Enhancement of mother-child-interaction with a video-feedback intervention

(Ulm University Hospital, Department of Child and Adolescent Psychiatry and Psychotherapy)

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(University of Erlangen, Institute of Psychology)

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Implementation supported by the Ministries of Social Affairs of Baden-Wuerttemberg, Bavaria, Rhineland-Palatinate and Thuringia

Early Intervention in Germany

Service delivery for infants in need and their families is well and systematically covered by child welfare and health care system

HOWEVER:
– lack of interdisciplinary service delivery
– lack of systematically implemented programs enhancing positive parenting

“Ulm Model for attachment based intervention” as a building block within the regular service provision
professionals were trained within health care and child welfare services
model applied in different interdisciplinary communal services (vs. high university standard)

Data presented in the context of the project „A Good Start to Life”
→ early support for families at risk
→ development of systematic interdisciplinary structures

Study in progress!
Attachment based interventions in infancy

effective:
• short-term (< 5 sessions)
• behaviorally-oriented
• specified to enhance sensitive behavior
  (Bakermans-Kranenburg, van IJzendoorn & Juffer, 2003)

Ulm Model for Attachment Based Intervention

• refers to enhancing sensitive parental behavior
• based on findings from developmental psychology and on needs as well as regulatory capacities of infants and toddlers
  (Als, 1982; Brazelton, 1984)
• behaviorally-oriented
• video-based
• resource-oriented
Ulm Model for Attachment Based Intervention
(Ziegenhain, Fries, Bütow & Derksen, 2004)

Intervention

- positive mother-infant interaction
- negative mother-infant interaction
- baby present

videotaping of mother-infant interaction

Research questions

- Families at high risk can be reached via low threshold access in the context of regular service delivery.
- Maternal representation of attachment has got an influence on sensitive maternal behavior.
- Attachment-based and video-based intervention improves maternal sensitive behavior compared to “treatment as usual”.

08.09.2010
Methods: Criteria for inclusion

**Criterion A:**
- adolescent mother (< 21 years)
- mental illness of the mother
- immigration background of the mother
- developmental risks for the child (preterm birth, handicapped children)
- accumulated psychosocial risks of the family

**Criterion B:**
- children are < 3 months of age

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**Methods:**

**Quasi-experimental control group design**

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<thead>
<tr>
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<th>T1</th>
<th>T2</th>
<th>T3</th>
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<th>T5</th>
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</thead>
<tbody>
<tr>
<td><strong>intervention group</strong></td>
<td>1-3 months</td>
<td>2-4 months</td>
<td>3-5 months</td>
<td>6 months</td>
<td>12 months</td>
</tr>
<tr>
<td><strong>control group</strong></td>
<td>treatment as usual (regular service delivery)</td>
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<tr>
<td><strong>instruments</strong></td>
<td>sociodemographic data risk assessment</td>
<td>CARE-Index</td>
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<td>ADS-L</td>
<td>BSI</td>
<td>EBSK</td>
<td>social support</td>
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<td>BSI</td>
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<td>BSI</td>
<td>EBSK</td>
<td>social support</td>
</tr>
</tbody>
</table>

1. follow-up
2. follow-up
1. follow-up
2. follow-up

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**Evaluative instruments:**

- CARE-Index
- ADS-L
- BSI
- EBSK
- social support
- ET6-6
- AAI
- SSP
Methods: CARE-Index (Crittenden, 2007)

- videotaping of parent-infant-interactions in no stressful situations (free play)
- global dyadic synchrony scale (0-14)

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
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</thead>
<tbody>
<tr>
<td>High-Risk</td>
<td>0-4</td>
<td>5-6</td>
<td>7-10</td>
<td>11-14</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Intervention</td>
<td>Adequate</td>
<td>Sensitive</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

- parental scales: sensitive, controlling, unsresponsive
- child scales: cooperative, compulsive, difficult, passive

Methods: Adult Attachment Interview (Main, Goldwyn & Hesse, 2002)

- assesses caregivers’ state of mind with regard to attachment
- semistructured, 18 questions, verbatim transcription
  - Attachment classification: Free autonomous (F), dismissing (Ds), preoccupied (E), unresolved with respect to potentially traumatic experiences (U), Cannot Classify (CC)
  - global scale “overall coherence” (conversational cooperation and internal consistency of memories and/or state of mind)
### Sample Description

