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# Public Health Nurse–Delivered 1-Day Cognitive Behavioral Therapy–Based Workshops for Treating Postpartum Depression:

## A Pilot Randomized Controlled Trial

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## Abstract

**Objective:** This pilot randomized controlled trial (RCT) examined the feasibility of study procedures and acceptability of 1-day cognitive behavioral therapy (CBT)–based workshops for postpartum depression (PPD) delivered by nonspecialist public health nurses (PHNs) and explored the potential effects of the intervention on PPD and anxiety to inform a future, full-scale RCT.

**Methods:** Birthing parents ≥18 years old with an infant <12 months old, living in Ontario, Canada, with an Edinburgh Postnatal Depression Scale (EPDS) score ≥10 were recruited between March 18 and May 25, 2022, and randomly assigned to receive the 1-day CBT-based workshop plus treatment as usual (TAU; experimental group) or TAU alone (control group). Feasibility objectives (recruitment, retention, intervention attendance) were described using descriptive statistics, and treatment effects were assessed at enrollment and 3 and 9 months post-intervention.

**Results:** 119 participants were enrolled in under 3 months, 85% in the experimental group attended their workshop, and 84% of participants completed the study. While the study was not powered to detect differences between experimental and control groups, the experimental group reported larger reductions in depression at 3 ($P = .11$) and 9 months ($P = .045$) postworkshop. Experimental group participants also reported greater reductions in anxiety at 3 ($P < .01$) and 9 months ($P = .14$) postworkshop than control participants.

**Conclusion:** Recruiting and retaining participants in an RCT of PHN-delivered 1-day CBT-based workshops is feasible. Pilot results suggest that workshops may lead to improvements in PPD up to 9 months postworkshop. As this pilot study was not powered to detect differences in clinical outcomes, these findings warrant exploration in a full-scale RCT.

**Trial Registration:** ClinicalTrials.gov identifier: NCT05314361.


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Postpartum depression (PPD) affects up to 1 in 5 mothers and birthing parents,[1–3] and left untreated is associated with an increased risk of future depressive episodes, partner relationship difficulties, impaired parent-infant bonding, and more cognitive, behavioral and emotional difficulties in offspring.[4] Among those with PPD, up to half will also experience elevated symptoms of anxiety,[5,6] which also portend increased rates of adverse outcomes for birthing parents and offspring.[7] Despite these realities, treatment rates remain low with as few as 10% of those with PPD receiving evidence-based care.[8–10] Barriers to care include a shortage of specialized mental health care providers, a preference for psychological treatments over pharmacological options, and a lack of time in the busy postpartum period.[11]

The adverse effects associated with PPD can be mitigated by timely access to evidence-based treatment. One potentially cost-effective way to increase access and address the most common barriers to treatment is to task-share delivery of interventions with professionals who have less specialized training but are more numerous. Task-sharing has the potential to meet the treatment preferences of birthing parents (ie, for

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## Clinical Points

- While postpartum depression is common, few receive evidence-based treatment, but treatments delivered by public health nurses could increase access to care.
- A randomized controlled trial protocol examining day-long cognitive behavioral therapy-based workshops delivered by public health nurses is feasible and acceptable, and these workshops may lead to improvements in postpartum depression and anxiety.

psychological interventions) with professionals who have less specialized training but are potentially more accessible than specialized mental health care providers.

Public health nurses (PHNs) are frequently a first point of contact for those with PPD in Canada and play an important role in both screening and providing ongoing support.[12–15] Nurses are the preferred nonspecialist provider of psychological treatments by those with PPD,[16] and PHNs feel that PPD management should be an important part of their role.[17] While psychotherapeutic interventions for PPD have been effectively delivered by nurses in past studies, these have primarily taken place one-on-one in-person[18–21] or by telephone.[22]

