Early parenting interventions to prevent anxiety and depression in children and adolescents: a global systematic review and network meta-analysis

1.1 Post-hoc decisions and additional methodology

The protocol was registered with PROSPERO (CRD4202017225), and published(1).

1.1.1 Post-hoc decisions

Changes to the published protocol along with justifications for these changes:

1) We had planned to use WinBUGS to perform the analyses, but instead we used multinma(2) as implemented in RStan(3). Multinma is a recently developed package that combines the strengths of Bayesian analyses in Stan together within more user-friendly statistical packages (such as R(2)) as compared to WinBUGS.
2) We had planned to extract information about child cognitive development as a secondary outcome. However, this construct was poorly defined and could have included a multitude of scales (e.g., measuring IQ, language development, motor skills, etc). Thus, we restricted the focus of measures of cognition to those solely aimed at capturing intelligence quotients. Similarly, years of schooling and academic achievement were also not extracted as opposed to what was stated in the protocol because of the lack of studies reporting this measure and the heterogeneity in reporting. Furthermore, because there was inconsistency in extraction among reviewers, we have not analysed this data. Further screening will be needed to ensure the measures have been extracted comprehensively for all the included studies.

Costantini I, *et al. BMJ Ment Health* 2023; 26:e300811. doi: 10.1136/bmjment-2023-300811

3) We had planned to use RefMan for data extraction but instead we piloted and used Systematic Review Data Repository SRDR+ (https://srdr.ahrq.gov/) for extraction. SRDR+ is a free, flexible, and easy to use tool for data extraction and allows multiple extractors to use it simultaneously.
4) In the protocol we stated that we would have included studies where most (at least 75%) of the target child population was younger or equal to 4 years of age. However, we did not specify how we would have calculated such ages and our assumptions about the distribution of the ages. First, we assumed that age was normally distributed. Thus, we calculated the 75% of the sample using z scores: $x = \mu + z \times \sigma$, where z is 0.674 and corresponds to the 75th percentile (https://davidmlane.com/hyperstat/A25350.html). If x were > 4 the study was excluded.
5) Some measures of parent-child interactions were extracted but with poor consistency across reviewers. Thus, we did not perform analyses on these measures and we aim to include these in a follow-up paper once all the studies are reviewed further.
6) We planned to present pairwise meta-analyses, however, due to the number of studies that had multi-arm trials and where the intervention was the same across arms (but with different intensity of the treatment or different intervenors), NMA is the most appropriate statistical method to deal with this data and the fitting and interpretation of a standard pairwise meta-analysis in this case would have not been obvious.
7) We had planned to calculate the Number Needed to Treat (NNT), but this was considered outside of the scope of this first analysis.

1.2 Further details for methods applied

1.2.1 Imputation of standard deviations

Missing standard deviations (SDs)(4,5)of SDQ subscales (authors did not provide summary statistics) were imputed using averaged SDs from other included studies, stratified by intervention groups.

1.2.2 Adjustment for intra-class correlation coefficient

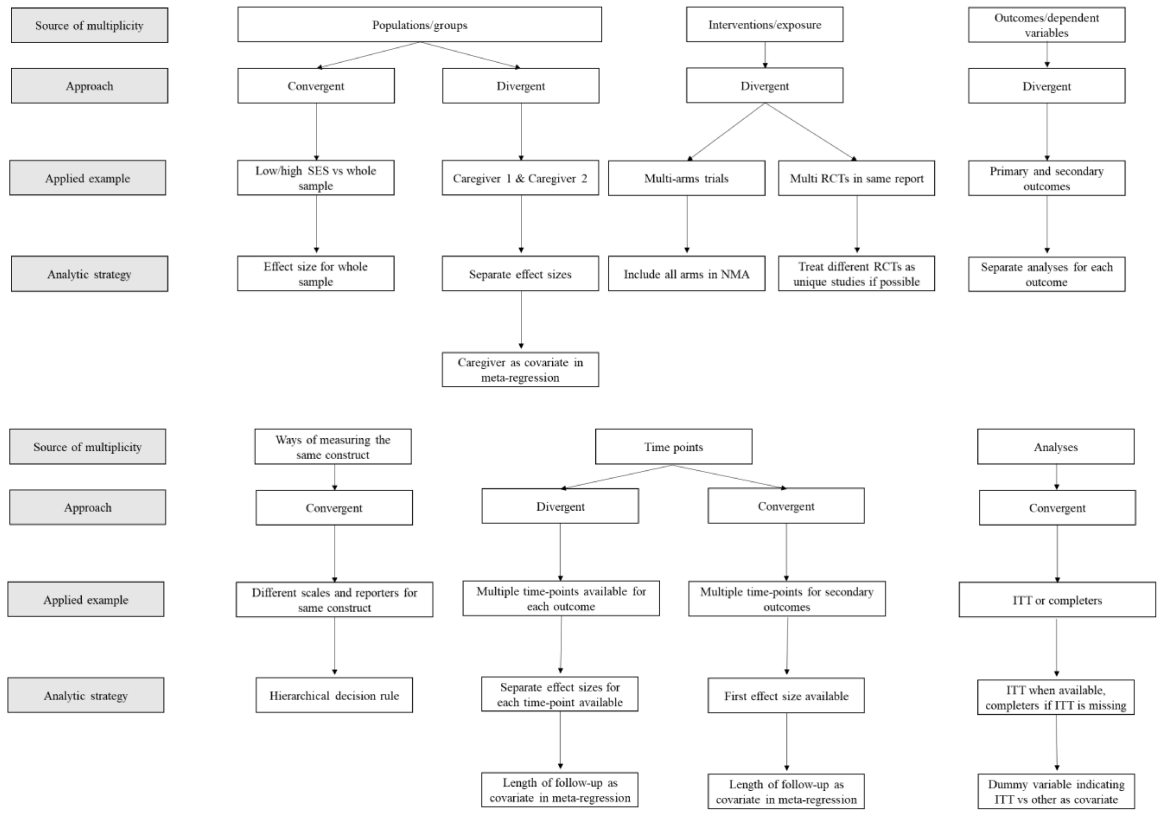
Standard errors (SEs) were adjusted for clustering using the 'effective sample size' of the trials as obtained by applying the formula indicated by Cochrane Section 23.1.4(6). That is, before computing the SE, we adjusted the sample size by the clustering, reducing the size of each trial to its 'effective sample size' using this formula: $N/(1 + (M - 1) * ICC)$

M is the cluster size and ICC is the intra-cluster correlation coefficient reported by outcome.

1.2.3 Addressing effect size multiplicity

Effect size multiplicity was addressed using both convergent and divergent approaches depending on the source of multiplicity, the availability of data, and aims of the study research questions(7) (SFigure 1).

SFigure 1. Decision tree indicating strategies to address multiplicity in effect sizes induced by multiple sources.



Following López-López (8) guidelines, we report here our decision tree on how to deal with multiplicity within our meta-analysis. We have employed a mix of convergent and divergent approaches, depending on our research questions, the data available, and the statistical efficiency of the analysis.

Costantini I, *et al. BMJ Ment Health* 2023; 26:e300811. doi: 10.1136/bmjment-2023-300811

1.3 Search strategy and results

We adapted these search terms across different databases.

Search terms to be applied to each database:

Caregiver* or parent* or father* or mother* or guardian* or caretaker* or custodian* or dad* or m#m* or maternal* or paternal or parental* or expectant* or expectanc* or pregnan* or prenatal* or perinatal* or postnatal* or parenting* near skill* or parenting near abilit* or parenting near competenc*

Intervention* or therap* or treatment* or prevention* or preventive* or psycho-social* or psychosocial* or psychotherap* or program* or coaching* or famil* near therap* or training*

Randomi#ed or randomly or random* or rct or RCT or clinical trial* or randomi#ed controlled trial or controlled clinical trial or trial* or groups*

OVID, MEDLINE from 1946 to present:

Exp *Caregivers/ or exp *parents/ or exp *Legal Guardians/ or caretaker.mp. or custodian.mp. or exp *Pregnancy/ or exp *maternal behavior/ or exp *parent-child relations/ or exp *parenting/ or exp *paternal behavior/ or expectan*.mp. or exp *postnatal/ or exp *post-natal/ or exp *post-partum/ or exp *perinatal/ or exp *prenatal/ or exp *antenatal/ or parent-child relations/ or exp *father-child relations/ or exp *mother-child relations/ or exp *parenting/

AND

exp *preventive health services/ or exp *Prenatal Education/ or exp *Perinatal Care/ or exp *"early intervention (education)"/ or exp *early medical intervention/ or *primary prevention/ or *secondary prevention/ or exp *tertiary prevention/ or exp *Psychotherapy/ or program*.mp. or coach*.mp. or training*.mp.

AND

exp *control groups/ or exp *cross-over studies/ or exp *double-blind method/ or exp *random allocation/ or exp *single-blind method/ or randomi#ed controlled trial.mp. or exp *clinical trials as topic/ or exp *controlled clinical trials as topic/ or exp *randomized controlled trials as topic/

LIMIT to (randomized controlled trial and "therapy (best balance of sensitivity and specificity)")

Total= 4236

OVID: PSYCHINFO:

exp *caregivers/ or parent*.mp. or father*.mp. or mother*.mp. or exp *guardianship/ or caretaker*.mp. or custodian*.mp. or exp Fathers/ or dad*.mp. or exp Mothers/ or maternal*.mp. or paternal*.mp. or parental*.mp. or expectant*.mp. or expectancy.mp. or pregnan*.mp. or prenatal*.mp. or perinatal period/ or exp *antepartum period/ or exp *birth/ or exp *intrapartum period/ or exp *postnatal period/ or exp *pregnancy/ or exp *prenatal development/ or exp *parenting/ or exp *Father Child Relations/ or exp *Parental Involvement/ or exp *Mother Child Relations/ or exp *Parent Child Relations/

AND

exp *intervention/ or exp *psychotherapy/ or exp *Treatment/ or program*.mp. or preventi*.mp. or psycho-social*.mp. or exp *coaching psychology/ or exp *training/

AND

exp *randomized clinical trials/ or exp *randomized controlled trials/ or exp *random sampling/ or exp *Clinical Trials/ or rct.mp. or exp *Experiment Controls/ or trial.mp.

