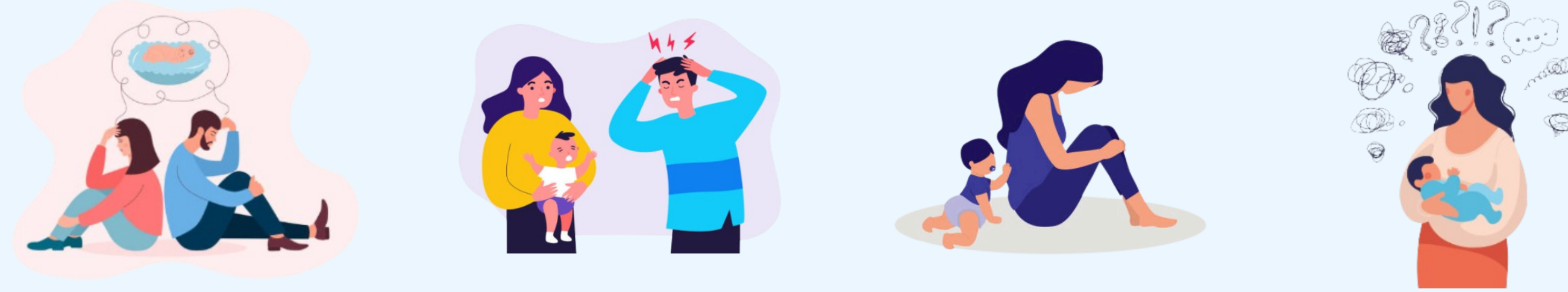


IMPACT OF PARENTAL POSTNATAL DEPRESSION ON PARENT-INFANT DYADIC SYNCHRONY: A COMPARATIVE ANALYSIS IN A POPULATION OF MOTHERS AND FATHERS WITH MAJOR DEPRESSIVE EPISODE (M.D.E.) OF INCREASING SEVERITY



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Introduction

Post-partum depression in both mothers and fathers has been shown to have a negative influence on parent-infant interactions [1,2]. However, most studies to date have failed to consider the spectrum of symptom severity of depressive illness in its impact on dyadic and triadic interactions and in particular on parent-infant synchrony.

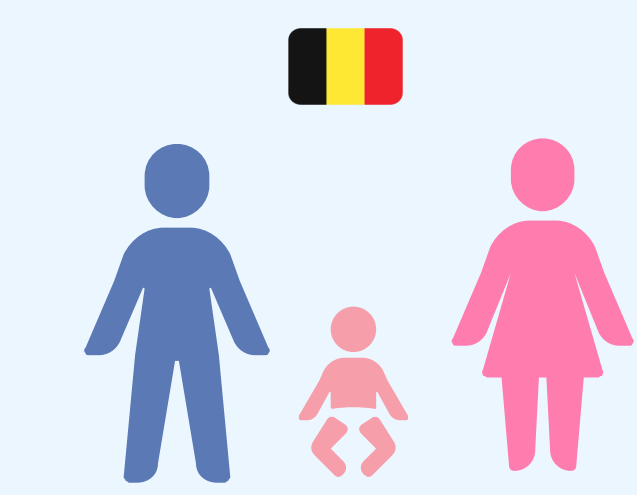
Objectives

- 1 Analyze the **increasing impact of the severity** of both the maternal and paternal MDE in the postpartum period (0-15 months) **on the quality of parent-infant synchrony**.
- 2 Search for a **threshold of depressive severity beyond which therapeutic intervention targeting interactions is indicated** for both mothers and fathers.
- 3 **Co-parenting, social support, ACEs, the notion of traumatic childbirth and (co)occurrence of MDE in the other parent will be studied as moderating variables**.

Methodology

Inclusion Criteria:

- Child between 0-15 months old
- Parental couple
- Speaking French



98 families

Exclusion Criteria:

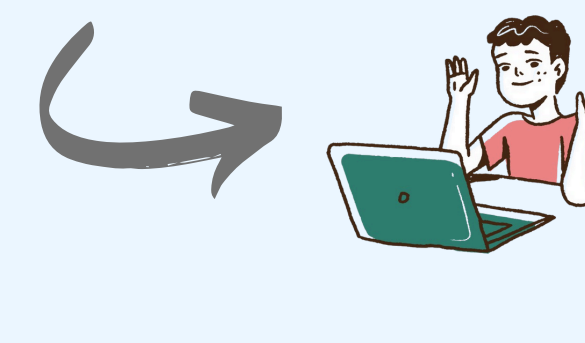
- Twins
- Parental substance abuse
- Parental intellectual disability
- Prematurity (<32 weeks)