More recently, PHNs with little to no previous psychiatric training were trained to deliver effective group cognitive behavioral therapy (CBT) for PPD with benefits for birthing parents and their offspring.[23–25] After administering this treatment, nurses also reported significant personal and professional benefits that could help clients in their work outside of CBT delivery.[26] However, similar to traditional courses of evidence-based psychotherapies, this intervention consisted of 9 weekly sessions, and so may not be feasible for some new parents who cite a lack of time as a key barrier to receiving treatment.[11] Day-long workshops are brief interventions that contain the core content of lengthier CBT treatments but can treat up to 30 people at one time. Such workshops have been used to treat depression in general population samples,[27] and adapted to treat PPD, having been successfully delivered by trained specialized mental health professionals both online and in-person.[28,29] However, the effectiveness of these workshops has not yet been tested with delivery by professionals with little to no previous psychiatric training or in a public health setting. Given the availability of PHNs and their role providing postpartum support to families, training them to deliver 1-day CBT-based workshops for PPD could increase access to timely treatment that could fit into stepped and other clinical care pathways.

Prior to conducting a full-scale RCT, it is important to determine if PHNs can be trained to deliver this intervention, if a sample can be recruited and retained in a typical public health setting, and whether intervention delivery by PHNs is feasible. Therefore, the purpose of this pilot RCT was to (1) determine the feasibility (including recruitment, retention, and intervention adherence) of an RCT protocol to examine the effectiveness of PHN-delivered 1-day CBT-based workshops and (2) to explore the potential effects of the intervention on PPD and anxiety to inform a full-scale RCT.

## METHODS

In this parallel group pilot RCT, participants were allocated in a 1:1 ratio to the experimental (1-day CBT-based workshop plus treatment as usual [TAU]) or control (TAU alone) group. The randomization sequence was generated by a statistician using R[30] and was administered through the Research Electronic Data Capture (REDCap)[31] system by the research coordinator. Participants were notified of their assignment by the research coordinator at enrollment after providing informed consent. While the participants, research coordinator, and the PHNs delivering the intervention could not be blinded, the research assistants conducting follow-up data collection and the study statistician were not aware of participant allocation. This study was approved by the Hamilton Integrated Research Ethics Board and registered (NCT05314361). Birthing parents self-referred to the study after seeing advertisements on social media (Facebook, Instagram) or were referred by a health care professional (eg, family physicians, midwives, PHNs). Participants were then screened for eligibility and were considered eligible if they were ≥18 years old, had an infant <12 months old, lived in Ontario, Canada, and had an Edinburgh Postnatal Depression Scale (EPDS) score ≥10. Those who met these criteria were screened using the Mini International Neuropsychiatric Interview (MINI)[32] over the phone and were excluded if they met diagnostic criteria for current bipolar, substance use, or psychotic disorders. Upon eligibility screening the MINI was used to assess major depressive disorder (MDD) and generalized anxiety disorder (GAD). The EPDS was used to determine study eligibility in order to attempt to maximize the public health relevance of our sample given that 30% of postpartum individuals have elevated levels of PPD symptoms, and these can adversely affect them and their families.[33]

Prior to delivering workshops as part of the study, PHNs completed training that consisted of 2 days of in-class training led by a psychiatrist (RJV), followed by the delivery of a mock workshop to participant actors by PHNs in pairs. These mock workshops were recorded and reviewed by a psychiatrist (RJV), and 2 hours of supervision and feedback was provided. The PHNs then delivered a second workshop to birthing parents with PPD, which were again recorded and followed by


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another feedback session. A total of 8 nurses were trained.

The intervention in this study was originally developed and delivered in the United Kingdom for general population samples of individuals with depression[27] and was then adapted for treating PPD.[29] Workshops were 1 day long (0900–1,600) and delivered online via Zoom by 2 randomly selected and trained PHNs. The workshop was interactive and delivered in 4 modules. The first reviewed PPD etiology with a focus on cognitive risk factors, the second focused on cognitive skills including cognitive restructuring, the third on behavioral techniques including behavioral activation and relaxation techniques, and the fourth discussed problem-solving, assertiveness, using supports and provided an opportunity for action planning.