LIMIT to "therapy (best balance of sensitivity and specificity)"

Total= 3413

Ovid: EMBASE:

exp *caregiver/ or exp *parent/ or exp *legal guardian/ or caretaker*.mp. or custodian*.mp. or dad*.mp. or mum*.mp. or mom*.mp. or exp *maternal behavior/ or exp *paternal behavior/ or exp *parental behavior/ or exp *perinatal period/ or exp *prenatal care/ or exp *child parent relation/ or exp *parenting/ or exp *postnatal period/ or exp *prenatal period/

AND

exp *early intervention/ or therap*.mp. or exp *psychotherapy/ or treatment*.mp. or psycho-social*.mp. or program*.mp. or coach*.mp. or exp *training/

AND

exp *controlled clinical trial/ or exp *intervention study/ or exp *random sample/ or exp *randomization/ or rct*.mp. or exp *control/ or exp *control group/ or exp *controlled study/ or exp *crossover procedure/

LIMIT to "therapy (best balance of sensitivity and specificity)"

Total= 1062

CENTRAL:

caregiver* or parent* or legal guardian* or caretaker* or prenatal* or pregnan* in Keyword

AND

Intervention* or prevent* or psycho-social* or psychotherapy* or program* or training* in Keyword

AND

Randomi#ed or rct or randomi#ed controlled trial or controlled clinical trial in Publication Type

(Word variations have been searched)

CENTRAL

caregiver* or parent* or legal guardian* or caretaker* or prenatal* or pregnan* or antenatal* or perinatal* or postpartum* or postnatal* or mother* or father* or parenting NEAR intervention in Title Abstract Keyword

AND

Intervention* or prevent* or psycho-social* or psychotherapy* or program* or training* NEAR parent* in Title Abstract Keyword

AND

Randomi#ed or rct or randomi#ed controlled trial or controlled clinical trial or cross-over trial* or intervention study* in Publication Type - in Trials (Word variations have been searched)

LIMIT to Trials

Total= 8805

EBSCO: ERIC:

(SU caregiver* OR SU parent* OR SU father* OR SU mother* OR SU guardian* OR SU caretaker* OR SU custodian* OR SU dad* OR SU (mom or maternal) OR SU paternal* OR SU parental* OR SU parenting)

AND

(SU intervention OR SU therapy* OR SU prevention* OR SU program* OR SU psychosocial* OR SU psychotherapy* OR SU treatment* OR SU counselling* OR SU psychotherapy* OR SU coaching)

AND

(PU (randomized (randomized controlled trials or rct or randomised control trials) OR TX control group OR TX cross-over OR SU double blind study OR SU single blind study OR SU clinical trial)

Total= 1097

Clinical trial.gov

Other terms:

parenting OR caregiver OR mother OR father OR mum OR mom OR pregnant OR caretaker OR guardian OR expectant parent OR expectant OR perinatal OR prenatal OR antenatal OR custodian

AND

Intervention/treatment:

Psychotherapeutic OR treatment OR intervention OR therapeutic OR program OR prevention OR parenting intervention OR family therapy OR parenting progra, *40*, 53–65.

Kamm OR parent psychoeducation OR caregiver therapy or psychosocial

AND

Outcomes measures:

anxiety OR depression OR internalizing OR internalising

Applied Filters: Interventional Studies (Clinical Trials)

Total= 1907

Filters:

No language or date of publication filter will be applied.

1.4 Communication with authors

We contacted the authors of eligible or unclear studies, for which it was possible to find a valid email address. Stable 1 reports the authors contacted, when we contacted them, whether we had to follow-up to obtain a response, and whether we were able to include the study in this work.

STable 1. List of contacted authors.

Study name	**Study authors first contacted on (DATE)**	**Responded**	**Followed-up**	**Included**
Treatment of Maternal Depression in Home Visitation: Mother and Child Impacts (MIDISII) (https://clinicaltrials.gov/ct2/show/NCT01212783)	16/09/2020	No	Yes	No
Prevention of Child Mental Health Problems in South-eastern Europe (RISE) - A Factorial Study (Phase 2 of MOST) (RISE) (https://clinicaltrials.gov/ct2/show/NCT03865485)	16/09/2020	Yes	No	No
An Intervention for Enhancing Early Attachment in Primary Health Care (https://clinicaltrials.gov/ct2/show/NCT01908881)	16/09/2020	Yes	Yes	No
Healthy Moms-Healthy Kids: Reducing Maternal Depression for Better Outcomes in Head Start Children (https://clinicaltrials.gov/ct2/show/NCT02145273)	16/09/2020	Yes	Yes	No
Parental report of outcomes from a randomized trial of in-home family services. (https://psycnet.apa.org/doiLanding?doi=10.1037%2Ffam0000594)	16/09/2020	Yes	Yes	No
Effects of parent coaching on Filipino children's numeracy, language, and literacy skills.	16/09/2020	Yes	No	No

Parenting for Lifelong Health (PLH) - Masayang Pamilya (MaPa) Evaluation Study (PLH-MaPa) (https://clinicaltrials.gov/ct2/show/NCT03205449)	16/09/ 2020	Yes	Yes	No
Family Nurture Intervention, A Group Model in Connecticut (https://clinicaltrials.gov/ct2/show/NCT02970565)	16/09/ 2020	No	Yes	No
A Good Start to Life - an Early Cross-sectorial Intervention (https://clinicaltrials.gov/ct2/show/NCT03190707)	16/09/ 2020	No	No	No
Parenting for Lifelong Health - Thailand (https://clinicaltrials.gov/ct2/show/NCT03539341)	16/09/ 2020	Yes	Yes	No
Collaborative Perinatal Mental Health and Parenting Support in Primary Care (https://clinicaltrials.gov/ct2/show/NCT02724774)	16/09/ 2020	Yes	Yes	Yes
Evaluation of a Video-Based Media Series to Promote Effective Parenting (ParentMedia) (https://clinicaltrials.gov/ct2/show/NCT00611832)	16/09/ 2020	No	Yes	No
Thirty Million Words- Well Baby Initiative (TMW-WB) (https://clinicaltrials.gov/ct2/show/NCT02812017)	16/09/ 2020	Yes	No	No
Evaluation of the Better Parenting Programme in Jordan (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3137488/)	17/09/ 2020	Yes	No	No
Early Intervention, Maternal Development and Children's Play. (https://eric.ed.gov/?id=ED198917)	17/09/ 2020	Yes	No	No
Enhancing the Outcomes of a Behavioral Parent Training Intervention (https://clinicaltrials.gov/ct2/show/NCT02704221)	17/09/ 2020	No	Yes	No
The impact of early-years provision in Children's Centres (EPICC) on child cognitive and socio-emotional development: study protocol for a randomised controlled trial (https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-018-2700-x)	17/09/ 2020	Yes	Yes	No

Mother-Infant Psychoanalysis Project of Stockholm (MIPPS)-Follow-up at 4½ Years (MIPPS-02) (https://clinicaltrials.gov/ct2/show/NCT01087112)	17/09/2020	Yes	Yes	Yes
A pilot effectiveness study of the Enhancing Parenting Skills (EPaS) 2014 programme for parents of children with behaviour problems: study protocol for a randomised controlled trial (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4455711/)	02/10/2020	Yes	No	No
Study protocol: evaluation of a parenting and stress management programme: a randomised controlled trial of Triple P Discussion Groups and Stress Control (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3852548/)	02/10/2020	Yes	No	No
Reintegration of Children Into Family-based Care in Uganda (https://clinicaltrials.gov/ct2/show/NCT03498469)	02/10/2020	Yes	No	No
Improving mental health through parenting programmes: block randomised controlled trial (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1755810/pdf/v087p00472.pdf)	07/10/2020	Yes	Yes	No
Improving parenting practices and development for young children in Rwanda: Results from a randomized control trial	14/10/2020	No	No	No
A Randomized Clinical Trial Testing a Parenting Intervention Among Afghan and Rohingya Refugees in Malaysia (https://onlinelibrary.wiley.com/doi/10.1111/famp.12592)	15/10/2020	Yes	No	No
FOCUS for Early Childhood: A Virtual Home Visiting Program for Military Families with Young Children	14/10/2020	Yes	No	No
Supporting Infant Emotion Regulation Through Attachment-Based Intervention: a Randomized Controlled Trial (https://pubmed.ncbi.nlm.nih.gov/32388694/)	20/10/2020	No	No	No

Treatment of Maternal Depression in Home Visitation: Mother and Child Impacts (MIDISII) (https://clinicaltrials.gov/ct2/show/results/NCT01212783)	26/10/ 2020	No	Yes	No
Attachment-Based Intervention for Enhancing Sensitive Discipline in Mothers of 1- to 3-Year-Old Children at Risk for Externalizing Behavior Problems: A Randomized Controlled Trial (https://pubmed.ncbi.nlm.nih.gov/17154730/)	28/10/ 2020	Yes	No	No
A Randomized Controlled Trial of a Brief Versus Standard Group Parenting Program for Toddler Aggression (https://pubmed.ncbi.nlm.nih.gov/27859353/)	28/10/ 2020	Yes	Yes	No
Video-feedback intervention increases sensitive parenting in ethnic minority mothers: a randomized control trial (https://www.tandfonline.com/doi/full/10.1080/14616734.2014.912489?needAccess=true)	26/10/ 2020	Yes	No	Yes
Early Parenting Intervention: Family Risk and First-time Parenting Related to Intervention Effectiveness (https://link.springer.com/article/10.1007/s10826-007-9136-3)	28/10/ 2020	Yes	No	Yes
Maternal depression and child behaviour problems. Randomised placebo-controlled trial of a cognitive-behavioural group intervention (https://pubmed.ncbi.nlm.nih.gov/14519613/)	28/10/ 2020	No	Yes	No
Mitigating the effect of persistent postnatal depression on child outcomes through an intervention to treat depression and improve parenting: a randomised controlled trial (https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(18)30006-3/fulltext)	28/10/ 2020	No	Yes	No

Randomized Trial of a Family-Centered Approach to the Prevention of Early Conduct Problems: 2-Year Effects of the Family Check-Up in Early Childhood (https://pubmed.ncbi.nlm.nih.gov/16551138/)	28/10/2020	Yes	No	Yes
Randomized trial of distance-based treatment for young children with discipline problems seen in primary health care (https://academic.oup.com/fampra/article/30/1/14/544666)	28/10/2020	Yes	Yes	No
Moderators of Outcome in a Brief Family-Centered Intervention for Preventing Early Problem Behavior (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2793096/)	28/10/2020	Yes	No	Yes
Evaluating the family nurse partnership in England: the Building Blocks trial (https://pubmed.ncbi.nlm.nih.gov/21853694/)	28/10/2020	Yes	No	No
Observing Play Between Mothers and Toddlers (https://web.a.ebscohost.com/ehost/detail/detail?vid=0&sid=6c19b00d-2810-44b6-b778-6f9f9f529320%40sessionmgr4006&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#AN=ED172947&db=eric)	28/10/2020	Yes	Yes	No
The impact of early-years provision in Children's Centres (EPICC) on child cognitive and socio-emotional development: study protocol for a randomised controlled trial (https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-018-2700-x)	17/09/2020	Yes	Yes	Not published yet to recontact
The prevention program for externalizing problem behavior (PEP) improves child behavior by reducing negative parenting: analysis of mediating processes in a randomized controlled trial (https://acamh.onlinelibrary.wiley.com/doi/full/10.1111/jcpp.12177)	28/10/2020	No	Yes	No

Effects of an attachment-based intervention on daily cortisol moderated by dopamine receptor D4: A randomized control trial on 1- to 3-year-olds screened for externalizing behavior (https://pubmed.ncbi.nlm.nih.gov/18606032/)	28/10/ 2020	Yes	No	No
EARLY HEAD START HOMEVISITATION: THE ROLE OFIMPLEMENTATION IN BOLSTERINGPROGRAM BENEFITS (https://onlinelibrary.wiley.com/doi/epdf/10.1002/jcop.20525?saml_referrer)	28/10/ 2020	Yes	Yes	No
Toward a Developmentally-Informed Approach to Parenting Interventions: Seeking Hidden Effects (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4830917/)	30/10/ 2020	No	Yes	No
ARYING TREATMENT INTENSITY IN A HOME-BASED PARENT AND CHILD THERAPY PROGRAM FOR FAMILIES LIVING IN POVERTY: A RANDOMIZED CLINIC TRIAL (https://onlinelibrary.wiley.com/doi/epdf/10.1002/jcop.21492)	30/10/ 2020	Yes	No	No
Prevention of Child Mental Health Problems in Southeastern Europe (RISE) (https://clinicaltrials.gov/ct2/show/NCT03552250) and Prevention of Child Mental Health Problems in Southeastern Europe (RISE) - A Factorial Study (Phase 2 of MOST) (RISE) (https://clinicaltrials.gov/ct2/show/NCT03865485)	30/10/ 2020	Yes	No	No
Direct and Indirect Effects of Behavioral Parent Training on Infant Language Production (https://www.sciencedirect.com/science/article/pii/S0005789415001203#!)	30/10/ 2020	Yes	No	No but included another report

