Understanding Babies:
Translating Early Childhood Research into Practice

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The First 1000 Days in the Nordic Countries, Reykjavik, June 27th 2022

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Translating early childhood research into practice

In Centre for Early Intervention and Family Studies (CIF) we aim to promote early childhood (0-6 years) mental health, parental skills and qualifications of frontline staff.

We focus on promoting the quality of the caregiver-child relations within which the young child develops – either in the home/family setting or in the daycare setting.

What is early childhood mental health?

"Early Childhood Mental Health is the developing capacity of the young child to experience, regulate and express emotions; to form close and secure interpersonal relationships; and to explore and master the environment and learn

- all in the context of family, community, and cultural expectations for young children"

(Zero to Three, 2001)

Infant attachment is a key factor for child mental health

Within the early attachment relationships the child develops emotion and stress-regulation capacities.

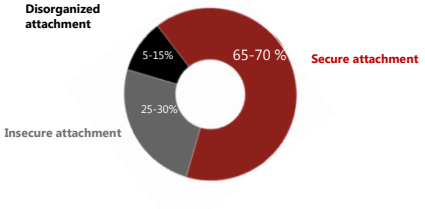
Secure attachment predicts social competence, self-esteem and resilience.

Insecure and disorganized attachment are risk factors for later emotional and behavioral problems.

(see fx Thompson, 2008; Eisenberg & Sulik, 2012; Feldman, 2012; Obradovic, 2010; Groh et al., 2012; Fearon et al., 2010; Groh et al, 2016)

Distribution of attachment in a typical Western population

(Ainsworth et al 1978; Main and Solomon 1990; Barlow et al, 2016).



Why translate early childhood research into practise?

- In Denmark around 16% of children aged 0-9 years experience some level of mental problems
- In Denmark at the age of 10 years 8% of children have minimum one psychiatric diagnosis http://www.vidensraad.dk/sites/default/files/vidensraad_mentalhelbred_0-9_digi_03.pdf
- Mental problems often start early – maybe caused by congenital difficulties in the child and/or maybe caused by insufficient caregiving environment and they may have lifelong consequences for the child.
- But, children at risk are identified too late, the preventive interventions are initiated too late - and we don't know enough about their efficiency.

Copenhagen Infant Mental Health Project (CIMHP)


BMC Psychology

STUDY PROTOCOL Open Access

Copenhagen infant mental health project: study protocol for a randomized controlled trial comparing circle of security –parenting and care as usual as interventions targeting infant mental health risks

Abstract

Based on two grants from the Tryg Foundation we initiated the Copenhagen Infant Mental Health Project (CIMHP), that ran from 2015 to 2020.

CIMHP aims to promote the mental well-being of and relationships between infants and their parents.

The project is a collaboration between CIF, the City of Copenhagen's health visitors and the Copenhagen council department for children and youth.

CIMHP: Putting infant socioemotional development on the agenda in primary care in Denmark

- Initially, we established a collaboration with the health visitors in Copenhagen
- The Danish home-visiting programme: infant physical and motor development, advising parents about feeding, sleeping etc.
- However, infant socio-emotional development has traditionally been held under informal surveillance (="gut-feeling")
- The Alarm Distress Baby Scale (ADBB, Guedeney & Fermian, 2001) is a tool for systematic observation and identification of persistent social withdrawal in infants aged 2-24 months as an indicator of emotional distress in infants and young children.
- Early social withdrawal is associated with longitudinal emotional and behavioral problems, as well as impaired cognitive and language development (Viaux-Savelon, Guedeney & Deprez, 2022)

The ADBB observation tool (Guedeney & Fermian, 2001)

The ADBB items (infant age 2-24 months)

1. Facial expression
2. Eye contact
3. General level of activity
4. Self-stimulating gestures
5. Vocalizations
6. Briskness of response to stimulation
7. Capacity to engage a relationship
8. Capacity of the child to attract and maintain attention

- Includes eight behavioral items, defining for infant social contact.
- The items are described in a manual and used in the observation of the infant's behavior.
- Using the ADBB demands training and certification to ensure a standardized, reliable and valid observation and assessment.
- Social withdrawal is an alarmsignal (not a diagnosis), and may be caused by child congenital problems, somatic conditions and/or insufficient ressources in the caregiving environment.

Copenhagen Infant Mental Health Project (CIMHP, 2015-2020) Overall aims

A) Develop a training program and train 250 health visitors in Cpgh in the use of the Alarm Distress Baby Scale (ADBB)

B) Evaluate the implementation of the ADBB in primary care – Feasibility and acceptability

C) Conduct a Danish validation of the ADBB

Conduct a Danish validation of the Edinburgh Postnatal Depression Scale (EPDS).