Participants received a manual that contained the workshop content and space to complete written exercises. The workshop and accompanying manual have been used in previous RCTs in which the workshops were delivered in-person and online by trained mental health providers[28,29] and trained lay peers with previous CBT training.[34] Postworkshop, experimental group participants were sent biweekly emails for 12 weeks to highlight techniques and encourage practice of CBT skills. Control group participants were sent biweekly emails reminding them of the symptoms of depression and additional prompts as to when they might consider seeking help as a safety procedure.

Participants in both the treatment and control groups continued to receive TAU during the study period. Since health care in Ontario is universally funded and available, TAU could consist of care from a family doctor, obstetrician and/or midwife, medication, and/or psychotherapy or other mental health services provided through public providers. Participants could also engage in private services if they wished.

Feasibility objectives included recruitment (recruit 96 participants within 5 months), retention (>75% of participants remain in study until completion and complete all study measures), and intervention attendance (>75% of participants in the experimental group attend the 1-day CBT-based workshop). To allow each of the 8 PHNs the opportunity to deliver 1 workshop as part of the pilot RCT, 4 workshops were planned, and we aimed to recruit at least 12 participants into each workshop (48 experimental, 48 control). To reduce the time between participants enrolling in the study and those in the experimental arm receiving the intervention, we aimed to determine the feasibility of running a workshop approximately every 4–5 weeks and therefore set our recruitment timeframe as 5 months.

A secondary objective (exploring potential effects of the intervention on PPD and anxiety) was addressed using the EPDS. The EPDS is a 10-item self-report questionnaire assessing symptoms of PPD in the past 7 days ($\alpha = .80$ in the present sample). Scores range from 0 to 30, with scores of 10 or greater indicating possible PPD.[35] Based on Jacobson and Truax's reliable change index[36] and consistent with the work of others,[37,38] change in score of ≥4 points considered a clinically meaningful change. Participants completed all measures online using REDCap at baseline (T1, upon enrollment), and 3 (T2, 3 months post-enrollment) and 6 months later (T3, 9 months post-enrollment). Participants in the experimental group attended their 1-day CBT workshop within 3 weeks of enrolling in the study.

Additional measures were completed by participants as part of the questionnaire package to assess the feasibility of the study protocol and procedures. These included the General Anxiety Disorder–7 item (GAD-7) scale, a 7-item self-report measure ($\alpha = .86$).[39] Items are scored on a 0–3 point scale with higher scores indicating worse anxiety. The GAD-7 has been validated for use in postpartum samples,[40] and a change in score of ≥4 points considered a clinically meaningful.[41]

The Postpartum Bonding Questionnaire[42] used to assess the mother-infant relationship, consists of 25 items score on a 5-point scale (0–5) and contains 4 subscales: impaired bonding ($\alpha = .86$), rejection and pathological anger ($\alpha = .81$), infant focused anxiety ($\alpha = .68$), and incipient abuse ($\alpha = .92$) (which was excluded due to past performance issues).[43]

The Multidimensional Scale of Perceived Social Support[44] total scale score was used to assess social support ($\alpha = .93$). This measure consists of 12 items each scored on a 1–7 point scale assessing relationships with a significant other, family and friends.

The Infant Behavior Questionnaire Revised-Very Short Form[45] was used to assess infant temperament. This scale uses 37 items each scored on a 7-point scale to assess positive affectivity/surgency ($\alpha = .74$), negative affectivity ($\alpha = .86$), and effortful control ($\alpha = .76$).

The Parenting Stress Index Fourth Edition Short Form[46] consists of 36 self-report items assessing stress related to the parenting role ($\alpha = .91$). Total score was used, with higher scores indicating increased parenting stress.