Web-based integrated bipolar parenting intervention for parents with bipolar disorder: a randomised controlled pilot trial (https://pubmed.ncbi.nlm.nih.gov/28512921/)	28/10/ 2020	Yes	No	No
A long-term follow-up of a randomized controlled trial of mother-infant psychoanalytic treatment: outcomes on the children (https://pubmed.ncbi.nlm.nih.gov/25451617/)	12/11/ 2020	Yes	Yes	Yes
A Year-Long Caregiver Training Program to Improve Neurocognition in Preschool Ugandan HIV-Exposed Children" (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3655140/)	12/11/ 2020	Yes	Yes	Yes
Efficacy of a Universal Parent Training Program (HOPE-20): Cluster Randomized Controlled Trial	13/11/ 2020	No	Yes	Yes
Evaluation of Parent and Child Enhancement (PACE) Program: Randomized Controlled Trial	13/11/ 2020	No	Yes	Yes
18-month follow-up of randomized controlled trial of parent and child enhancement program (https://pubmed.ncbi.nlm.nih.gov/30332353/)	13/11/ 2020	No	Yes	Yes
One-year follow-up of The Incredible Years Parents and Babies Program: A pilot randomized controlled trial (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5156553/)	13/11/ 2020	Yes	No	No
Healthy Moms-Healthy Kids: Reducing Maternal Depression for Better Outcomes in Head Start Children (https://clinicaltrials.gov/ct2/show/NCT02145273)	12/11/ 2020	Yes	No	No
Links between Shared Reading and Play, Parent Psychosocial Functioning, and Child Behavior: Evidence from a Randomized Controlled Trial (https://www.sciencedirect.com/science/article/pii/S0022347619308017#!)	23/11/ 2020	Yes	No	No

Outcomes from a Randomized Controlled Trial of the Relief Nursery Program (https://link.springer.com/article/10.1007/s11121-019-00992-9#MOESM1)	23/11/2020	No	Yes	Yes
Hawaii's Healthy Start Home Visiting Program: Determinants and Impact of Rapid Repeat Birth (https://pediatrics.aappublications.org/content/114/3/e317#fn-group-1)	23/11/2020	Yes	Yes	No
Maternal depression and child behaviour problems. Randomised placebo-controlled trial of a cognitive-behavioural group intervention (https://pubmed.ncbi.nlm.nih.gov/14519613/)	24/11/2020	No	No	Yes
Does Maternal ADHD Reduce the Effectiveness of Parent Training for Preschool Children's ADHD? (https://www.sciencedirect.com/science/article/pii/S0890856709610248#!)	24/11/2020	Yes	No	No
The First-aid Advice and Safety Training (FAST) parents programme for the prevention of unintentional injuries in preschool children: a protocol (https://pubmed.ncbi.nlm.nih.gov/23302145/)	24/11/2020	Yes	No	No
Nine-year follow-up of a home-visitation program: a randomized trial (https://pubmed.ncbi.nlm.nih.gov/23359575/)	13/11/2020	Yes	No	Yes
Parental attendance in two early-childhood training programmes to improve nurturing care: A randomized controlled trial (https://pubmed.ncbi.nlm.nih.gov/33162629/)	12/01/2021	Yes	No	No
Healthy Steps for Young Children: Sustained Results at 5.5 Years (https://pediatrics.aappublications.org/content/120/3/e658/tab-e-letters)	23/02/2021	Yes	No	No
Supporting young mothers (aged 14- 25) in the first two years of life: A Randomized Control Trial (RCT) of the NSPCC UK Minding the	22/01/2021	No	No	Yes

Baby (MTB) Home Visiting Programme. and The NSPCC UK Minding the Baby® (MTB) home-visiting programme, supporting young mothers (aged 14–25) in the first 2 years of their baby's life: study protocol for a randomised controlled trial"				
Third National Even Start Evaluation: Follow-Up Findings From the Experimental Design Study.	01/03/2021	No	No	No
Reading Aloud and Child Development: A Cluster-Randomized Trial in Brazil (https://pediatrics.aappublications.org/content/141/1/e20170723)	01/03/2021	Yes	No	No
Effectiveness of a peer-delivered, psychosocial intervention on maternal depression and child development at 3 years postnatal: a cluster randomised trial in Pakistan (https://www.sciencedirect.com/science/article/pii/S2215036620302583#!)	01/03/2021	Yes	No	Yes
The Children and Parents in Focus project: a population-based cluster-randomised controlled trial to prevent behavioural and emotional problems in children (https://pubmed.ncbi.nlm.nih.gov/24131587/)	10/03/2021	Yes	No	No (Not published yet by analyses)
Enhancing Low-Intensity Coaching in Parent Implemented Early Start Denver Model Intervention for Early Autism: A Randomized Comparison Treatment Trial" (https://pubmed.ncbi.nlm.nih.gov/30203308/)	23/11/2020	Yes	No	Yes

Mindfulness-Based Stress Reduction for Parents Implementing Early Intervention for Autism: An RCT (https://pubmed.ncbi.nlm.nih.gov/32238534/)	24/11/ 2020	Yes	No	Yes
Are Benefits From a Parenting Intervention Delivered Through the Health Services Sustainable? Follow-Up of a Randomized Evaluation in Jamaica (https://www.sciencedirect.com/science/article/pii/S1876285921000048#!)	01/03/ 2021	Yes	No	Yes
Supporting Father Involvement: An Intervention With Community and Child Welfare–Referred Couples (https://onlinelibrary.wiley.com/doi/full/10.1111/fare.12352)	12/05/ 2021	Yes	No	No
Parent–Child Interaction Therapy with Toddlers in a community-based setting: Improvements in parenting behavior, emotional availability, child behavior, and attachment (https://pubmed.ncbi.nlm.nih.gov/32589327/)	31/03/ 2021	Yes	No	Yes
Randomized prevention trial for early conduct problems: effects on proactive parenting and links to toddler disruptive behavior	15/05/ 2021	Yes	No	No
A Family-based Intervention for Improving Children's Emotional Problems Through Effects on Maternal Depressive Symptoms	25/05/ 2021	No	Yes	No
Preventing Preschool Mental Health Problems: Population-Based Cluster Randomized Controlled Trial	09/06/ 2021	Yes	No	Yes
Lessons learned from a pilot randomized controlled trial of dyadic interpersonal psychotherapy for perinatal depression in a low-income population	18/06/ 2021	Yes	No	Yes
Effectiveness of a comprehensive, five-year family support program for low-income children and their families: findings from the comprehensive child development program	05/07/ 2021	Yes	No	Yes

Effects of Home Visits by Paraprofessionals and by Nurses on Children Follow-up of a Randomized Trial at Ages 6 and 9 Years	05/07/ 2021	Yes	No	Yes
"Effects of Attachment-Based Interventions on Maternal Sensitivity and Infant Attachment: Differential Susceptibility of Highly Reactive Infants" and "Preventing preschool externalizing behaviour problems through video-feedback intervention in infancy"	06/08/ 2021	Yes	Yes	Yes
Randomized Controlled Trial of a Paraprofessional-Delivered In-Home Intervention for Young Reservation-Based American Indian Mothers	13/08/ 2021	Yes	Yes	Yes
Improved Child Mental Health Following Brief Relationship Enhancement and Co-Parenting Interventions During the Transition to Parenthood	17/08/ 2021	Yes	Yes	Yes
Supplementation of urban home visitation with a series of group meetings for parents and infants: results of a “real-world” randomized, controlled trial	17/08/ 2021	No	Yes	No
Lasting effects of an interdisciplinary home visiting program on child behavior: Preliminary follow-up results of a randomized trial	17/08/ 2021	Yes	Yes	Yes
Minding the Baby: Enhancing reflectiveness to improve early health and relationship outcomes in an interdisciplinary home visiting program	17/08/ 2021	Yes	No	Yes
Effectiveness and cost-effectiveness of a universal parenting skills programme in deprived communities: multicentre randomised controlled trial	19/08/ 2021	Yes	No	Yes
The First 2,000 Days and Child Skills	19/08/ 2021	Yes	No	Yes
Maternal Relationship Insecurity and Depressive Symptoms as Moderators of Home Visiting Impacts on Child Outcomes	20/08/ 2021	No	No	No

Can typical US home visits affect infant attachment? Preliminary findings from a randomized trial of Healthy Families Durham	20/08/2021	Yes	No	Yes
The effectiveness of early intervention and the factors related to child behavioural problems at age 2: a randomized controlled trial	25/08/2021	No	Yes	No
Efficacy of the Chicago Parent Program with Low-Income African American and Latino Parents of Young Children	25/08/2021	No	No	Yes
Cost-Effectiveness of Childcare Discounts on Parent Participation in Preventive Parent Training in Low-Income Communities	25/08/2021	No	Yes	No
Longitudinal Effects of Improving Inter-Parental Relationships in Low-Income Couples: Child Outcomes	25/08/2021	Yes	Yes	No
Early Head Start and African American families: Impacts and mechanisms of child outcomes	25/08/2021	Yes	Yes	No
The effects of the Healthy Steps for Young Children Program: results from observations of parenting and child development	25/08/2021	Yes	No	Yes
Effects of home-based early intervention on child outcomes: A randomized controlled trial of Parents as Teachers in Switzerland	25/08/2021	Yes	No	Yes
Effects of Home Visitation on Maternal Competencies, Family Environment, and Child Development: a Randomized Controlled Trial	25/08/2021	No	Yes	Yes (but not later follo w-up)
Longitudinal Effects of Improving Inter-Parental Relationships in Low-Income Couples: Child Outcomes	26/08/2021	Yes	No	No
Behavioral and Socioemotional Outcomes Through Age 5 Years of the Legacy for Children Public Health Approach to Improving Developmental Outcomes Among Children Born Into Poverty	27/08/2021	Yes	Yes	Yes