This did not exist before CIMHP -despite the fact that EPDS has been used in universal screening for almost two decades in DK

Validation of other clinical measures (PRFQ, CIB etc)

Test the efficacy of Circle of Security – Parenting (COS-P) as an indicated preventive intervention in a randomized controlled trial compared to care as usual (CAU) delivered in Cpgh

Mothers (+ partners) were included if they fulfilled criteria for a postpartum depression (SCID interview)
AND/OR
The baby scored 5 or more on the ADBB in two assessments

Early identification of at-risk infants and families (i.e. infant social withdrawal and/or maternal postpartum depression

Indicated preventive intervention

CIMHP: Evaluating the implementation of the ADBB in primary care


International Journal of Nursing Studies

Implementation of the Alarm Distress Baby Scale as a universal screening instrument in primary care: feasibility, acceptability, and predictors of professionals' adherence to guidelines

ARTICLE INFO

ABSTRACT

We evaluated the implementation of ADBB based on data from 79 health visitors (HV).

Screening prevalence rates increased during the first year: 6 months after implementation 47% (n = 405) of the infants were screened; 12 months after implementation 79% (n = 789) of the infants were screened (the same child was not counted more than once).

The majority (92%) of HV reported ADBB to make a positive contribution to their daily practice, however 81% also experienced ADBB as a challenge.

- HV's attitudes towards the ADBB predicted screening prevalence rates after one year.

CIMHP: Validation of the ADBB used in Danish primary care


International Journal of Nursing Studies Advances

How to screen for social withdrawal in primary care: An evaluation of the alarm distress baby scale using item response theory

ARTICLE INFO

ABSTRACT

- We examined the construct validity (Item response theory) of the ADBB when used by HV in primary care
- Data were based on ADBB observations of 24.752 infants aged 0-1 years.
- The ADBB overall showed several psychometric strengths when used by HV in primary care and the items showed good discriminatory abilities.

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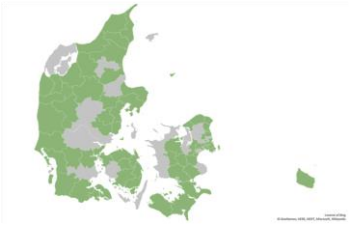
ADBB is currently implemented in 79 out of the 98 Danish municipalities (marked in green) – almost a national measure



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New project: Understanding Your Baby (UYB)
Expanding the ADBB observation in to a universal parenting intervention

Manual

Online video library & SoMe (FB and instagram)
https://forstaadinbaby.dk/videotek
@forstaadinbaby

Dialogue card

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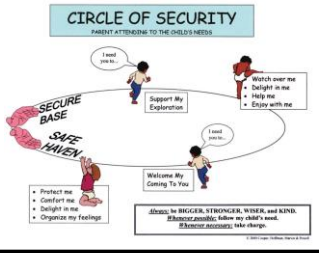
CIMHP: Testing the efficacy of Circle of Security – Parenting (COSP©, Cooper, Hoffman & Powel, 2009)

- American parenting program building on attachment theory, aiming to promote parental sensitivity, mentalizing and secure parent-child attachment relationships
- In CIMHP COSP was delivered to groups of parents: 5-7 pairs in each group) included due to maternal PPD and/or infant social withdrawal
- 10 weekly sessions delivered at CIF
- We offered babysitting, while the parents attended the group



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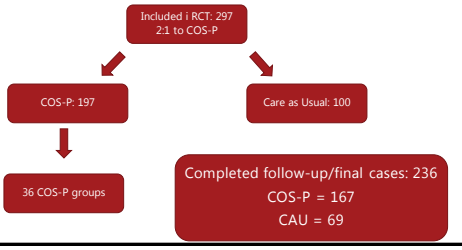
CIMHP: RCT comparing efficacy of COSP© and Care As Usual (CAU)



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Preliminary results from analysis of main effects of COSP

Primary outcome:

- **Maternal Sensitivity:** Observational measure at baseline/inclusion (infant 2-12 months) and follow up (infant 12-16 months) using Coding Interactive Behavior (CIB, Feldman 1998)

Secondary outcomes:

- **Maternal Reflective Functioning**: Selfreport at baseline and follow up using the Parental Reflective Functioning Questionaire (PRFQ, Luyten et al, 1998)
- **Child Attachment**: Observational measure used at follow up using the Strange Situation Procedure (SSP, Ainsworth et al, 1978)

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Sample descriptives – A low risk at-risk sample