These additional measures will serve as secondary outcome measures in a full-scale trial assessing the effectiveness of the intervention and were selected to address common complications and comorbidities of PPD. Finally, participants reported their satisfaction with the intervention using the Client Satisfaction Questionnaire (CSQ-8) ($\alpha = .87$).[47]

## Statistical Analysis

Participant characteristics were examined using $\chi^2$ and $t$ tests for categorical and continuous outcomes, respectively. Descriptive statistics were used to describe recruitment, retention, and intervention attendance data. For our clinical outcomes and

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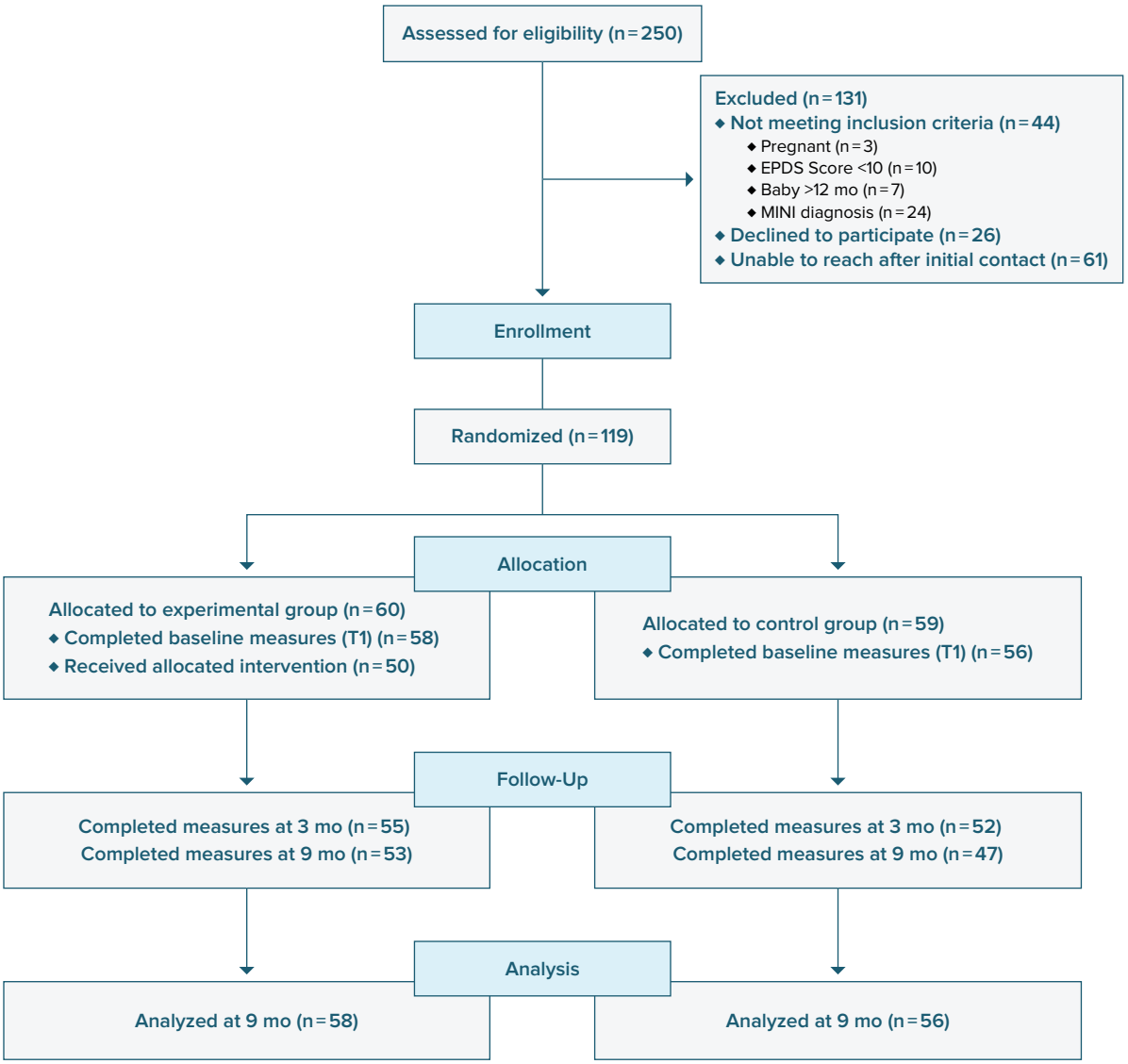
Figure 1.
**Flow of Participants Through the Trial**