Measures



Medical and psychological history:

- Personal and family psychiatric history
- Somatic diseases
- Traumatic childbirth
- Medically Assisted Procreation
-



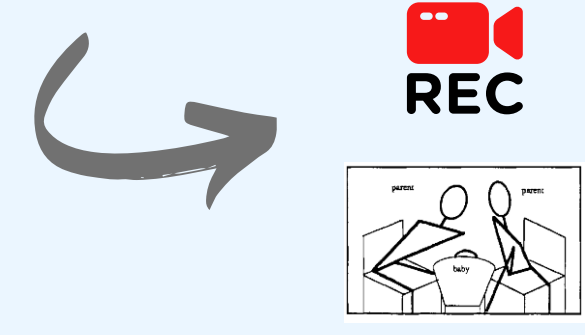
Questionnaires:

- **RAS** (Marital Satisfaction)
- **ACEs** (Adverse Childhood Experiences)
- **SS** (Social Support)



Assessment of postpartum depression:

- **EPDS** (Edinburgh Postnatal Depression Scale)
- **HAM-D** (Hamilton Rating Scale for Depression)
- **SCID-V** (Structured Clinical Interview for DSM-5 - MDE section)



Video Interaction Assessments:

- **CARE-Index** assesses parent-infant interaction (dyadic) [3]
- **Lausanne Trilogue Play** (triadic, co-parenting) [4]

92 Mothers

98 Fathers

Without MDE (n=25)

Mild MDE (n=24)

Moderate MDE (n=24)

Severe MDE (n=19)

Thymia groups

Without MDE (n=74)

Mild MDE (n=15)

Moderate/Severe MDE (n=9)