	COS-P		CAU	
Risk condition, *n* (%)				
Depression	171	(87.2)	88	(88.0)
ADBB	11	(5.6)	6	(6.0)
Depression + ADBB	14	(7.1)	6	(6.0)
Age at birth, *M* (*SD*)	32.34	(4.55)	32.37	(5.14)
Educational level, *n* (%)				
ISCED level 1, 2, 3 (9 - 12 years)	19	(10.2)	7	(7.4)
ISCED level 4, 5, 6 (15 years)	89	(47.6)	41	(43.2)
ISCED level 7, 8 (17 years)	79	(42.2)	47	(49.5)
Employment status, *n* (%)				
Employed	134	(68.4)	64	(64.0)
Not employed	62	(31.6)	36	(36.0)
Marital status, *n* (%)				
In a relationship	173	(95.1)	87	(93.5)
Single	9	(4.9)	6	(6.5)
Child gender, *n* (%)				
Boy	104	(53.1)	50	(50.0)
Girl	92	(46.9)	50	(50.0)

Descriptive statistics

	COS-P			CAU		
	M	*SD*	Range	*M*	*SD*	Range
Maternal Sensitivity						
Baseline	4.23	0.66	2 - 5	4.12	0.68	1.94 - 5
Follow-up	4.35	0.43	3.22 - 5	4.28	0.33	3.11 - 4.94
Maternal Reflective Functioning						
Baseline						
Prementalizing	2.21	1.03	1 - 5.33	2.03	0.97	1 - 4.67
Certainty of Mental States	3.56	1.19	1 - 6.50	3.80	1.28	1.17 - 6.33
Interest and Curiosity	5.91	0.85	1.83 - 7	6.13	0.76	4.33 - 7
Follow-up						
Prementalizing	1.65	0.81	1 - 5	1.58	0.76	1 - 4
Certainty of Mental States	3.68	1.12	1 - 6.67	3.96	1.20	1.33 - 6.67
Interest and Curiosity	6.19	0.71	3.17 - 7	6.18	0.66	4.33 - 7
Child Attachment Style (only at FU)	*n*		(%)	*n*		(%)
Avoidant	4		(2.7)	2		(3.6)
Secure	87		(58.8)	39		(69.6)
Resistant	20		(13.5)	6		(10.7)
Disorganized	37		(25.0)	9		(16.1)

Preliminary Results – complete case analysis

In all of the models, we control for the clustering effect of COS-P group

Linear mixed model: No significant differences between COS-P and CAU

	Controlling for baseline	Controlling for baseline and family characteristics
Maternal Sensitivity	*p* = .67, 95% CI [-0.26; 0.41]	*p* = .47, 95% CI [-0.25; 0.37]
Maternal Reflective Functioning		
Prementalizing	*p* = .88, 95% CI [-0.16; 0.27]	*p* = .61, 95% CI [-0.73; 0.36]
Certainty of Mental States	*p* = .47, 95% CI [-0.46; 0.23]	*p* =.76, 95% CI [-0.52; 0.37]
Interest and Curiosity	*p* = .64, 95% CI [-0.18; 0.36]	*p* = .61, 95% CI [-0.23; 0.57]

Multinomial mixed model: No significant differences between COS-P and CAU

Child Attachment Style	
Avoidant vs. Secure	*p* = .90, 95% CI [-6.10; 2.09]
Resistant vs. Secure	*p* = .49, 95% CI [-0.82; 1.49]
Disorganized vs. Secure	*p* = .16, 95% CI [-0.26; 1.49]

We have also analysed treatment-as-given with no change in the results

Discussion of preliminary Findings

Limited statistical power -> more analysis

- Missing data -> Impute missing data with multivariate imputation by chained equations
- Bayesian analysis -> Further analysis of the null-findings

Highly sensitive mothers already from baseline

- Difficult to make good even better – and not needed

Clinical at-risk sample

- COS-P is not an effective intervention for postpartum depression – and maybe not suited for other at risk families either - see study by Zimmer-Gembeck et al, 2022.

- **Moderators and mediators -What works for whom?**
  - Cassidy et al (2017) found that effects of COS-P in their study (=fewer unsupportive, but not more supportive maternal responses to child distress) were moderated by maternal attachment style and depressive symptoms in relation to child attachment security and disorganization.

My vision for the future:
A national strategy for early childhood mental health 0-6 years & CIF becoming a center of excellence

Universal mental health promotion programs and early preventive intervention programs

Promoting parental skills, qualifications of frontline staff and secure child-caregiver attachment relations

Early identification of children at-risk

Upskilling frontline staff in the use of systematic solid methods i all developmental contexts of childen 0-6

Strengthening research and systematic evaluation

Does it work? For whom and why does it work (or not work)? Is it cost effective?