Abbreviations: EPDS = Edinburgh Postnatal Depression Scale, MINI = Mini-International Neuropsychiatric Interview.

treatment effect sizes and variance calculations, continuous data were analyzed using linear mixed models (LMM). Group assignment was included as a fixed effect, allowing us to assess the effect of the intervention over time in the experimental and control groups. LMMs enabled us to utilize all data, including those from participants who were lost to follow-up. Logistic regression models were used to examine the odds of participants experiencing a clinically meaningful change in EPDS (those with reduction in EPDS score of ≥4 points) and GAD-7 scores (those with reduction in GAD-7 score of ≥4 points). Analyses were performed in Stata Version 18.0[48] according to the intention to treat principle.

## RESULTS

Two hundred fifty birthing parents were assessed for eligibility, and 119 were enrolled and randomized to either the experimental (n = 60) or control (n = 59) groups (Figure 1). Five participants declined to participate after enrolling, and 114 completed baseline (T1) study measures (n = 58 experimental; n = 56 control).

Recruitment for the study took place between March 18 and May 25, 2022. Participants on average were 31 years old and had an infant 5 months old, and 90% were married or living with a common law partner (Table 1). No statistically significant differences ($P < .05$) in characteristics at baseline were observed between groups.


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Table 1.

## Participant Characteristics

| Characteristics | Experimental group (n = 58) | Control group (n = 56) |
|---|---|---|
| **Maternal age, years, mean (SD)** | 31.43 (3.61) | 31.37 (3.93) |
| **Infant age, months, mean (SD)** | 5.15 (3.44) | 5.06 (3.04) |
| **Household income, $CAD, mean (SD)[a]** | 107,675.44 (41,800.60) | 112,311.32 (49,326.84) |
| **Married/common-law, n (%)[a]** | 54 (94.74) | 47 (88.68) |
| **Number of children, 1 child, n (%)[a]** | 42 (73.68) | 33 (62.26) |
| **Ethnicity, n (%)[a]** | | |
| White | 32 (56.14) | 32 (60.38) |
| Latino/Hispanic | 3 (5.26) | 3 (5.66) |
| Middle Eastern | 2 (3.51) | 2 (3.77) |
| African | 1 (1.75) | 0 (0) |
| Caribbean | 0 (0) | 2 (3.77) |
| South Asian | 13 (22.81) | 5 (9.43) |
| East Asian | 3 (5.26) | 4 (7.55) |
| Indigenous | 3 (5.26) | 3 (5.66) |
| Mixed | 0 (0) | 2 (3.77) |
| **Gender identity, female, n (%)[a]** | 57 (100) | 53 (100) |
| **Education, years, mean (SD)[a]** | 15.86 (1.55) | 15.55 (1.69) |
| **EPDS total score (T1), mean (SD)** | 15.97 (4.26) | 16.29 (4.32) |
| **MDD current, n (%)** | 28 (46.67) | 33 (55.93) |
| **MDD past, n (%)** | 47 (78.33) | 43 (72.88) |
| **GAD current, n (%)** | 26 (43.33) | 25 (42.37) |

[a]Four participants (experimental = 1, control = 3) completed partial baseline questionnaire and are missing some demographic information.
Abbreviations: CAD = Canadian dollar, EPDS = Edinburgh Postnatal Depression Scale, GAD = generalized anxiety disorder, MDD = major depressive disorder.

Table 2.

