, Italian data are reported on a 7-point Likert scale (scores could range from 1 to 7) and Canadian data are reported on a 6-point Likert scale (scores could range from 1 to 6).

M: Mean; *SD*: Standard deviation

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Table 4. Pearson's correlation coefficients for psychological measures

Variables	SWL	STAI-6	EPDS	ZMSPSS Family	ZMSPSS Friends	ZMSPSS Significant other
SWL	-	-.515**	-.395**	.319**	.381**	.324**
STAI-6		-	.699**	-.308**	-.321**	-.200*
EPDS			-	-.374**	-.322**	-.276**
ZMSPSS Family				-	.469**	.507**
ZMSPSS Friends					-	.525**
ZMSPSS Significant other						-

Note. EPDS: Edinburgh Postnatal Depression Scale; STAI-6: Six-Item State Anxiety Scale; SWL: Satisfaction with Life Scale; ZMSPSS family: (Z-scores) Multidimensional Scale of Perceived Social Support, family subscale; ZMSPSS friends: (Z-scores) Multidimensional Scale of Perceived Social Support, friends subscale; ZMSPSS significant other: (Z-scores) Multidimensional Scale of Perceived Social Support, significant other subscale.
* $p < .01$; ** $p < .001$

Table 5. Differences between pregnant women from Italy and Canada in terms of depressive symptoms, state anxiety and life satisfaction during the COVID-19 pandemic

	Unadjusted group means		Estimated marginal means from multivariate analysis of covariance model $M(SE)$		
	Italian pregnant women	Canadian pregnant women	Italian pregnant women	Canadian pregnant women	Sig.
EPDS	7.22 (5.90)	8.20 (4.86)	7.15 (0.66)	8.22 (0.40)	.166
STAI-6	12.63 (3.30)	11.56 (3.14)	12.55 (0.42)	11.56 (0.25)	.045*
SWL	27.41 (5.07)	29.09 (4.72)	27.41 (0.62)	29.08 (0.37)	.024*

Note. M : Mean; SD : Standard deviation; SE : Standard error.

EPDS: Edinburgh Postnatal Depression Scale; STAI-6: Six-Item State Anxiety Scale; SWL: Satisfaction with Life Scale.

* $p < .05$