Behavioral and Socioemotional Outcomes of the Legacy for Children Randomized Control Trial to Promote Healthy Development of Children Living in Poverty, 2 to 6 Years Postintervention	27/08/ 2021	Yes	Yes	Yes
Establishing Family Foundations: Intervention Effects on Coparenting, Parent/Infant Well-Being, and Parent–Child Relations	20/09/ 2021	Yes	Yes	Yes
Enhancing Coparenting, Parenting, and Child Self-Regulation: Effects of Family Foundations 1 Year after Birth	20/09/ 2021	Yes	Yes	Yes
Improving Caregiver Self-Efficacy and Children's Behavioral Outcomes via a Brief Strength-Based Video Coaching Intervention: Results from a Randomized Controlled Trial	14/09/ 2021	Yes	Yes	Yes
Effects of Attachment-Based Interventions on Maternal Sensitivity and Infant Attachment: Differential Susceptibility of Highly Reactive Infants	15/09/ 2021	Yes	No	Yes
Preventing preschool externalizing behaviour problems through video-feedback intervention in infancy.	15/09/ 2021	Yes	No	Yes
Attachment-based intervention in adoptive families in infancy and children's development at age 7: Two follow-up studies	15/09/ 2021	Yes	Yes	Yes
Long-term effects of a home-visiting intervention for depressed mothers and their infants	20/09/ 2021	Yes	No	Yes
Group Sessions or Home Visits for Early Childhood Development in India: A Cluster RCT	10/03/ 2021	Yes	Yes	Yes
Emotion Regulation and Attrition in Parent–Child Interaction Therapy	29/10/ 2021	No	Yes	No
Behavioral and socioemotional outcomes through age 5 years of the legacy for children public health approach to improving developmental outcomes among children born into poverty	11/03/ 2021	Yes	Yes	Yes

Parent Engagement and School Readiness: Effects of the Getting Ready Intervention on Preschool Children's Social–Emotional Competencies	11/08/ 2021	Yes	Yes	Yes
The key role of positive parenting and children's temperament in post-institutionalized children's socio-emotional adjustment after adoption placement. A RCT study	21/02/ 2022	Yes	No	No
Effects of video-feedback correction of infant–mother interaction on two-year-olds' behaviour (asking for English version)	23/01/ 2022	Yes	No	Yes
Effectiveness of a Multicomponent Parenting Intervention for Promoting Social-Emotional School Readiness Among Children From Low-Income Families in Hong Kong A Cluster Randomized Clinical Trial	02/11/ 2021	No	Yes	No
Book-Sharing for Parenting and Child Development in South Africa: A Randomized Controlled Trial	02/11/ 2021	Yes	No	No
The effectiveness of the Incredible Years pre-school parenting programme in the United Kingdom: A pragmatic randomised controlled trial	23/05/ 2022	Yes	Yes	Yes
A Randomized Trial of Digitally Delivered, Self-Administered Parent Training in Primary Care: Effects on Parenting and Child Behavior	23/05/ 2022	Yes	Yes	Yes
A video-feedback parenting intervention to prevent enduring behaviour problems in at-risk children aged 12-36 months: the Healthy Start, Happy Start RCT	23/05/ 2022	Yes	No	Yes
Effectiveness of a peer-delivered, psychosocial intervention on maternal depression and child development at 3 years postnatal: a cluster randomised trial in Pakistan (https://www.sciencedirect.com/science/article/pii/S2215036620302583#!)	23/05/ 2022	Yes	No	Yes

The Effect of VoorZorg, the Dutch Nurse-Family Partnership, on Child Maltreatment and Development: A Randomized Controlled Trial	24/05/ 2022	Yes	Yes	Yes
Outcomes of population based language promotion for slow to talk toddlers at ages 2 and 3 years: Let's Learn Language cluster randomised controlled trial	25/05/ 2022	No	No	Yes
Promoting First Relationships® for Primary Caregivers and Toddlers in a Native Community: a Randomized Controlled Trial	30/09/ 2022	Yes	Yes	No
Building Emotional Awareness and Mental Health (BEAM): A Pilot Randomized Controlled Trial of an App-Based Program for Mothers of Toddlers	30/09/ 2022	Yes	No	Yes
A randomized controlled trial of a proportionate universal parenting program delivery model (E-SEE Steps) to enhance child social-emotional wellbeing	30/09/ 2022	Yes	No	Yes

1.4.1 Potentially eligible studies excluded because lack of outcome data

STable 2 reports those studies that may have been included into this work, but they were not due to lack of access to outcome data.

STable 2. Table of eligible studies excluded for lack of outcomes data.

Authors	**Paper**	**Reason for exclusion**
(10)	Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the Family Check-up in Early Childhood	Data no longer available

(11)	Healthy Steps for Young Children: Sustained Results at 5.5 Years	No access to data
(12)	Effectiveness of a Multicomponent Parenting Intervention for Promoting Social-Emotional School Readiness Among Children From Low-Income Families in Hong Kong A Cluster Randomized Clinical Trial	No response – no outcome data
(13)	Supplementation of urban home visitation with a series of group meetings for parents and infants: results of a "real-world" randomized, controlled trial.	No response – no outcome data
(14)	Book-Sharing for Parenting and Child Development in South Africa: A Randomized Controlled Trial	No response – no outcome data
(15)	The impact of early- years provision in Children's Centres (EPICC) on child cognitive and so cio- emotional development: study protocol for a randomised controlled trial	Not published yet – cannot share draft manuscript
(16)	One-year follow-up of The Incredible Years Parents and Babies Program: A pilot randomized controlled trial.	Not calculated

		SDQ by intervention group
(17)	Promoting First Relationships® for Primary Caregivers and Toddlers in a Native Community: a Randomized Controlled Trial	Difficult data access procedure

1.4.2 Moderators used to assess NMA transitivity and included in meta-regressions

In the study protocol we listed several study, participants, interventions characteristics that were hypothesised to be acting as effect modifiers of the interventions and that are likely to differ across studies. Incorporating such variables may elucidate relevant factors driving the effectiveness of the intervention (such as subgroups populations in which the intervention is most effective) or/and highlight heterogeneity in the data. However, due to the limited reporting on relevant moderators in the included studies, we included in our analyses only the following 11 effect modifiers.

STable 3. Coding of moderators.

Variable	**Coding description**
Design	
Prevention (Population)	Type of prevention of the intervention: 0 = Universal prevention 1 = Selective prevention
Intention-to-treat analysis (ITT)	0 = intention-to-treat (ITT) or modified intention-to-treat (mITT) analysis 1 = other analysis (e.g., 'per-protocol' or 'unclear')
Sample	
Parent mental health	0 = Parents have not been selected based on experiencing mental health difficulties 1 = Parents have been selected based on the present of mental health difficulties (e.g., high scores on depression questionnaires)
Expectant parent	0 = Intervention started in the post-partum 1 = Intervention started in pregnancy
Intervention	
Follow-up timing	Whether the outcome variable had been measured post-intervention, short-term post-intervention, medium-term post-intervention, or long-term post-intervention (definitions provided in the protocol).

Home	0 = Intervention online/none/via mail (e.g., phone, mailed material, online) 1 = Intervention not at home (e.g., health clinic, group meetings) 2 = Intervention at participant's home 3 = Mixed (at least a combination of the two above)
Child present	0 = Child is not involved in the intervention 1 = Child is included in the intervention
Intervention intensity[1]	0 – 4 from low to high intensity
Flexibility of the intervention	0 = the delivery of the intervention follows a structured protocol with a prespecified number of session and content of the intervention 1 = some aspects of the intervention (e.g., number of sessions or content) are adapted to the needs of the family
Risk of bias assessment	
Overall RoB	0 = Low 1 = Some Concerns 2 = High
Total RoB	Scores ranged from 6 to 13 using the sum of all components of RoB-2

[1] See STable 4 to see how we coded the intensity of the intervention.

STable 4. Coding of intervention intensity.

Dose frequency	**Dose duration**	**Length dose**
Low (0) monthly or less frequently (e.g., bimonthly)	Low (0) <= 50 mins	Low (0) < 6 months
High (1) fortnightly or more frequently (e.g., weekly, twice a week)	High (1) >50 mins	High (1) >6 month(9)

Dose, modality of intervention and setting are all hypothesised to be relevant moderators of the effectiveness of the interventions, in line to what has been found in previous reviews of parenting interventions (9). When multiple frequencies, durations and lengths were provided (e.g., weekly sessions during pregnancy, biweekly first 6 months post-partum and monthly up to 2 years of age), the highest frequency will be chosen (i.e., weekly). This is likely going to induce an underestimate of the effect as we are considering participants have received more sessions than they indeed had. However, we reckon that, whilst imperfect, it is better to under- than over- estimate the effect. To accommodate modelling requirements, covariates were coded as dummy variables where possible.

1.5 The included studies and detailed description of intervention components and clustering of components and classes of interventions

1.5.1 Summary of included studies with relevant characteristics

STable 5 reports the main characteristics of the included studies in this systematic review. The sex distribution of the child was approximately evenly split between females and males. However, 42 (74%) studies recruited expectant women or mothers, exclusively. Most of the studies (*k*=55) included birth parents only, though some studies (*k* =2) also included adoptive, foster (*k*=2) and mixed samples of caregivers, including relatives (*k* =3). Internalising problems were mostly reported by the primary caregiver (*k*=58, 98%), followed by: teachers (*k*=10, 17%), secondary caregiver (*k*=2, 3%), child self-report (*k*=1, 2%), and coder (*k*=1, 2%). 10 studies employed more than one assessor. The most commonly used scale was the Achenbach System of Empirically Based Assessment (ASEBA)(18) (*k*=36, 61%), followed by the Strengths and Difficulties Questionnaire (SDQ)(19) (*k*=14, 24%), infant–toddler social and emotional assessment (ITSEA)(20) (*k*=10, 17%), the Behavior Assessment System for Children: Second Edition (BASC-2)(21) (*k*=2, 3%), the California Child Q-Set (CCQ)(22) (*k*=2, 3%), Parent Account of Child Symptoms (PrePACS)(23) (*k*=1, 2%), and the Social Competence and Behavior Evaluation (Short) (SCBE-30)(24) (*k*=1, 2%). 7 studies used more than one scale and, when multiple scales were reported, the most frequently used scale was carried forward for the analyses. Facilitators included students or professionals with specific training (e.g., VIPP specialists, parent consultants, mental health nurses) (38.5%), trainees or professionals without specific training (e.g., nurses, paraprofessionals) (35%), peers or experienced parents from communities (4.4%), mixed therapists (e.g., both nurses and parenting experts, 14.3%), and the remaining interventions were either not in person (e.g., self-help) or were delivered within the usual care sector (7.7%). Only a minority of studies detailed level of training, fidelity, and adherence to the programs. Detailed information on the 62 included interventions in the systematic review is reported in the Table below. Of the 59 eligible studies for the NMA that provided follow-up data for internalising problems: 18 (31%) studies had baseline data, 12 (20%) intermediate, 33 (56%) post-intervention, 18 (32%) short-term, 11 (19%) medium-term and 13 (22%) long-term follow-ups (further details on the cut-off applied are reported in the protocol). Intervention duration ranged from 3 weeks to 5 years.

We defined the preventative strategy as primary if the study was not aimed at reducing internalising problems directly. Where the inclusion criteria of the study specified that the child had to be above a certain cut-off on a scale that included an emotional component, and the intervention was aimed at preventing the onset or

worsening of emotional difficulties, the preventative strategy was classified as secondary. The population was defined selected if either the family or the child had some characteristics that put the child at higher risk of developing internalising problems.

STable 5. Characteristics of included studies.