## Predicted Means[a] and Comparisons Between the Two Groups at Baseline and 3 and 9 Months

| | Experimental group, Mean (95% CI) | | | Control group, Mean (95% CI) | | |
|---|---|---|---|---|---|---|
| **Measure** | **T1** | **T2** | **T3** | **T1** | **T2** | **T3** |
| **EPDS score** | 15.97 (14.79–17.14) | 11.18 (9.97–12.38) | 9.63 (8.41–10.85)[b] | 16.29 (15.09–17.48) | 12.59 (11.35–13.83) | 11.88 (10.59–13.16) |
| **GAD-7 score** | 12.50 (11.21–13.79) | 7.90 (6.58–9.22)[b] | 6.74 (5.41–8.08) | 12.66 (11.34–13.98) | 10.70 (9.35–12.05) | 8.20 (6.81–9.60) |
| **PBQ IB score** | 12.95 (11.24–14.66) | 9.17 (7.43–10.90) | 8.16 (6.41–9.91) | 11.64 (0.988–13.39) | 8.57 (6.79–10.35) | 8.10 (6.28–9.93) |
| **PBQ RPA score** | 6.43 (5.35–7.51) | 4.18 (3.08–5.27) | 3.92 (2.82–5.03) | 5.93 (4.82–7.03) | 4.21 (3.09–5.34) | 3.70 (2.54–4.85) |
| **PBQ IFA score** | 5.59 (4.86–6.32) | 4.05 (3.30–4.79) | 3.63 (2.88–4.38) | 4.64 (3.89–5.39) | 3.74 (2.97–4.50) | 3.11 (2.33–3.90) |
| **IBQ-R PA/SUR score** | 4.74 (4.50–4.98) | 5.37 (5.13–5.62) | 5.67 (5.45–5.90) | 4.71 (4.46–4.96) | 5.31 (5.05–5.56) | 5.79 (5.55–6.02) |
| **IBQ-R NA score** | 4.39 (4.12–4.67) | 4.28 (3.99–4.56) | 4.57 (4.29–4.85) | 4.12 (3.84–4.41) | 4.03 (3.74–4.32) | 4.36 (4.07–4.65) |
| **IBQ-R EC score** | 5.49 (5.29–5.69) | 5.54 (5.33–5.75) | 5.60 (5.40–5.80) | 5.50 (5.29–5.70) | 5.48 (5.27–5.69) | 5.55 (5.34–5.77) |
| **MSPSS total score** | 4.93 (4.59–5.27) | 5.09 (4.74–5.43) | 4.96 (4.61–5.30) | 4.94 (4.59–5.28) | 5.11 (4.75–5.46) | 5.21 (4.85–5.57) |
| **PSI total score** | 94.59 (89.69–99.48) | 83.67 (78.68–88.67) | 82.40 (77.38–87.41) | 90.60 (85.58–95.62) | 82.53 (77.39–87.67) | 81.42 (76.14–86.70) |

[a]Predicted means from linear mixed model with (95% CI).
[b]Statistically significant ($P < .05$) mean difference.
Abbreviations: EC = effortful control, EPDS = Edinburgh Postnatal Depression Scale, GAD-7 = 7-Item Generalized Anxiety Disorder Questionnaire, IB = impaired bonding, IBQ = Infant Behavior Questionnaire-Revised, IFA = infant focused anxiety, MSPSS = Multidimensional Scale of Perceived Social Support, NA = negative affectivity, PA/SUR = positive affectivity/surgency, PBQ = Postpartum Bonding Questionnaire, PSI = Parenting Stress Index, RPA = rejection and pathological anger.

The recruitment target (n = 96) was exceeded, with 119 participants enrolling in the study over a 3-month period. 90% of participants self-referred to the study after seeing study information on social media (Facebook or Instagram), 7% self-referred after being told about the study by a family member or friend, and 2% were referred by a health care provider or community group. Of those who were enrolled, 114 (96%) continued with participation by completing baseline (T1) measures, and 84% of enrolled participants remained in the study until completion.

Of the 59 participants assigned to the experimental group, 50 (85%) attended the 1-day CBT-based workshop. Of those who attended, 42 (84%) completed the entire workshop (remained online for the entire session).

