Post-Up study
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*University of Twente
**University Medical Center Groningen
***GGD Twente
Topics

- Introduction postpartum depression
- PostUp study
Postpartum depression

- Definition
- Prevalence
- Consequences
- Detection

- Screening
  (Edinburg Postnatal Depression Scale)
EPDS

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - As much as I always could
   - Not quite so much now
   - Definitely not so much now
   - Not at all

2. I have looked forward with enjoyment to things
   - As usual
   - Rather less than usual
   - Hardly at all
   - Definitely not at all

3. I have been depressed
   - Yes
   - No
   - No, not at all

4. I have been anxious or worried for no good reason
   - No, not at all
   - Hardly ever
   - Yes, sometimes
   - Yes, very often

5. I have felt scared or panicky for no very good reason
   - Yes, quite a lot
   - Yes, sometimes
   - No, not much
   - No, not at all

6. Things have been getting on top of me
   - Yes, most of the time I haven't been able to cope at all
   - Yes, sometimes I haven't been coping as well as usual
   - No, most of the time I have coped quite well
   - No, I have been coping as well as ever

7. I have found it difficult to concentrate
   - Yes
   - No
   - No, not at all

8. I have been slowed down physically
   - Yes
   - No
   - No, not at all

9. I have been so unhappy that I have been crying
   - Yes, most of the time
   - Yes, quite often
   - Only occasionally
   - No, never

10. The thought of harming myself has occurred to me
    - Yes, quite often
    - Sometimes
    - Hardly ever
    - Never
Child Health Care in the Netherlands

• monitoring child growth, health and development, vaccinations and support in parenting
• About 7 standard visits in the first year postpartum
• Coverage is over 95% of the children
Post-Up Study: Postpartum Depression Screening in Well-Child Care and Maternal Outcomes

Angarath I. van der Zee-van den Berg, Magda M. Boere-Boonekamp, Catharina G.M. Groothuis-Oudshoorn, Maarten J. Uijerman, Riet M.E. Haasnoot-Smalegange, Sijmen A. Reijneveld

Abstract

OBJECTIVES: Postpartum depression often remains unaddressed. Screening in well-child care (WCC) may improve early detection, promote maternal recovery, and reduce effects on child development. We assessed the effectiveness of screening for postpartum depression in WCC compared with care as usual (CAU) on outcomes at mother and child levels.

METHODS: In a prospective, quasiexperimental, comparative design, mothers visiting Dutch WCC centers were exposed either to screening at 1, 3, and 6 months postpartum ($n = 1843$) or to CAU ($n = 1266$). Assessments were at 3 weeks (baseline), 9 months (the Mini International Neuropsychiatric Interview), and 12 months (the Spielberger State-Trait Anxiety Inventory, the Short-Form 12-Item Health Survey, the Maternal Self-Efficacy in the Nurturing Role questionnaire, and the Ages and Stages Questionnaire-Social Emotional) postpartum.
Main objective PostUp

Ascertain if screening by Child Health Care for postpartum depression (PPD) improves the early detection of mothers with PPD.

The early detection should result in a more rapid mental recovery of the mothers identified with PPD, better parental competences, and less problems in social-emotional development of the children of these mothers.
Intervention

- Child Health Care - first year postpartum
- EPDS at 1, 3, and 6 months
- Outcome discussed by CHC physician
- Score 9-12: Home visit CHC nurse
- Score $\geq$ 13: Referral
Enrollment
1 week pp.*

Research population:
Intervention N = 4275
CAU N = 5274

Consent
2 weeks pp.

Intervention N = 2265
CAU N = 1455

Excluded

Ineligible:
- insufficient mastery of the Dutch language
- not utilizing the offer of WCC

Eligible but not recruited:
- first contact with WCC > 3 months

Screening for PPD **

T₀ Baseline
3 weeks pp.
completed T₀ : N = 1843

T₁ (primary)
9 months pp.
completed T₁: 80%
(% of T₀, N= 1465)

T₂ (secondary)
12 months pp.
completed T₂: 82%
(% of T₀, N = 1513

CAU

T₀ Baseline
3 weeks pp.
completed T₀ : N = 1246

T₁ (primary)
9 months pp.
completed T₁: 81%
(% of T₀, N= 1009)

T₂ (secondary)
12 months pp.
completed T₂: 85%
(% of T₀, N = 1065)

* pp. = postpartum ;
** EPDS at 1, 3 and 6 months pp. including subsequent advice and referral.

a 1287 mothers who completed T₀ and T₁ + 226 mothers who completed only T₀
b 919 mothers who completed T₀ and T₁ + 146 mothers who completed only T₀
### Concepts, instruments

<table>
<thead>
<tr>
<th>$T_0$</th>
<th>Background characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>$T_1$</td>
<td>State of depression: <strong>MINI – subscale depression</strong></td>
</tr>
</tbody>
</table>
| $T_2$ | Health related quality of life: **SF-12**  
(derived from MOS 36-item short form health survey) |
|       | Anxiety: **STAI-short version**  
(Spielberger State-Trait Anxiety Inventory) |
|       | Quality of parenting: **SENR**  
(Postnatal version of the Maternal Self-Efficacy in the Nurturing Role Questionnaire) |
|       | Social emotional development of the child: **ASQ-SE**  
(Ages&Stages Questionnaire – Social Emotional) |
### Background characteristics