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
1	Bagner et al. (25)	Two-arm RCT Family	Infant above the 75th percentile on the problem scale of the BITSEA (26); the mother was required to receive an estimated IQ score ≥ 70	Major infant sensory impairments or motor impairments current child protection services involvement	US	To decrease infant behavioural problems and increase positive and decrease negative parenting behaviours and parent stress	Large hospital-based paediatric primary care clinic	High-risk mother/infant dyads, N=60	Mother	45%	13.47 (1.31) months	Secondary	Selective (child)	IBP[Dyad], N=31, 5-7 sessions, 60-90 mins, weekly, over 8 months, family, face-to-face, home, clinical psychologist students, IBP is a home-based adaptation of the CDI phase of PCIT, it involves actively coaching parents to follow their infant's lead in play in an effort to decrease disruptive (e.g., hitting) and increase prosocial (e.g., gentle touch) behaviours; Coercion Theory (27)	NA	NA	TAU [TAU], N=29, ni, specialised clinic, paediatricians, standard paediatric primary care, NA	ITSEA, caregiver, baseline, post-intervention, and short terms (3 and 6 months)
2	Walkup et al. (28)	Two-arm RCT Individual	Native American pregnant teens or young women ages 12-22 years old at the time of conception. 1) Pregnant for the first time 2)Partners of pregnant teens must be between the ages of 12-24 3) Pregnant <28 weeks gestation and able to meet the requirements for completing the program in a timely way. An enrolled tribal member. 4) Reside in the Reservation Service Unit Catchment Area and within 60 miles of	Mothers were ineligible if they had extreme medical, legal, or social problems that precluded their ability to participate in visits or assessments or/and mothers who were at acute risk for self or others.	US (Navajo and White Mountain Apache reservations in New Mexico and Arizona)	To prevent behavioral health problems among American Indian (AI) mothers and their children	Prenatal and school-based clinics in four Indian Health Service catchment areas	Expectant young American Indian mothers, N=167	Expectant mother	NA	28 weeks of gestation	Primary	Selective (family)	Family Spirit [Home visits], N=81, 25 home visit sessions, 60 mins, fortnightly, from 28 weeks' gestation to 6 months, individual, face-to-face, home, home-visiting trained AI women from the local community; Family Spirit's culturally tailored, behaviourally focused, and home-based intervention, responsive to parents' and children's needs. The curriculum includes developmentally timed prenatal and infant-care parenting lessons, as well as family planning, substance abuse prevention, and problem- solving and coping-skills lessons. Coercion Theory (27)	NA	NA	Breast-feeding/nutrition education [Dummy], N=86, 23 home visit sessions, 60 mins, fortnightly, from 28 weeks' gestation to 6 months, individual, face-to-face, home, home-visiting trained AI women from the local community; the curriculum included a previously developed breast-feeding/ nutrition education program, NA	ITSEA, caregiver, short-term

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			the Indian Health Service Unit Headquarters															
3	Hiscock et al. (29) Bayer et al. (32)	Two-arm RCT Cluster	All mothers attending the 6–7-month child heal visit	Mothers with insufficient English to complete questionnaires	Australia	To prevent behavioural problems in children and improve parenting and maternal mental health	Maternal and child health centre	Mother-child dyads, N=733	Mother	49%	7 months	Primary	Universal	Toddlers Without Tears [Parenting course], N=329, 3 sessions, 3-4 months, 120 mins, over 7 months, group, face-to-face, maternal and child health centre, a nurse and a co-facilitator expert in running parenting groups, TWT is a universal short-term (3 sessions) parenting programme. It targets key modifiable parenting risk factors for childhood behavioural problems: unreasonable expectations, harsh parenting, and lack of nurturing parenting; Theories of human attachment (30) and Social Learning Theory (31)	NA	NA	TAU [TAU], N=404, maternal and child health centre, self-help and face-to-face, ni, advice on children's behaviour but does not include a structured, evidence-based parenting programme	CBCL 1.5-5yrs, caregiver, short-term (3- and 9-months post-intervention) CBCL 1.5–5yrs, caregiver, medium-term (21 months post-intervention)
4	Feinberg et al. (33) Feinberg et al. (34) Feinberg et al. (35) Feinberg et al. (36)	Two-arm RCT Couples	Heterosexual couples who, at the time of recruitment, were expecting their first child and were living together (regardless of marital status). All participants were at least 18 years of age.	Young teen parents and parents who were not cohabiting or married	US	To enhance the coparental relationship, parental mental health, the parent–child relationship, and infant emotional and physiological regulation.	Childbirth education programs at two hospitals, doctors' offices or health centres, by newspaper ads or flyers, by word of mouth, or by unknown means (including radio advertisement)	Couples, N=169	Mother and father	NA	22.9 (5.3) gestational weeks	Primary	Universal	FF [Coparenting], N=89, 8 sessions, ni, ni, ~ year, group (6-10 couples), face-to-face, male-female team, childbirth education departments, FF is a manualised intervention, with didactic material, exercises, and behavioural rehearsal included in the curriculum for each session. FF focuses on emotional self-management, conflict management, problem solving, communication, and mutual support strategies that foster positive joint parenting of an infant; conceptual theory of coparenting/Ecological model of coparenting	NA	NA	No treatment [TAU], N=80, NA	NA NA CBCL 1.5–5yrs, SDQ, teacher, caregiver, long-term follow-up CBCL, caregiver, long-term follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
5	Barlow et al. (37) Barlow et al. (38)	Two-arm RCT Individual	Eligible participants were expectant American Indian teens (ages 12–19 years at conception) at no more than 32 weeks gestation from four southwestern reservation communities	Prospective participants were excluded if they were currently participating in other mental or behavioral research or if life circumstances precluded full participation in the intervention protocol, such as severe mental illness or legal status that required high-intensity residential care	US (reservation communities)	To enhance positive parenting and address maternal mental health and behaviour that impede positive parenting practices.	Indian Health Services (IHS) clinics, schools, WIC offices, and by word of mouth	Pregnant American Indian teens, N=322	Expectant woman	NA	25.0 (3.1) gestational weeks	Primary	Selective (family)	Family Spirit [Home visits], N=159, 43 sessions, weekly/biweekly/monthly and bimonthly, up to 60 mins, 39 months, individual/dyad, face-to-face, home, Family Health Educators (female Native paraprofessionals); Family Spirit's culturally tailored, behaviourally focused, and home-based intervention, responsive to parents' and children's needs. The curriculum includes developmentally timed prenatal and infant-care parenting lessons, as well as family planning, substance abuse prevention, and problem- solving and coping-skills lessons. Theory of Planned Behavior (TPB) & Coercion Theory (27).	NA	NA	Optimized standard care [ETAU] , N=163, ni, ni, ni, 39 months, individual/dyad, face-to-face, prenatal and well-baby clinic, Family Health Liaisons (not trained in the Family Spirit intervention), it consisted of transportation to recommended prenatal and well-baby clinic visits, pamphlets about childcare and community resources, and referrals to local services; NA	ITSEA, caregiver, intermediate ITSEA, caregiver, post-intervention
6	Cheng et al. (39)	Two-arm RCT Dyad	Mothers of infants in a small Japanese town attending the local healthcare centre with their infants.	Non-Japanese mothers Plan to move out of the region Could not be contacted. Infants were excluded due to low birth weight, premature delivery, or congenital abnormalities.	Japan	The intervention was designed to improve the quality of the mother–infant relationship by using a program to enhance maternal sensitive responsiveness toward infants.	Healthcare centres	Mother-child dyads, N=95	Mother	52.9%	5 months (ni)	Primary	Universal	Nurse home visitation [Home visits], N=48, 5 sessions, monthly, ≥ 60 mins, over 5 months, mother-infant pairs, face-to-face, home, public health nurse; tailored their home visits to suit the individual needs of the families. The main activities were to provide appropriate support for the problems in mother–infant interaction that influence the functioning of mother–infant relationships. Theories of human attachment (30).	NA	NA	ETAU [ETAU], N=47, ni, ni, ni, ni, ni, ni, health-care centres, public health nurse; standard centre-based service that included the provision of education regarding parenting, infant nutrition, development, physical health, and other services in conjunction with infant medical check-ups. In addition, psychological	CBCL/2-3 (Japanese), caregiver, medium-term follow-up (15 months post-intervention).

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
																	counselling was made available in the town; NA	
7	Salomonsson et al. (40) Salomonsson et al. (46) Salomonsson et al. (47)	Two-arm RCT Dyad	Mother should express significant concerns regarding one or more of the following domains: (a) herself as a mother, (b) her infant's well-being, or (c) their relationship. This was operationalized as ≤80 (“perturbed relation”) between mother and child on the PIR-GAS(41) or ≥2.5 on the SPSQ(42).In addition, the following criteria had to be met: (d) The age of the infant was less than 18 months, (e) the duration of the mother's concerns was longer than 2 weeks, (f) their domicile was in Stockholm, and (g) the mother had a reasonable mastery of the Swedish language.	(a) maternal psychosis or (b) substance dependence according to the DSM-IV-TR(43), to an extent that would preclude collaboration.	Sweden	To reduce maternal postnatal depression and associated negative child outcomes	Child Health Centres (CHC), delivery ward of the Karolinska University Hospital and at parenting Internet sites.	Mother with PND and their infants, N=80	Mother	58.5%	5.15 (4.49) months	Primary	Selective (family)	MIP [Ineligible], N=40, treatment duration, frequency, and content were left to the participants' discretion, ~ twice a week, ~50 mins, mother-child dyads, face-to-face, analyst’s private office, psychoanalysts, The MIP method is a psychoanalytic mother-infant therapy. The therapist seeks to obtain a dialogue both with the child and the mother, and to take into account the mother's different feelings of distress. Sessions take place with infant and mother together. Session frequency and treatment duration are adapted to the severity of dyadic distress and to the mother's motivation and possibilities of continuing therapy. Bion’s concept of the “container/contained”(44) and Winnicott’s concept of “holding”(45)	NA	NA	ETAU (CHCC) [Ineligible here], N=40, ni, weekly/monthly/every second month, ni, ni, birth to 5 years, mother-child dyads and individuals, face-to-face/phone call/other, child-health clinics/mixed, nurses (but may involve paediatricians and/or psychologists), check-ups from birth to 6 years of age. CHCC aims at assisting parents concerning their children's physical, psychical, and social development. Check-ups consist of weighing and measuring the baby, providing inoculations, nutritional advice, scheduled paediatric check-ups, and so on. CHCC also pays attention to psychological issues of parenthood and offers parental groups, infant massage, or International Child Development.	NA (SDQ) Swedish version, caregiver, long-term follow-up (3½ after treatment) NA