Statistically significant group-by-time interactions with 95% CIs were present for EPDS score at

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9 months ($\beta = -1.93$ [−3.83 to −0.04]; $P = .045$, Cohen $d = 0.38$) and GAD-7 score at 3 months ($\beta = -2.64$ [−4.45 to −0.82]; $P = .004$, Cohen $d = 0.60$). From baseline to 3 months, the predicted mean EPDS score in experimental group decreased from 15.97 to 11.18, though there was no statistically significant difference between the experimental and control groups ($P = .109$, Cohen $d = 0.25$) (Table 2). However, from 3 months to 9 months, the mean EPDS score in the experimental group decreased from 11.18 to 9.63, a statistically significantly greater decrease than the control group (mean difference between groups = −2.25, 95% CI, −4.02 to −0.48; $P = .01$) (Table 2). Furthermore, participants in the experimental group were more likely to experience a clinically significant reduction in EPDS symptoms (reduction of ≥4 points on the EPDS) at 9 months (OR = 2.88, 95% CI, 1.26–6.59, $P = .01$) compared to the control group.

From baseline to 3 months, mean GAD-7 score in the experimental group decreased from 12.50 to 7.90, a statistically significantly greater improvement than the control group (mean difference between groups = −2.80, 95% CI, −4.68 to −0.91; $P < .01$) (Table 2). At this time point, the experimental group was also more likely to have had a clinically significant improvement in anxiety (reduction of ≥4 points on the GAD-7 [OR = 3.38, 95% CI, 1.52–7.51, $P < .01$]), compared to the control group. From 3 months to 9 months, GAD-7 scores in the experimental group decreased from 7.90 to 6.74, but this did not differ from the control group ($P = .14$) (Table 2). Participants also reported on the mother-infant relationship, parenting stress, infant temperament, and social support, and there were no statistically significant differences between groups on these outcomes (Table 2).

Participants in the experimental group who completed the workshop had a mean (SD) CSQ-8 score of 26.23 (3.38), with 96% of participants reporting moderate or high satisfaction with the intervention.

## DISCUSSION

This pilot RCT aimed to assess the feasibility of an intervention and protocol to test the effectiveness of a PHN-delivered 1-day CBT-based workshop for PPD and to explore potential intervention effects to inform a full-scale RCT. Study findings suggest that the intervention is acceptable to participants, the study protocol is feasible, and the intervention may have the potential to improve PPD symptoms up to 9 months.

The feasibility objectives of this study focused on recruitment, retention, and treatment attendance and were all met and exceeded. We recruited enough participants to run 4 successful workshops, exceeding our target sample size in half the planned recruitment time. Recruitment procedures, which involved reaching potential participants through social media advertising, health care provider referrals, and allowing participants to self-refer, have been successful in previous RCTs of interventions for treating PPD[23,24,28,29,34,49] and likely contributed to the high recruitment rate in this study. Self-referral in mental health research is important as those with PPD may be reluctant to disclose symptoms to their health care providers[50,51] and in an effort to protect patients they view as "vulnerable" or "too unwell," some providers may be hesitant to refer patients to trials of depression treatment.[52] Giving those with PPD the ability to appraise the opportunity to participate in interventions on their own may have reduced potential barriers to participation that could exist when only accepting health care provider referrals.

Our retention objective was also met, with 85% of participants completing all study measures and remaining in the study until completion, suggesting that the study protocol is not excessively burdensome. At 3 months, 90% of participants completed study measures, which mirrors low attrition rates for previous studies of 1-day[28,29] and PHN-delivered[24] interventions and improves upon retention rates reported in some previous studies of nurse and peer-delivered psychotherapeutic interventions.[22,23,34] The follow-up period in this pilot RCT (9 months) was 6 months longer than that of any other trial of 1-day CBT workshops for PPD. Still 85% of participants completed study measures, suggesting that this duration of follow-up is feasible, which can provide important information on the putative durability of intervention effects.

