

Reporting Summary

Nature Portfolio wishes to improve the reproducibility of the work that we publish. This form provides structure for consistency and transparency in reporting. For further information on Nature Portfolio policies, see our [Editorial Policies](#) and the [Editorial Policy Checklist](#).

Statistics

For all statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.

n/a	Confirmed
<input type="checkbox"/>	<input checked="" type="checkbox"/> The exact sample size (<i>n</i>) for each experimental group/condition, given as a discrete number and unit of measurement
<input type="checkbox"/>	<input checked="" type="checkbox"/> A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
<input type="checkbox"/>	<input checked="" type="checkbox"/> The statistical test(s) used AND whether they are one- or two-sided <i>Only common tests should be described solely by name; describe more complex techniques in the Methods section.</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/> A description of all covariates tested
<input type="checkbox"/>	<input checked="" type="checkbox"/> A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons
<input type="checkbox"/>	<input checked="" type="checkbox"/> A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)
<input type="checkbox"/>	<input checked="" type="checkbox"/> For null hypothesis testing, the test statistic (e.g. <i>F</i> , <i>t</i> , <i>r</i>) with confidence intervals, effect sizes, degrees of freedom and <i>P</i> value noted <i>Give <i>P</i> values as exact values whenever suitable.</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/> For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings
<input checked="" type="checkbox"/>	<input type="checkbox"/> For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes
<input type="checkbox"/>	<input checked="" type="checkbox"/> Estimates of effect sizes (e.g. Cohen's <i>d</i> , Pearson's <i>r</i>), indicating how they were calculated

Our web collection on [statistics for biologists](#) contains articles on many of the points above.

Software and code

Policy information about [availability of computer code](#)

Data collection	<div>REDCap™ platform was used to collect all data in this study (currently version 14.5.25).</div>
Data analysis	<div>SAS Version 9.4 was used to analyse data in this study</div>

For manuscripts utilizing custom algorithms or software that are central to the research but not yet described in published literature, software must be made available to editors and reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Portfolio [guidelines for submitting code & software](#) for further information.

Data

Policy information about [availability of data](#)

All manuscripts must include a [data availability statement](#). This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A description of any restrictions on data availability
- For clinical datasets or third party data, please ensure that the statement adheres to our [policy](#)

Two years after publication, all individual participant de-identified data will be shared with researchers who submit a methodologically sound written proposal to: summittrial@sinaihealth.ca. Data will be available indefinitely. This timeline allows the study team to collect long-term study outcomes, and analyze and potentially publish the results of the secondary aims involving sustained outcomes at 12-months post-randomization as indicated our detailed Statistical Analysis Plan. Researchers requesting data will receive a response from the study team within three (3) business days.

Research involving human participants, their data, or biological material

Policy information about studies with [human participants or human data](#). See also policy information about [sex, gender \(identity/presentation\), and sexual orientation](#) and [race, ethnicity and racism](#).

Reporting on sex and gender	Pregnant or postpartum adults (inclusive of gender identities and birthing persons) were enrolled in the study. Self-reported gender identity was collected with participants predominantly identifying as: cis-women (1168/1173, 99.57%). Gender based analyses were not performed due to data sparseness.
Reporting on race, ethnicity, or other socially relevant groupings	Self-reported race/ethnicity was collected as required by the funding agency and to address mental health disparities for vulnerable populations including racialized minorities. We used the funding agency's classification system: American Indian/Alaska Native, Asian, Black/African American, Hawaiian/Pacific Islander, White, Multi-race, Hispanic (Latino/Latina), Other, Prefer not to answer. Race/ethnicity was included as a covariate in analyses.
Population characteristics	Participants' mean age was 33.27 (95% CI=33.00-33.55) years, predominantly identifying as: cis-women (1168/1173, 99.57%); Black, Indigenous, or Persons of Colour (578/1226, 47.15%); and nulliparous (668/1226, 54.49%). Most participants (1051/1226, 85.73%) reported a history of depression or anxiety prior to pregnancy, and almost one-quarter (288/1226, 23.49%) were taking psychotropic medications at enrollment.
Recruitment	Between January 2020 and October 2023 participants were recruited through self, internal, or external referrals. Internal referrals were elicited from clinicians from site hospitals and satellite clinics (i.e., obstetrical, mental health, and family departments) who sent patient contact information directly to the research team. External referrals were received from clinicians at sites that were not affiliated with the trial. Finally, recruitment materials with contact information for the research team (i.e., brochures, posters) were available in clinics and interested individuals contacted the team for more information (self-referrals). The study was introduced to potential participants by either one of their clinical providers (for internal and external referrals) or a trained researcher assistant at their respective sites (for self-referrals). Self-selection bias was reduced in the current study because: (1) the large sample size; (2) there were significantly fewer self-referrals compared to other referral pathways; and (3) we found no evidence of statistically significant in baseline or outcome variables among participants who self-referred.
Ethics oversight	The study received ethical approvals from the following three institutional review boards (IRB): UNC Biomedical IRB (19-1786); Endeavour Health IRB (EH18-129); and Clinical Trials Ontario (1895).

Note that full information on the approval of the study protocol must also be provided in the manuscript.

Field-specific reporting

Please select the one below that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.

☐ Life sciences ☒ Behavioural & social sciences ☐ Ecological, evolutionary & environmental sciences

For a reference copy of the document with all sections, see nature.com/documents/nr-reporting-summary-flat.pdf

Behavioural & social sciences study design

All studies must disclose on these points even when the disclosure is negative.