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
8	Kitzman et al. (48)	Four-arm RCT Individual	Women less than 29 weeks pregnant were recruited if they had no previous live births, no specific chronic illnesses thought to contribute to foetal growth retardation or preterm delivery (e.g., chronic hypertensive disorders requiring medical treatment, severe cardiac disease, large uterine fibroids), and at least 2 of the following sociodemographic risk conditions: unmarried, less than 12 years of education, and unemployed	Previous live births, specific chronic illnesses thought to contribute to foetal growth retardation or preterm delivery (e.g., chronic hypertensive disorders requiring medical treatment, severe cardiac disease, large uterine fibroids)	US (Memphis)	To improve the outcomes of pregnancy; to improve the physical and emotional care of their children; to promote maternal self-care	Obstetrical clinic	At-risk African American pregnant women, N=1139	Expectant woman	NA	29 (ni) gestational weeks	Primary	Selective (family)	NFP [Home visits], N=228, 62 sessions, frequency was adapted to parents' needs, 75–90 min, over 2 years and 3 months, individual and mother-child dyad, face-to-face, hospital-based and home, nurses, NFP is a community health program where specially educated nurses regularly visit first-time moms, starting early in the pregnancy and continuing until the child's second birthday supporting them to engage in good preventive health practices during pregnancy, assisting families provide responsible and competent care to the child, supporting parents to manage their lives and family. Theories of human ecology (49,50)), self-efficacy (31), and theories of human attachment (30).	TAU [TAU] (Prenatal transportation + prenatal care appointments), N=166, hospital-based, NA, provided free round-trip taxicab transportation for scheduled prenatal care appointments; they did not receive any postpartum services or assessments.	Home visits [Home visits], N=230, ni, frequency was adapted to parents' needs, 75–90 min, individual and mother-child dyad, face-to-face, hospital-based and home, nurses, intensive nurse home visitation services during pregnancy, 1 postpartum visit in the hospital before discharge, and 1 postpartum visit in the home; theories of human ecology (49,50), self-efficacy (31), and human attachment (30).	ETAU [ETAU], N=515, hospital-based, free transportation for scheduled prenatal care plus developmental screening and referral services for the child	CBCL, caregiver, post-intervention.
	Olds et al. (51)																	CBCL, Caregiver, long-term follow-up (4 years post intervention)
	Olds et al. (52)																	Computerized Diagnostic Interview Schedule for Children, caregiver, long-term follow-up (7 years post intervention)
	Kitzman et al. (53)																	CBCL for School-Aged Children, caregiver, long-term follow-up (10 years post-intervention)
	Olds et al. (54)																	NA
	Olds et al. (55)																	NA
	Kitzman et al. (56)																	CBCL 6-18, caregiver and self-report, long-term follow-up (16 years post-intervention)
9	Olds et al. (57)	Three-arm RCT Individual	Women were recruited if they had no previous live births and either qualified for Medicaid or had	ni	US (Denver)	To improve the outcomes of pregnancy; to improve the physical and emotional care of	Antepartum clinics	High-risk pregnant women, N=735	Expectant woman	NA	~18.58 gestational weeks	Primary	Selective (family)	NFP [Home visits], N=235, 32 sessions (delivered), ni, ~75-90 mins, over 2.5 years, individual and mother-child dyad, face-to-face, hospital-based/home, nurses, NFP is a	Home visiting [Home visits], N=245, ~27 sessions (delivered), ~75-90 mins, over 2.5 years, individual and mother-child dyad, face-to-face,	NA	ETAU [ETAU], N=255, 5 sessions, individual, face-to-face, hospital-based, na, developmental	NA
	Olds et al. (58)																	CBCL, caregiver, medium-term (2 years post-intervention)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
	Olds et al. (59)		no private health insurance.			their children; to promote maternal self-care								community health program where specially educated nurses regularly visit first-time moms, starting early in the pregnancy and continuing until the child's second birthday supporting them to engage in good preventive health practices during pregnancy, assisting families provide responsible and competent care to the child, supporting parents to manage their lives and family. Theories of human ecology (49,50)), self-efficacy (31), and theories of human attachment (30).	hospital-based/home, paraprofessionals, screening and referral services plus paraprofessional home visitation during pregnancy and infancy. Theories of human ecology (49,50)), self-efficacy (31), and theories of human attachment (30).		screening and referral services for their child	CBCL, caregiver/teacher, long-term follow-up (4- and 7-years post-intervention)
10	Berlin et al. (60)	Two-arm RCT Individual	First-time mother, absence of moderate-to-severe cognitive impairment or acute psychiatric symptoms, and endorsement of at least one of the following six binary risk factors: maternal age of 16 or younger, self-reported history of childhood maltreatment, mental health symptoms during the past 12 months, history of or current concerns about use of alcohol or other addictive substances, history of or current	ni	US	To improve infant–parent relationships	Prenatal Clinics	High-risk mothers and their infant, N=94	Mother	50%	16.5 (3.3) months	Primary	Selective (family)	HFD [Mixed], N=67, 72 sessions/based on family needs & progress, ~weekly, 60 mins, up to 18 months (in this report), family and/or parent support groups, face-to-face, community-based settings/home, HFD home visitors, intensive home-visiting program, during these visits, Family Support Workers use the evidence-based Parents as Teachers curriculum to enhance child development, health, safety, and parent-child relationships. The HFD program incorporates the evidence-informed and widely used Parents as Teachers curriculum, a parent education tool designed to promote all	NA	NA	Yearly Check-Up [Dummy], N=27, ni, yearly, ni, ni, annual research assessments without any Healthy Families services	CBCL (1.5-5), caregiver, intermediate/post-intervention, 2 years of age (as HFD represents both the 18 and 36 months of treatment, this outcome is at the end of the 18-months intervention and intermediate for the 36)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			concerns about domestic violence, and/or low social support.											aspects of child development. The HFD program also incorporates specific supplemental protocols for screening and responding to crisis situations; Theories of human attachment (30)) and Bronfenbrenner's bioecological model (61)) and the tenets of trauma-informed care(62)				
11	Boivin et al. (63)	Two-arm RCT Dyad	Non-infected HIV-exposed children from the IDRC malaria treatment program, age 2 to 4 years. Caregiver must be willing and able to complete biweekly training program through the year.	A child was excluded from the study if they had a medical history of serious birth complications, severe malnutrition, bacterial meningitis, encephalitis, cerebral malaria, or other known brain injury or disorder requiring hospitalization which could overshadow the developmental benefits of MISC. A clinical officer used the Ten Question Questionnaire was used to screen for neuro-disabilities.	Uganda	To train parents/caregivers in practical skills for enriching the intellectual, social, and emotional developmental milieu of their HIV-affected children in a rural district area of eastern Uganda.	Infectious Disease Research Collaboration at Tororo District Hospital.	Caregiver-child dyad, N=119	Mother	46.25%	2.8 (0.34) months	Primary	Selective (family)	MISC [Dyad], N=59, 24 sessions, biweekly, 60 mins, 1 year, caregiver-child dyad, face-to-face, home/study office, MISC trainers, training program providing caregivers with strategies for enhancing the development of their children through day-to-day interactions in the home. Most of the MISC training of caregivers is devoted to helping parents become aware and develop practical strategies for focusing, exciting, expanding, encouraging, and regulating the child as learning opportunities arise in the course of natural everyday caregiver/child interactions. Also, video-feedback every three months. MISC is a mediational approach based on Feuerstein's theory of cognitive modifiability (64).	NA	NA	Dummy intervention [Dummy] (Health and nutrition), N=60, ni, biweekly, ni, 1 year, ni, face-to-face, home, field trainers, biweekly health and nutrition curriculum providing psychosocial support to families, NA	CBCL for younger children (1.5 to 5 yrs), caregiver, baseline, intermediate (6 months post baseline), post-intervention (12-months post-baseline)
12	Breitenstein et al. (65)	Two studies merged:	In both studies, childcare centres were purposively sampled	Only parents who self-reported as African American	US	To promote parenting competence and	Childcare centres	Latinx and African American	Mother, Father, another	45.6%	2.82 (0.73) years	Primary	Selective (family)	CPP [Parenting course], N =1155, 12 sessions, weekly, 120 mins, over 12 weeks,	NA	NA	Waitlist [Waitlist], N=1030, na	C-TRF, Teacher, baseline, post-intervention,

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
		Two-arm RCT Cluster	using the following inclusion criteria: the centre (a) had over 90% of its families eligible to receive low-income childcare subsidies, (b) was licensed by the state, (c) enrolled at least 60 children between the ages of 2 and 4, (d) had on-site space to run CPP groups, and (e) had approval from the director to have the centre randomized.	or Latino (n = 504) were included in the analysis.		prevent child behaviour problems		low-income parents and their child, N=2185	primary caregiver					parent groups, face-to-face and video, community-based, CPP group leaders, During 2- hour weekly group sessions, video vignettes are shown to parents and used to stimulate discussion and problem solving related to child behaviour and parenting skills. Focus on building parents' positive relationships with their children, on addressing child behaviour management skills, and on stress management, problem-solving skills, and skill maintenance. The CPP teaches parents evidence-based strategies for encouraging good behaviour and reducing misbehaviour in children. Most importantly, the program helps parents clarify their values and childrearing goals and then, through group discussion and problem solving, tailor the evidence-based strategies to achieve those goals in culturally acceptable ways; Social Cognitive Theory (31)and Coercion Theory (27)				short-term follow-up (6-months and 1-year post-intervention)
13	Van Doesum et al. (66) Kersten-Alvarez et al. (68)	Two-arm RCT Dyad	Eligible for participation were mothers with an infant up to 12 months, who (a) met the DSM–IV(43) criteria for a major depressive episode or dysthymia (95%) and/or	Psychiatric comorbidity was allowed except for psychotic disorder, manic depression, and/or substance dependence	Netherlands	To improve the interaction between depressed mothers and their infants, thus fostering a secure mother–infant attachment and	Referred for participation to the program by their local therapists or responded to appeals in national newspapers,	Depressed mothers and their child, N=85	Mother	39.5%	5.5 (3.1) months	Primary	Selective (family)	Dutch KOPP [Video-feedback], N=43, 8-10 sessions, weekly to biweekly, 60-90 mins, over 3-4 months, family, face-to-face, home, home visitors (qualified prevention specialists), Video feedback was used as the core intervention method. During	NA	NA	Dummy intervention [Dummy], N=42, 3 sessions, monthly, 15 mins, over 3 months, individual, telephone, phone, child therapists, na, In the phone calls, the mothers were	ITSEA, caregiver, short-term follow-up CBCL (1.5-5), C-TRF, caregiver, teacher, long-term follow-up (5 years post-intervention)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			exhibited elevated levels of depressive symptoms, that is, BDI(67) > 14 (5%); (b) were sufficiently fluent in Dutch; and (c) were receiving concurrent outpatient treatment for their depression by a qualified local therapist or psychiatrist (eight outpatient treatment facilities)			preventing developmental problems in the children	women's and parenting magazines, or Web sites							each home visit, the home visitor monitored and videotaped mother and child during everyday activities. Subsequently, while watching the tapes together, the home visitor discussed the interactions with the mother, or if present, both parents. In addition to the video observations, one or more of the following four techniques were used depending on the needs of the parents: 1) Modelling 2) Cognitive restructuring 3) Practical pedagogical support 4) Baby massage. Through practice, the mothers and fathers learned to adopt new and more sensitive interactive behaviours. At the final visit, a plan was made with instructions that should help the parents sustain the positive interactions in the future; Theories of human attachment (30)			supported with practical parenting advice. The therapists were instructed not to focus on the actual mother–child interaction but to restrict their support to general information about child-rearing skills.	
14	Eddy et al. (69)	Two-arm RCT Family	Families who contacted the relief nursery and (a) had at least one target child between the ages of 18 months and 4 years and (b) had never had any child in their household participate in the therapeutic early childhood	ni	US	To prevent the cycle of child abuse and neglect through the building of successful and resilient children, the strengthening of parents, and the preservation of families.	Study research center	At-risk of abuse and neglect primary caregivers and their child, N=440	Mother, Father, Grandparents, another primary caregiver	50.8%	3 years	Primary	Selective (family)	Relief Nursery [Mixed] , N=223, as needed by families, as needed, over 2 years, home/classroom, 2 trained teachers and 2 or more support volunteers, Participants received access to all services available from the Relief Nursery during the 2 years of the study. Core components include the following:	NA	NA	Respite Care [TAU] , N=217, upon request, two afternoons of respite care were available to families each month for a total of 6 months, monthly, as needed, over 6 months, day-care, access to the services that are typically	CBCL, caregiver, baseline, intermediate (18 months after the intervention started (out of 2 years of intervention))