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<th>Intervention</th>
<th>CAU</th>
<th>P-value$^a$</th>
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<td></td>
<td>Participating Mothers (N = 1843)</td>
<td>Participating Mothers (N = 1246)</td>
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</tr>
<tr>
<td>Age mothers (mean)</td>
<td>30.6</td>
<td>30.8</td>
<td>.27</td>
</tr>
<tr>
<td>Age partners (mean)</td>
<td>33.5</td>
<td>33.4</td>
<td>.58</td>
</tr>
<tr>
<td>Mother Dutch born</td>
<td>95.3%</td>
<td>95.2%</td>
<td>.85</td>
</tr>
<tr>
<td>Partner Dutch born</td>
<td>95.2%</td>
<td>94.8%</td>
<td>.58</td>
</tr>
<tr>
<td>Single mother</td>
<td>0.9%</td>
<td>1.2%</td>
<td>.45</td>
</tr>
<tr>
<td>Living in urban area*</td>
<td>12.4%</td>
<td>40.4%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Mother education (medium-high)</td>
<td>88.3%</td>
<td>90.0%</td>
<td>.28</td>
</tr>
<tr>
<td>Partner education (medium-high)</td>
<td>81.4%</td>
<td>84.0%</td>
<td>.16</td>
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<tr>
<td>Mother employed (&gt;12 hours/week)</td>
<td>81.1%</td>
<td>84.6%</td>
<td>.04</td>
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<td>93.9%</td>
<td>93.6%</td>
<td>.71</td>
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<tr>
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<td>1.6%</td>
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<td>.95</td>
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<tr>
<td>• Previous postpartum **</td>
<td>4.1%</td>
<td>5.6%</td>
<td>.06</td>
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<tr>
<td>First-born child</td>
<td>45.1%</td>
<td>48.6%</td>
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<tr>
<td>Complications during pregnancy</td>
<td>24.0%</td>
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## Primary outcomes

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<th>Intervention (n=1843) % (n)</th>
<th>CAU (n=1246) % (n)</th>
<th>Crude Difference</th>
<th>Adjusted Difference¹</th>
<th>P-value</th>
<th>Effect size Cohen’s d</th>
</tr>
</thead>
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<tr>
<td>MINI major depression</td>
<td>0.6% (11)</td>
<td>2.5% (31)</td>
<td>0.23 (0.10 ; 0.49)</td>
<td>0.30 (0.13 ; 0.66)¹</td>
<td>&lt;.001</td>
<td>.001 0.66</td>
</tr>
<tr>
<td>MINI minor + major depression</td>
<td>3.0% (56)</td>
<td>8.4% (105)</td>
<td>0.33 (0.21 ; 0.53)</td>
<td>0.38 (0.24 ; 0.61)¹</td>
<td>&lt;.001</td>
<td>&lt;.001 0.53</td>
</tr>
</tbody>
</table>

OR = Odds Ratio; CAU = care as usual; CI = Confidence Interval; MINI = Mini International Neuropsychiatric Interview; SD = standard deviation;

* measured 9 months postpartum

¹ Based on logistic regression model with variables: urbanity of living area + mother employed + lifetime history of depression + started breastfeeding after birth
# Secondary outcomes

<table>
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<tr>
<th>Secondary Outcomes*</th>
<th>Intervention (n=1843) mean</th>
<th>CAU (n=1246) mean</th>
<th>Adjusted Difference(^1) B (95% CI)</th>
<th>P-value</th>
<th>Effect size B/SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SENR total score(^a)</td>
<td>100.8</td>
<td>98.0</td>
<td>2.19 (1.48 ; 2.89)</td>
<td>&lt;.001</td>
<td>0.23</td>
</tr>
<tr>
<td>SF-12 PCS score(^a)</td>
<td>52.4</td>
<td>52.8</td>
<td>-0.53 (-1.29 ; 0.23)</td>
<td>.19</td>
<td>0.06</td>
</tr>
<tr>
<td>SF-12 MCS score(^a)</td>
<td>51.7</td>
<td>49.2</td>
<td>2.17 (1.33 ; 3.02)</td>
<td>&lt;.001</td>
<td>0.26</td>
</tr>
<tr>
<td>STAI-6 total score(^b)</td>
<td>33.9</td>
<td>37.3</td>
<td>-3.09 (-4.43 ; -1.75)</td>
<td>&lt;.001</td>
<td>0.27</td>
</tr>
<tr>
<td><strong>Child level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASQ-SE score(^b)</td>
<td>13.0</td>
<td>14.4</td>
<td>-1.06 (-2.14 ; 0.01)</td>
<td>.02</td>
<td>0.10</td>
</tr>
</tbody>
</table>

SENR = Maternal Self-Efficacy in the nurturing role questionnaire; SF-12 PCS = Short-Form 12-Item Health Survey - Physical Composite Summary; SF-12 MCS = Short-Form 12-Item Health Survey - Mental Composite Summary; STAI-6 = State-Trait Anxiety Inventory - 6-item short form (state scale); ASQ-SE: Ages and Stages Questionnaires: Social Emotional

\(^1\) Based on logistic regression model * measured 12 months postpartum

\(^a\) higher score indicates more positive outcome; \(^b\) lower score indicates most positive outcome
Discussion

• Results compared to other studies
  – Effect on depression symptoms comparable but with a more valid outcome
  – This study does demonstrates effects on secondary outcomes
  – The first study with outcomes on the child’s development

• Strengths and limitations
Implications

• Consider further implementation of screening in CHC
• Optimizing tractory after screening
• Supporting and normalizing role CHC may prevent need for treatment
• Attention for the mother-child interaction after screening
Thank you for your attention!

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