Study description	Pragmatic, multi-site, non-inferiority, four-arm trial that tested the non-inferiority of NSP vs. specialist providers (SP) and telemedicine vs. in-person delivery of a brief, 6-8 session behavioural activation (BA) therapy for improving perinatal depression and anxiety symptoms. The predefined primary outcome was the EPDS total score at 3-months post-randomisation. All data included in the current manuscript are quantitative.
Research sample	Pregnant (≤ 36 weeks) or postpartum (4-30 weeks) adult (≥ 18 years; inclusive of gender identities and birthing persons) with a score ≥ 10 on the Edinburgh Postnatal Depression Scale (EPDS). Participants' mean age was 33.27 (95% CI=33.00-33.55) years, predominantly identifying as: cis-women (1168/1173, 99.57%); Black, Indigenous, or Persons of Colour (578/1226, 47.15%); and nulliparous (668/1226, 54.49%). The study sample was fairly representative of the populations they were recruited from. One in five women experience depression or anxiety during the perinatal period and treatment is essential, however only 10% of affected perinatal patients receive psychotherapy.
Sampling strategy	A random stratified sampling procedure was used. Sample size: Using a non-inferiority margin of 10%, and an EPDS mean estimate of 7.93 (SD=4.68), 80% power, and alpha (α)=0.05, the comparison of provider (non-specialist vs. specialist) required 431 participants in each of the two conditions. To account for 10% dropout, the sample size was inflated to N=958. As described in our detailed SAP and based on recent non-inferiority guidelines, we did not adjust our two primary hypotheses for multiplicity because they did not involve different endpoints (i.e., both hypotheses test total EPDS scores at 3-months post-randomisation). Specifically, when multiple hypotheses test a similar underlying outcome, no adjustment for multiplicity is required. As described above, and due to COVID-19, we increased the non-inferiority margin for the modality comparison (telemedicine vs. in-person) from 10% to 13% and used the same EPDS estimate, 80% power, and $\alpha=0.05$. The comparison of telemedicine to in-person delivery required an additional 268 participants, yielding a target sample size of 1226. While the study is a multi-centre one, randomisation occurred within each individual site. Thus, no cluster randomisation was carried out and the sample size was not inflated to account for an intracluster

	correlation. The sample size calculation was run using PASS Version 12 (Power Analysis and Sample Size Software). NCSS, LLC. Kaysville, Utah, USA).
Data collection	Quantitative self-report data was collected through standardized REDCap™ databases reviewed by independent data staff to reduce the number of staff who were unmasked. All team members were masked to study arm allocation except for the data site coordinator, participants, treatment providers, and clinical leads. Participants were sent unique REDCap™ links to collect their self-report data.
Timing	Three-month follow-up data was collected from March 2020 through February 2024
Data exclusions	No data were excluded from the primary analyses
Non-participation	N=60 participants dropped out from the trial after being randomized for the following reasons: lack of interest, time or childcare, adverse event, preferred telemedicine, lost to follow-up, or unknown.
Randomization	Individual participants were randomised within REDCap™ to one of four study arms and randomisation was stratified by perinatal period and site. An independent biostatistician generated the randomisation sequence through computer-generated lists, with random blocks of four and eight, and stratified by perinatal period and site. Randomization sequence was concealed until all 3-month data were analysed.

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

n/a	Involved in the study
<input checked="" type="checkbox"/>	<input type="checkbox"/> Antibodies
<input checked="" type="checkbox"/>	<input type="checkbox"/> Eukaryotic cell lines
<input checked="" type="checkbox"/>	<input type="checkbox"/> Palaeontology and archaeology
<input checked="" type="checkbox"/>	<input type="checkbox"/> Animals and other organisms
<input type="checkbox"/>	<input checked="" type="checkbox"/> Clinical data
<input checked="" type="checkbox"/>	<input type="checkbox"/> Dual use research of concern
<input checked="" type="checkbox"/>	<input type="checkbox"/> Plants

Methods

n/a	Involved in the study
<input checked="" type="checkbox"/>	<input type="checkbox"/> ChIP-seq
<input checked="" type="checkbox"/>	<input type="checkbox"/> Flow cytometry
<input checked="" type="checkbox"/>	<input type="checkbox"/> MRI-based neuroimaging

Clinical data

Policy information about [clinical studies](#)

All manuscripts should comply with the ICMJE [guidelines for publication of clinical research](#) and a completed [CONSORT checklist](#) must be included with all submissions.

Clinical trial registration	ClinicalTrials.Gov: NCT04153864
Study protocol	Singla, D.R., et al. Scaling Up Maternal Mental healthcare by Increasing access to Treatment (SUMMIT) through non-specialist providers and telemedicine: a study protocol for a non-inferiority randomized controlled trial. <i>Trials</i> 22, 186 (2021)
Data collection	Between January 2020 and October 2023 participants were recruited in Chapel Hill (North Carolina), Evanston/Chicago (Illinois), and Toronto (Canada) through university-affiliated healthcare settings. Three-month follow-up data was collected via standardized REDCap™ databases, securely hosted on institutional servers at each of the three participating Hubs from March 2020 through February 2024.
Outcomes	All outcomes were assessed at 3-months post-randomization. The predefined primary outcome was depressive symptoms, as assessed by the Edinburgh Postnatal Depression Scale (EPDS) total score. The secondary outcome was anxiety symptoms, as assessed by the Generalized Anxiety Disorder (GAD-7) total score. Exploratory outcomes included in this manuscript were quality of life (as assessed through the World Health Organization Disability Assessment Schedule 2.0 and EQ5D-5-Level); client satisfaction (Client Satisfaction Questionnaire-8); therapeutic alliance (Working Alliance Inventory-Short Form); activation levels (Premium Abbreviated Activation Scale); and perceived social support (Multidimensional Scale of Perceived Social Support).