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			classroom component of the Relief Nursery											(a) The Therapeutic Early Childhood Classroom Program (TECP) serves as the “hub” of the Relief Nursery program at large. (b) Home Visiting. (c) Group-based Parent Education and Support Services Additional program components include the following. On an as needed basis, Mental Health and Special Education Services are integrated into the classroom. All children participate in developmental screenings designed to reveal the need for further assessment and/or specialized services to ensure appropriate and healthy development. Other Services are provided on an as needed basis; Ecological theory (49)			available to at-risk families in Oregon communities prior to the opening of a local Relief Nursery: access to respite care and referral to other community services. The respite care provided in this study was of equal quality to that provided to families in the Full Program condition but was provided at a different physical location, ni	
15	Lowell et al. (70)	Two-arm RCT Family	Children in this RCT were eligible if the child met the following criteria: age 6–36 months, screened positive for social-emotional/behavioural problems on the BITSEA(26) and/or the parent screened high for psychosocial risk on a risk screen developed for this study PRQ; lived in the city of Bridgeport,	Children referred directly from community providers and families with prior involvement with Child FIRST were not eligible for the RCT.	Australia	The goal of the Child FIRST model was to identify children in families with high cumulative risk as early as possible and to intervene to prevent or remediate serious emotional disturbance, developmental and learning problems, and	Two sites that served predominantly inner-city families living in poverty: (a) Bridgeport Hospital Paediatric Primary Care Centre (PCC) and (b) the Supplementary Nutrition Program for Women,	Multi-risk urban mothers and children, N=157	Mother	56.05%	5.4–35.9 months	Secondary	Selective (family and child)	Child FIRST [Dyad], N=78, 55 sessions, weekly, 60-90 mins, over 6-18 months, family, face-to-face/phone, home/phone, developmental/mental health clinician and a level care coordinator/case manager, Child FIRST is a home-based, psychotherapeutic, parent–child intervention embedded in a system of care. Engagement and building trust were fundamental goals of the intervention. The family was the target of the	NA	NA	TAU [TAU], N=79, na	ITSEA, caregiver, baseline, post-intervention, short-term follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			Connecticut; and was in a permanent caregiving environment.			abuse and neglect by improving parent reflectiveness and parent-child relationships.	Infants, and Children (WIC)							intervention; to build a network of supportive relationships that could continue to sustain the primary parent over the long term. Guided by the issues that were most salient to the family and driven by the child and family strengths, needs, and psychological availability, a highly individualized, multilevel, parent–child psychotherapeutic and psychoeducational approach was used. A central goal was to facilitate mutual delight through reciprocal parent–child play, as well as positive interactions through reading, play, and family routines. Play also was used to help the child master and rework difficult challenges and to promote language development; the relationship-based infant–and child–parent psychotherapy(71,72)				
16	Fergusson et al. (73) Fergusson et al. (74)	Two-arm RCT Family	Plunket nurses were asked to refer any family in which 2 or more risk factors were present. In addition, Plunket nurses were asked to refer any family in which there were serious concerns about the family's capacity to care for the child.	None reported	New Zealand	FSWs visited families to achieve a series of goals aimed at maximising child and family health and well-being	Population-based screening procedure. Healthy Start Program	At-risk families, N=443	Mother	ni	19-22 months	Primary	Selective (family)	ES [Mixed], N=220, from 12 to 144 sessions*, 60-120 mins, weekly/fortnightly/monthly/per three months*, over 36 months, family, face-to-face, home, family support workers (FSWs), The critical elements of this model include (1) assessment of family needs, issues, challenges, strengths, and resources;(2) development of a positive partnership	NA	NA	No intervention [TAU], N=223, those in the control series were paid an honorarium of (New Zealand) $50 per interview.	ITSEA, caregiver, intermediate (at 36 months) SDQ, caregiver/teacher, long-term follow-up (5-, 6- and 9-years after enrolment)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														between the family support worker and client; (3) collaborative problem solving to devise solutions to family challenges; (4) the provision of support, mentoring, and advice to assist client families to mobilize their strengths and resources; and (5) involvement with the family throughout the child's preschool years. All clients who were enrolled in Early Start were visited on a weekly basis during a 1-month period to conduct an in-depth assessment of family needs. Depending on the level of family risk they were offered: - Level 1. High need: One–two hours home visitation per week. - Level 2. Moderate need: Up to one-hour home visitation per fortnight. - Level 3. Low need: Up to one-hour home visitation per month. - Level 4. Graduate: Up to one-hour contact (phone/home visitation) per three months. Social Learning Theory(31) *Depending on family needs				
17	Wake et al. (75)	Two-arm RCT Cluster	Score at or below the 20th percentile on the expressive vocabulary checklist, based on population norms.	Children were excluded if they had already been referred for cognitive delay, major medical conditions, or suspected autism	Australia	To improve children's language development outcomes at 2 and 3 years (the primary outcome) and reduce	Visit with local maternal and child health nurse or by mail	Caregiver-child dyads with children with language delay, N=301	Mother	49.5%	18.1 (0.75) months	Primary	Selective (child)	Modified "You Make the Difference" programme [Video-feedback], N=158, 6 sessions, weekly, 120 mins, over 6 weeks, group, face-to-face, community-based setting, three interventionists (one with a speech pathology	NA	NA	TAU [TAU], N=143, 2 sessions, at 18- and 24- months, 20 mins, over 6 months, NI, face-to-face, NI, nurse	CBCL/1.5-5, caregiver, baseline, short-term, medium-term

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
				spectrum disorder or if parents had insufficient English to complete the questionnaires (written at a year 6 level of English) or participate in the programme		behavioural problems (particularly externalising ones).								background and two with psychology backgrounds), It is a parent-based language promotion programme (child centred, interaction promoting, and language modelling responsive interaction strategies). In total, 20 programmes were offered; each included three to eight children and was led by one of three interventionists (one with a speech pathology background and two with psychology backgrounds) who had attended a three-day Hanen training programme followed by specific training in the modified version. In brief, parents attended the first 1.5 hours while children were supervised in an adjacent room. In each session, the group leader started by reviewing the previous week's home practice and showing video clips of parent-child interactions to highlight previously learnt strategies; this was followed by a participative lecture. In the last 30 minutes, each parent and child pair were videotaped practising the new strategies with coaching as needed, from which a short positive clip was drawn for the group to view the following week to reinforce specific strategies. Ni				