Intervention attendance was high, with 80% of the participants assigned to the experimental group attending the 1-day CBT workshop, which is similar to[28] or higher than[29,34] attendance in previous 1-day CBT-based workshop studies. The delivery of the intervention online (via Zoom) may have helped to overcome barriers to treatment that those with PPD often face attending treatment in-person[11] and could provide the added benefits of comfort and convenience.[53]

While the primary objective of this study was not to examine clinical outcomes and it was not statistically powered to detect differences in these, its findings suggest that when the PHN-delivered 1-day CBT-based workshops were added to TAU, they may have the potential to improve symptoms of PPD more than TAU alone over up to 9 months, and that these changes may be clinically significant with a small to medium effect size at 3 and 9 months. These findings are consistent with previous trials of both in-person and online 1-day CBT workshops that were delivered by specialized mental health care providers, which resulted in improvements in depression symptoms among birthing parents.[28,29,34] Why differences in depression were detected at 9 months but not 3 months is unclear; however, this study was powered to examine feasibility objectives, not clinical


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differences in PPD. Moreover, while the primary clinical target of the workshop is PPD, the findings suggest that these workshops may also lead to greater improvements in anxiety compared to TAU alone. Since CBT is also effective for treating perinatal anxiety[54–56] and is considered a first-line treatment for anxiety in adults,[57] these types of interventions may be beneficial for those with comorbid anxiety among those with PPD.

It is also important to note that while participants in the experimental group experienced larger improvements in depression (and anxiety at 3 months) than the control group, those in the control group also improved. It is possible that the timing of recruitment and data collection in this study contributed to this finding since baseline data were collected just prior to the lifting of all COVID-19-related restrictions in the province of Ontario, Canada (in April 2022), for two-thirds of the study sample. As is known, the COVID-19 pandemic and its associated restrictions resulted in substantial burden on birthing parents including increased responsibilities for childcare and children's education, managing households, financial strain, partner conflict, and increased rates and severity of depression and anxiety.[58–62] The lifting of the restrictions associated with the pandemic may have reduced strain on birthing parents and contributed to improved mental health.

The feasibility of the study protocol and intervention and promising clinical findings demonstrated in this pilot RCT justify proceeding to a full-scale adequately powered RCT. Informed by the findings of this study and previous work examining 1-day CBT-based workshop for treating PPD, an estimated sample size of n = 447 is predicted to be required to detect a treatment effect of $d = 0.4$ (approximating an effect size of medium magnitude),[28,29,34] taking into account attrition rates observed in this pilot RCT and other previous trials with similar samples and duration of follow-up.[23,24]

The results of this pilot study should be interpreted cautiously and within the context of its limitations. While just over half (58%) of the sample identified as White, most had graduated high school, were not facing significant socioeconomic disadvantage, had a partner, and had access to universal health care, and the majority of the sample was recruited through social media. This may limit the generalizability of our findings to other populations and contexts, although up to 90% of pregnant and postpartum individuals report using social media.[63] It is important to note that while all participants had EPDS scores of ≥10, meeting diagnostic thresholds did not determine eligibility, and therefore, 51.3% of participants met full diagnostic criteria for current MDD and 42.9% met criteria for current GAD at baseline. While the findings could suggest the intervention may be effective at reducing PPD, these estimates may be imprecise as the sample was small, and the pilot study was not statistically powered to detect these differences. Furthermore, clinical outcomes were based on self-report alone. Finally, all COVID-19-related restrictions in the province of Ontario were lifted between T1 and T2 data collection which may have affected the precision of our treatment effect estimates.

Given the feasibility and acceptability of the study protocol and intervention, a full-scale RCT of the effectiveness of PHN-delivered 1-day CBT-based workshops for PPD should be conducted. This research should also explore the potential mechanisms of intervention effectiveness and participant experiences to help guide its potential translation into clinical practice. If effective, this intervention could be one scalable means by which access to evidence-based treatment for PPD could be expanded.

## Article Information

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