Preliminary results

1 Does the severity of depression have an impact on mother-infant dyadic synchrony?

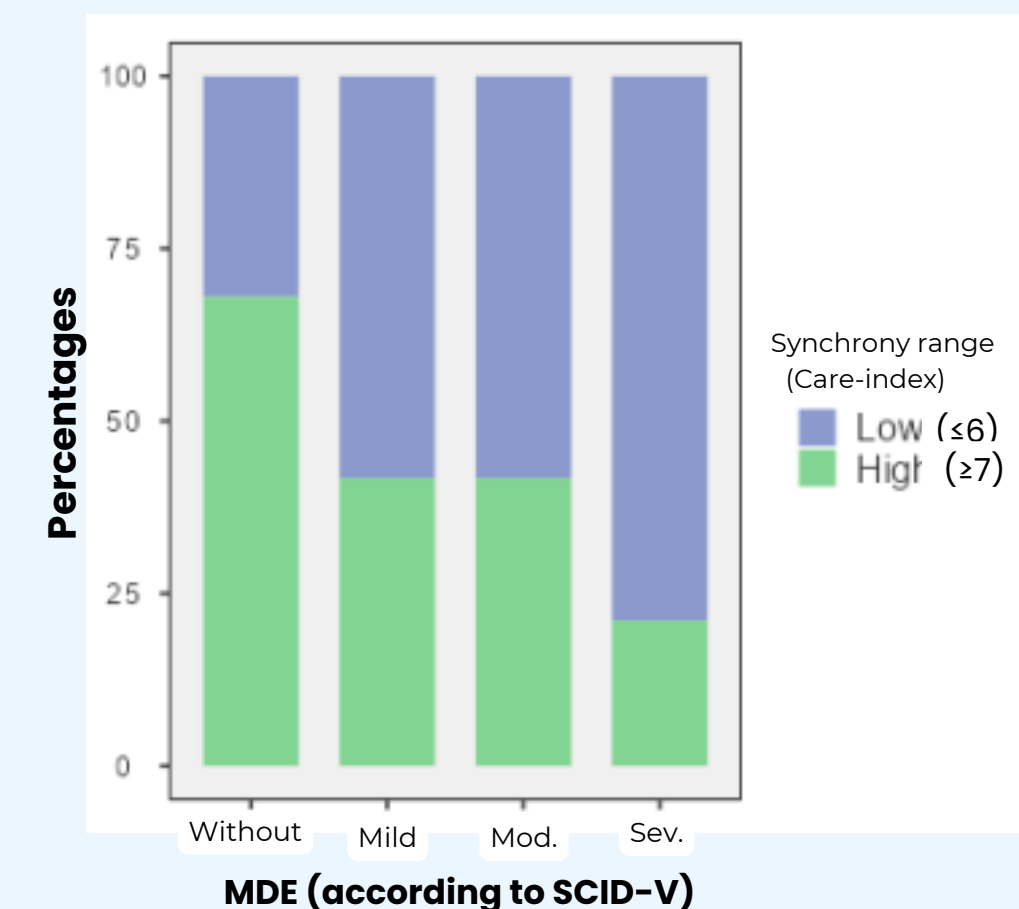
Table 1. Contingency tables

| MDE (according to SCID-V) | Observed | Care_M_bin Synchrony range (Care-index) | | |
|---------------------------|--------------|---|-------|--------|
| | | Low | High | Total |
| Without | 8 | 17 | 25 | |
| | % within row | 32.0% | 68.0% | 100.0% |
| Mild | 14 | 10 | 24 | |
| | % within row | 58.3% | 41.7% | 100.0% |
| Mod. | 14 | 10 | 24 | |
| | % within row | 58.3% | 41.7% | 100.0% |
| Sev. | 15 | 4 | 19 | |
| | % within row | 78.9% | 21.1% | 100.0% |
| Total | 51 | 41 | 92 | |
| | % within row | 55.4% | 44.6% | 100.0% |

| χ² tests | | |
|---------------------|----|---------|
| Value | df | p |
| 9.973 | 3 | 0.01880 |
| Fisher's exact test | | 0.01882 |
| N | 92 | |

2 Is there a threshold of depressive severity beyond which therapeutic intervention targeting interactions is indicated?

Figure 1. Distribution of synchrony ranges in each depressive severity group



MOTHERS

3 Co-parenting, social support, ACEs, the notion of traumatic childbirth, miscarriage and (co)occurrence of MDE in the other parent as covariables / moderating variables.

Table 2. Binomial Logistic Regression

| Predictor | χ² | df | p |
|---------------------------------------|-------|----|---------|
| SCID_M_3cat | 9.154 | 2 | 0.01029 |
| SolicitationApres_M_bin | 5.306 | 1 | 0.02126 |
| Coparentalite2 | 1.313 | 2 | 0.51857 |
| SCID_P3 | 0.905 | 1 | 0.34146 |
| ACE_M | 0.625 | 1 | 0.42912 |
| PMA | 2.527 | 1 | 0.11190 |
| AccouchTraum | 0.300 | 1 | 0.58380 |
| SCID_M_3cat * SolicitationApres_M_bin | 5.739 | 2 | 0.05672 |

Table 3. Predicted probabilities

| SolicitationApres_M_bin | | SCID_M_3cat * SolicitationApres_M_bin | | | |
|-------------------------|-------------|---------------------------------------|-------|-------|-------|
| | | 95% Confidence Interval | | | |
| SolicitationApres_M_bin | SCID_M_3cat | Probability | SE | Lower | Upper |
| true | Mod./Sev. | 0.885 | 0.064 | 0.692 | 0.964 |
| | Abs. | 0.548 | 0.144 | 0.280 | 0.791 |
| | Mild | 0.719 | 0.123 | 0.438 | 0.894 |
| false | Mod./Sev. | 0.534 | 0.215 | 0.174 | 0.862 |
| | Abs. | 0.776 | 0.244 | 0.182 | 0.982 |
| | Mild | 0.883 | 0.143 | 0.335 | 0.991 |

*Among the 39 mothers in high synchrony, 24 (62%) are predicted as such. Among the 52 mothers with low synchrony, 41 (79%) are predicted as such. Using a threshold of 0.5 on the probability predicted by the model.

| Predicted | | | |
|-----------|------|-----|-----------|
| Observed | High | Low | % Correct |
| High | 22 | 17 | 56.410 |
| Low | 13 | 39 | 75.000 |

Note: The cut-off value is set to 0.5

FATHERS

1 Does the severity of depression have an impact on father-infant dyadic synchrony?

Table 4. Contingency tables

| MDE (according to SCID-V) | Observed | Synchrony range (Care-index) | | |
|---------------------------|--------------|------------------------------|-------|--------|
| | | Low | High | Total |
| Without | 47 | 27 | 74 | |
| | % within row | 63.5% | 36.5% | 100.0% |
| Mild | 6 | 9 | 15 | |
| | % within row | 40.0% | 60.0% | 100.0% |
| Mod./Sev. | 6 | 3 | 9 | |
| | % within row | 66.7% | 33.3% | 100.0% |
| Total | 59 | 39 | 98 | |
| | % within row | 60.2% | 39.8% | 100.0% |

| χ² tests | | |
|---------------------|----|---------|
| Value | df | p |
| 3.051 | 2 | 0.21753 |
| Fisher's exact test | | 0.24536 |
| N | 98 | |