<table>
<thead>
<tr>
<th></th>
<th>Sample (N=55)</th>
<th>Intervention (N=41)</th>
<th>Control (N=14)</th>
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</thead>
<tbody>
<tr>
<td>age of mothers</td>
<td>M=22 (15-37)</td>
<td>M=22 (15-37)</td>
<td>M=21 (16-32)</td>
</tr>
<tr>
<td>immigration background</td>
<td>23.0%</td>
<td>22.5%</td>
<td>24.3%</td>
</tr>
<tr>
<td>SES</td>
<td>80.4% &lt;1.000 €</td>
<td>78.4% &lt;1.000 €</td>
<td>85.7% &lt;1.000 €</td>
</tr>
<tr>
<td></td>
<td>70.9% low education</td>
<td>65.9% low education</td>
<td></td>
</tr>
<tr>
<td>marital status</td>
<td>76.4% single</td>
<td>75.6% single</td>
<td>78.6% single</td>
</tr>
<tr>
<td></td>
<td>18.2% married</td>
<td>19.5% married</td>
<td>14.3% married</td>
</tr>
<tr>
<td></td>
<td>5.5% divorced</td>
<td>4.9% divorced</td>
<td>7.6% divorced</td>
</tr>
<tr>
<td>sex of the child</td>
<td>27 boys</td>
<td>20 boys</td>
<td>7 boys</td>
</tr>
<tr>
<td></td>
<td>27 girls</td>
<td>21 girls</td>
<td>6 girls</td>
</tr>
<tr>
<td></td>
<td>1 n.n.</td>
<td></td>
<td>1 n.n.</td>
</tr>
</tbody>
</table>

### Risk assessment („Anhaltsbogen“, Kindler, 2007)

<table>
<thead>
<tr>
<th></th>
<th>Sample (N=55)</th>
<th>Intervention (N=41)</th>
<th>Control (N=15)</th>
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<tr>
<td>psychosocial risks</td>
<td>94.2%</td>
<td>97.4%</td>
<td>84.6%</td>
</tr>
<tr>
<td>missing pre- and postnatal care</td>
<td>5.8%</td>
<td>7.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>child is demanding special care</td>
<td>17.3%</td>
<td>17.9%</td>
<td>15.4%</td>
</tr>
<tr>
<td>parent is observed having problems handling the child</td>
<td>11.8%</td>
<td>10.5%</td>
<td>15.4%</td>
</tr>
<tr>
<td>parent describes fear of not being accepted by the child or fear of future development</td>
<td>12.7%</td>
<td>15.8%</td>
<td>7.7%</td>
</tr>
</tbody>
</table>
Risk of the child according to expectant mother's record of prenatal and natal care

<table>
<thead>
<tr>
<th></th>
<th>Sample (N=55)</th>
<th>Intervention (n=41)</th>
<th>Control (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>birth risks</td>
<td>43.4%</td>
<td>40.0%</td>
<td>53.8%</td>
</tr>
<tr>
<td>prematurity (&lt; 37 weeks)</td>
<td>13.5%</td>
<td>10.3%</td>
<td>23.1%</td>
</tr>
<tr>
<td>low birth weight (&lt; 2500 g)</td>
<td>13.2%</td>
<td>12.5%</td>
<td>15.4%</td>
</tr>
</tbody>
</table>

Adult Attachment Interview (N=36)

<table>
<thead>
<tr>
<th></th>
<th>Intervention Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>absolute number</td>
<td>percent</td>
</tr>
<tr>
<td>F</td>
<td>6</td>
<td>21.4</td>
</tr>
<tr>
<td>Ds</td>
<td>9</td>
<td>32.1</td>
</tr>
<tr>
<td>E</td>
<td>2</td>
<td>7.1</td>
</tr>
<tr>
<td>U</td>
<td>8</td>
<td>28.6</td>
</tr>
<tr>
<td>CC</td>
<td>3</td>
<td>7.3</td>
</tr>
<tr>
<td>Coherence of mind ≤ 3</td>
<td>8</td>
<td>28.6</td>
</tr>
<tr>
<td>Coherence of mind &gt; 3</td>
<td>12</td>
<td>71.4</td>
</tr>
</tbody>
</table>
Influence of maternal coherence in AAI at baseline Synchrony

![Graph showing influence of maternal coherence in AAI at baseline Synchrony](image)

\[ F = 4.0; \text{df} = 1; p < 0.6 \]

Results
Development of Global Synchrony (N = 55)

![Graph showing development of Global Synchrony](image)

\[ F = 3.96; \text{df} = 2; p < .05 \]
Results
Development of Global Synchrony in the intervention group with respect to coherence of mind in the AAI

![Graph showing development of Global Synchrony in the intervention group with respect to coherence of mind in the AAI](image)

\[ F=2.11; \text{df}=2; \text{p}>.10 \]

Discussion

- Very high risk families could be reached within a regular service delivery in different communities
- Maternal sensitivity increased significantly in the intervention group (as compared to the control group)
- The amount of incomplete, filtered or distorted maternal representations did not affect the success of the intervention
- **Limitations:**
  - small sample size, respectively small control group
- **Further research is needed:** long term effect
Thank you very much for your attention!