2 Is there a threshold of depressive severity beyond which therapeutic intervention targeting interactions is indicated?

Figure 2. Distribution of synchrony ranges in each depressive severity group

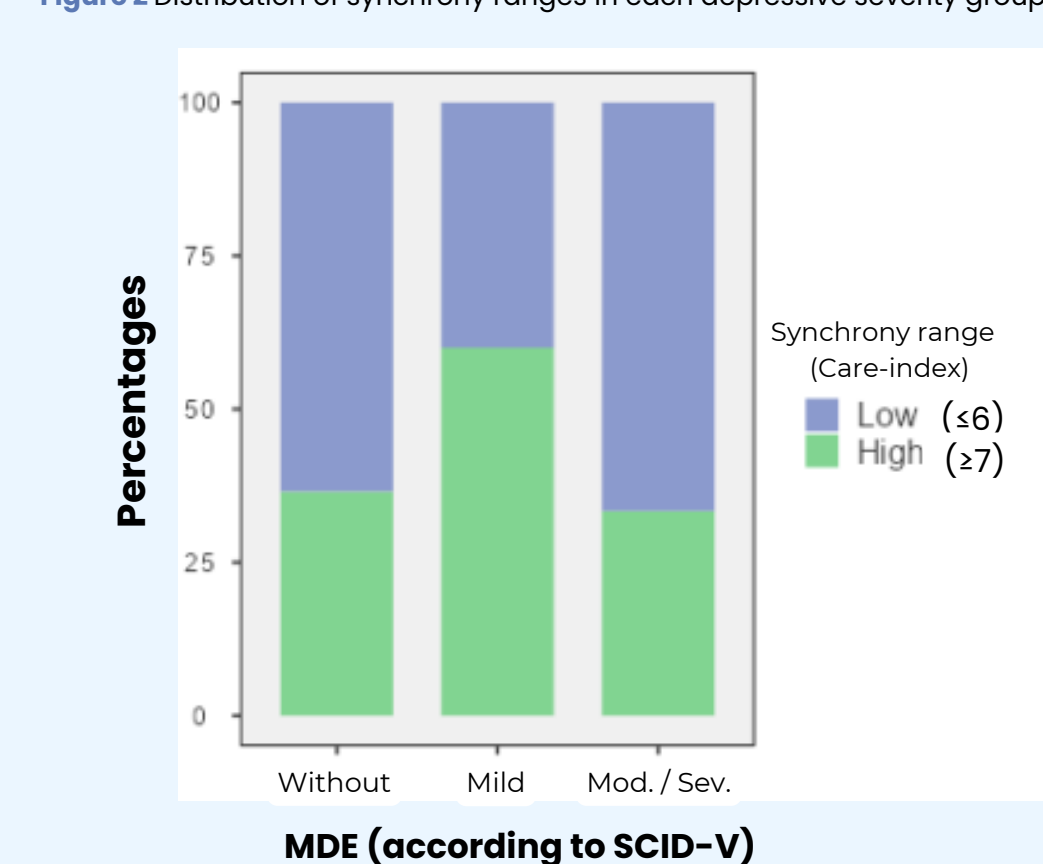


Table 5. Binomial Logistic Regression

| Predictor | χ² | df | p |
|-----------------|-------|----|---------|
| SCID_P3 | 0.025 | 1 | 0.87531 |
| SCID_M_3cat | 0.423 | 2 | 0.80941 |
| RAS_P | 0.230 | 1 | 0.63133 |
| Coparentalite2 | 1.305 | 2 | 0.52085 |
| DureeRelation | 0.292 | 1 | 0.58915 |
| ACE_P | 3.546 | 1 | 0.05968 |
| PMA | 0.674 | 1 | 0.41154 |
| ACE_P * SCID_P3 | 2.840 | 1 | 0.09197 |

Interpretation & Discussion

1. There is a **negative correlation** between the **severity of the mother's postpartum MDE** and the **quality of mother-infant dyadic synchrony**, but we **did not find the same negative correlation** between the degree of severity of postpartum depression **in fathers** and the quality of father-infant dyadic synchrony.
2. From the **mildest level of postpartum depression** in the mother, the **quality of mother-infant synchrony** is **significantly impacted** and **requires therapeutic intervention**.
3. **Mothers' social support** (frequency of contact with family and professional networks after childbirth) has a **significant impact on the quality of mother-infant synchrony**. In addition, mothers' social support appears to be a **moderating variable** in the impact of maternal postpartum depression on mother-infant synchrony.
4. **ACEs** (Adverse Childhood Experiences) have an **impact on father-infant synchrony**. In addition, ACEs have a **moderating impact** on the impact of paternal postpartum depression on the quality of father-infant dyadic synchrony.

NB: Limitations = sample distribution among fathers

Bibliography & contact

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