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
18	Stolk et al. (76)	Two-arm RCT Dyad	Children with scores above the 75th percentile on the CBCL syndrome Externalizing Problems (age 1: scores 13; age 2: 19; age 3: 20) were selected for the intervention study	Children who had both a non-Dutch surname and non-Dutch first name were not included in the target sample. Several other exclusion criteria (e.g., twins, serious medical condition in child or mother)	Netherlands	To improve parenting and reduce child externalizing behaviours	Town hall records	Caregiver-child dyads with children at high-risk for externalising disorders, N=237	Mother	44%	26 (0.90) months	Primary	Selective (child)	VIPP-SD [Video-feedback], N=120, 6 sessions, monthly (first 4) and then every other month (5 and 6), 90 mins, over 8 months, dyad (mother and child) and last 2 sessions also the father was invited, face-to-face, home, female intervener trained in VIPP, The VIPP-SD program is both standardised and individualiSed. Each intervention visit starts with filming parent–child interaction and continues with video feedback based on the recordings of the previous visit. VIPP-SD is home-based and short-term: the interventions are implemented in the home or childcare setting in a modest number of visits. In the first and second intervention session parents are encouraged to accurately observe and interpret their child's behaviour on the recorded video fragments. Therefore, the intervenor uses the 'Speaking for the child' technique (see before) and kindly invites the parent to participate in this process. During the third and fourth session the video feedback also focuses on the second part of Ainsworth's definition and parents are supported to respond to their child's behaviour, emotions and expressions in a sensitive way.	NA	NA	Dummy intervention [Dummy], N=117, 6 sessions, monthly (first 4) and then every other month (5 and 6), ni, over 8 months, individual, phone, phone, ni, this dummy intervention was implemented to ensure comparable motivation and attention in the intervention and control groups and to prevent selective attrition. In the six telephone calls, mothers were invited to talk about the general development of their child (e.g., eating, sleeping, playing) in a semi structured interview format. Requests for advice or information were minimized by the use of concrete questions inviting mothers to talk extensively about their child. If mothers did ask for advice or information, it was suggested that they consult their general practitioner or well-baby clinic, ni	CBCL (1.5-5), caregiver, baseline, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														For sensitive discipline, relevant themes are highlighted during the intervention sessions; Theories of human attachment(30), Social Learning Theory(31))and Coercion Theory(27)				
19	Mendelsohn et al. (77)	Two-arm RCT Dyad	Latino mother-newborn dyads were considered eligible for the study if the mother had low education (defined as not having graduated high school).	Dyads were excluded if there were medical complications (e.g., prematurity or neonatal medical complication), psychosocial issues (e.g., adolescent mother, maternal history of substance abuse), or they did not plan follow up at our institution. We also excluded families without access to a VCR because an important component of the intervention involved the family viewing a videotape at home	US	To support the parent-child relationship and thereby enhance cognitive, language, and social-emotional development.	Postpartum ward of an inner-city public hospital	At-risk Latino caregiver-child dyads, N=150	Mother	38.3%	2 weeks of age	Primary	Selective (family)	VIP [Video-feedback], N=77, 12 sessions, ~every 3 months, 30-45 mins, 3 years, mother-infant dyad, face-to-face, paediatric primary care, child development specialist, the VIP is a relationship-based approach that involves the use of videotaped interactions by child development specialists. The goal of VIP is to support the parent-child relationship and thereby enhance cognitive, language, and social-emotional development. It covers (1) discussion of parental expectations and concerns about the child, (2) receipt of a developmentally appropriate learning material (e.g., toy or book) that promotes parent-child engagement, (3) a 5- to 10-minute videotaped recording of the parent and child engaging in activities use to highlight strengths of the interaction. Theories of human attachment(30)	NA	NA	TAU [TAU], N=73, paediatric primary care, ni, well-childcare by the same primary care paediatricians, including the same anticipatory guidance and periodic routine screening according to the guidelines of the American Academy of Pediatrics	CBCL (1.5-5), caregiver, post-intervention
20	Morpeth et al. (78)	Two-arm RCT Family	To be eligible for the current trial, children had to be aged between 36 and 59	Children receiving medication, specifically for behavioural	UK	To test whether the programme would improve children's	Referrals from different professional groups;	Caregiver-child dyads with children above clinical	Mother	33.5%	44 (6) months	Secondary	Selective (child)	IY BASIC programme [Parenting course], N=110, 12 sessions, weekly, 120 mins, over 12 weeks, groups, face-	NA	NA	Waitlist [Waitlist], N=51, na, free to access any other services on offer as	SDQ, caregiver, baseline, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			months (three to four years of age) and be rated by their parent(s) as above the total difficulties clinical cut-off score on the SDQ	problems, and those with an existing clinical diagnosis of attention-deficit hyperactivity disorder (ADHD) or autism spectrum disorder (ASD), were not included in the trial.		behaviour and social relationships at home and with other children, and whether it would improve parenting competence.	Children's centre family support workers, open days at local children's centres, nurseries and schools, and self-referrals. Outreach events in public spaces.	cut-off of the SDQ, N=161						to-face, community-based, trained facilitators, The BASIC parent training series, a 12-week program for parents, involves group discussion of a series of 250 video vignettes. The program teaches parents interactive play and reinforcement skills, nonviolent discipline techniques and problem-solving strategies. The group format fosters a sense of community support, reduces isolation, and normalizes parents' experiences and situations. Behaviour is learned through social interaction(27)			usual but were not offered the IY programme until after their 6-month follow-up interview. Following this interview, each control parent was invited to participate in a parenting group.	
21	Duggan et al. (79) Caldera et al. (81)	Two-arm RCT Family	Families who screen positive are assessed for risk using FSC(80). Families scoring ≥25 are eligible for HFAK.	They had been previously enrolled in HFAK and the mother did not speak English well enough to complete study activities.	US	To prevent child maltreatment by promoting positive parenting and child health and development	Hospitals	At-risk caregiver-child dyads, N=364	Mother	ni	8-16 months	Primary	Selective (family)	HFAK [Mixed], N=179, ~36 sessions, weekly, ni, 6-9 months, individual/dyad, face-to-face, home, HFAK staff, Healthy Families Alaska (HFAK) is a well-established strengths-based, relationship-based, family-centred, culturally sensitive, and reflective child abuse prevention program targeted to at-risk families. Home visitors are to provide information, make referrals to community resources, help parents prepare for developmental milestones, screen and refer for developmental delay, and promote child environmental safety. They are to support positive parent–child	NA	NA	Community services [TAU], N=185, na, families assigned to the control group were referred to other community services as is usually done for HFAK.	NA CBCL (1.5-5), caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														interaction via role modelling and reinforcement of positive interactions and parental empathy. They are encouraged to use the Individual Family Support Plan (IFSP) as a tool for teaching problem solving around family-initiated goals. The IFSP is a written plan between the family and the home visitor that assists them in setting achievable goals to alleviate family stress and to enhance aspects of parental and family functioning. Theories of human attachment (30) and Bronfenbrenner's bioecological model (61) and the tenets of trauma-informed care(62),				
22	Minkovitz et al. (82) Caughy et al. (83)	Two-arm RCT Family	Families at two of the National Evaluation randomization sites, one in the southeast and one in the southwest, were invited to participate in the direct observation study.	Families were not eligible to participate if: (1) they planned to move from the area or change site of paediatric care within 6 months; (2) they did not speak English or Spanish fluently; (3) their child was to be put up for adoption or placed in foster care; or (4) their child was too ill to make an office visit within the first 28 days of life.	US	To provide support for new parents through the paediatrician's office.	Enrolled at birth or at the first office (paediatrician) visit	Caregiver-child dyads, N=2235	Mother	ni	16-18/ 34-37 months	Primary	Universal	HS for Young Children Program [Home visits], N=1133, at least 15 sessions, ni, ni, over 3 years, individual/family/group, face-to-face/phone, home, paediatric primary care, phone, 1 paediatrician and 1 Healthy steps practitioner, Healthy Steps is a package of services comprising enhanced well child visits, home visits, telephone support for developmental and behavioural concerns, child development and family health check-ups, written informational materials for parents (including a child health and development record), parent groups, and	NA	NA	TAU [TAU], N=1102, 9 sessions, ni, ni, ni, individual, face-to-face, paediatric primary care, 1 paediatrician, na, standard paediatric care	CBCL/2–3, caregiver, post-intervention CBCL/2–3, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														links to community resources. In addition, depending on family needs, the program offered unlimited telephone contact and participation in parenting group sessions. HS is grounded in the assumption that educating and supporting parents benefits families and children.				
23	Dishion et al. (84) Sitnick et al. (85) Reuben et al. (86) Smith et al. (87)	Two-arm RCT Family	Child between age 2 years 0 month and 2 years 11 months. Risk criteria for recruitment were defined at or above 1 SD above normative averages on several screening measures in the following three domains: (a) child behavior (conduct problems, high-conflict relationships with adults), (b) family problems (maternal depression, daily parenting challenges, substance-use problems, teen parent status), and (c) sociodemographic risk (low education achievement and low family income, relevant to WIC criterion). Two or more of the three risk factors were required	NI	US	To reduce child behavioural problems in early childhood among families at high risk by increasing the parents' repertoire of effective and positive child management strategies.	Recruited in 2001 from Women, Infants, and Children (WIC) Nutritional Supplement Program sites in metropolitan Pittsburgh, PA.	At-risk caregiver-child dyads, N=731	Mother	49.5%	28.2 (3.28) months	Primary	Selective (family)	FCU [Video-feedback], N=367, at least 3 (9 sessions by manual), 50-6- mins, weekly or fortnightly, over 1-4 months depending on the individual needs of the family, individual/dyad, face-to-face, parent consultants, The FCU is a brief, strength based, intervention based on motivational interviewing and modelled after the Drinker's Check-Up. It involves a comprehensive ecological assessment where parent-child interactions are video-recorded; a feedback session where assessment data are shared and discussed with parents with the aim of enhancing parent motivation to set and work on goals for their child and family. When these goals involve reducing coercive interactions and the parents indicate they are interested in follow-up treatment sessions, the clinician strategically begins the family management skills	NA	NA	WIC [ETAU], N=364, 1 session, ni, 150 mins, ni, ni, Services provided by WIC: Breastfeeding education and support, supplemental nutritious foods, nutrition education and counseling, money-saving system that can be used to purchase fresh products.	CBCL (1.5-5), caregiver 1 & 2, baseline, intermediate, post-intervention CBCL (1.5-5), caregiver 1/caregiver 2, post-intervention, short-term follow-up (child is 4 years old) TCBC, PCBC, teacher/caregiver 1/caregiver 2, long-term follow-ups (child is 7.5- or 8.5 years old) TCBC, PCBC, teacher/caregiver 1/caregiver 2, long-term follow-ups (child is 9- or 10 years old)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			for inclusion in the sample.											training component, integrating the relevant details from the assessment and feedback. Family management skills training includes a collective set of family management skills falling within three domains: positive behaviour support, healthy limit setting, and relationship building. Ecological theory(49), and Social Learning Theory(31).				
24	Stams et al. (88)	Two Studies: Study 1: two-arm RCT (unclear randomisation).	Study 1 (mixed): adoptive families with biological children and a first adopted child.	Families without adopted children	Netherlands	To enhance maternal sensitive responsiveness, with the goal of promoting secure infant–mother attachment relationships and child competence	Dutch adoption agencies	Adoptive caregiver and child, N=130	Mother	52.4%	6 months, 6-9	Primary	Selective (family)	book + video group [Video-feedback], N=20, 3 sessions, 2 at 6 months and 1 at 9 months, over 3 months, ni, mother-child dyad, face-to-face, self-help (book), home, female intervenors with a master's degree in social sciences, first intervention: written information which focused on sensitive parenting. The parents in the intervention group received a Dutch booklet focused on information about sensitive and responsive parenting in daily life situations. Second intervention consisted of three sessions in the home, and focused on personal, individualised feedback on the mother's interactive behaviour. In contrast with Van den Boom's strategy, we used the video-camera as an intervention tool through recording mother-infant interaction and showing	NA	NA	No intervention [TAU], N=20, NA	CBCL, TRF, CCQ, caregiver/teacher, long-term follow-up (child is 7 years old)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
	*Second study is reported under ID 58													these tapes to the mother involved. The feedback we gave to the mother was based on the behaviours seen on this film and not on ongoing behaviour as in Van den Boom's strategy. Psychoeducation/Theories of human attachment(30)				
25	Johnston et al. (89) Johnston et al. (90)	Two-arm RCT Individual	Pregnant women had to be at less than 22 weeks' gestation at study enrolment, younger than 45 years, English speaking, and planning to use a study clinic for paediatric care	Women whose primary care clinic was not a study clinic, required a language interpreter, or were more than 22 weeks' gestation were excluded.	US	To provide support for new parents through the paediatrician's office.	All available prenatal records at six locations.	Caregiver-child dyad, N=303	Expectant woman and mother	48.5%	Median of 40.0 gestational weeks	Primary	Universal	HS for Young Children Program + PP [Home visits], N=151, at least 10 sessions, monthly, ni, 3 years + prenatal period, group/individual/dyad, face-to-face/telephone/self-help (via newsletters), specialised clinics/home/phone, Healthy Steps Specialist (HSS), paediatricians, obstetricians, midwives, family practitioners, paediatric nurse practitioner, Healthy Steps is a package of services comprising enhanced well child visits, home visits, telephone support for developmental and behavioural concerns, child development and family health check-ups, written informational materials for parents (including a child health and development record), parent groups, and links to community resources. In addition, depending on family needs, the program offered unlimited telephone contact and participation in parenting group sessions.	NA	NA	HS [Home visits], N=152, at least 7 sessions, monthly, ni, 3 years, group/individual/dyad, face-to-face/telephone/self-help (via newsletters), specialised clinics/home/phone, Healthy Steps Specialist (HSS), paediatricians, obstetricians, midwives, family practitioners, paediatric nurse practitioner, Healthy Steps is a package of services comprising enhanced well child visits, home visits, telephone support for developmental and behavioural concerns, child development and family health check-ups, written informational materials for parents (including a child	NA CBCL/2–3, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														The conceptual framework for PP drew on findings of the psychological transition to parenthood in keeping with this framework, the 3 home visits were structured to help parents create a safe, knowing, and welcoming environment for their new-born.			health and development record), parent groups, and links to community resources. In addition, depending on family needs, the program offered unlimited telephone contact and participation in parenting group sessions.	
26	Schaub et al. (91)	Two-arm RCT Family	Families exhibiting at least two distinct psychosocial risk factors on the personal (e.g., mental illness), the family (e.g., single parents), the social (e.g., no social network), or on the material level (e.g., confined living space)	(a) No permanent residency permit, (b) severe illness or disability of the child, (c) severe illness or disability of the parent requiring inpatient and long-term psychiatric treatment, and (d) other intensive treatments or child protection procedures	Switzerland	Goals: (a) the increase of parental knowledge of early childhood development and the improvement of parental practices, (b) the early detection of developmental delays and health issues, (c) the prevention of child abuse and neglect, (d) the long-term increase in children's school readiness and success.	In Switzerland, the parent-counseling offices receive notification of newborns in the area and contact all families by standard or existing community-service infrastructure	At-risk families with new-born child, N=255	Mother	52.6%	53.15 (44.35) days	Primary	Selective (family)	PAT [Mixed], N=137, at least 69 sessions, monthly/yearly, ni, ~3 years, individual/group/dyad, face-to-face, community-based settings/home/specialised clinics, qualified parent educators, PAT is a parent-training program. Four program components frame the means by which intervention goals are to be achieved. (1) The core component of the program is home visits. Each home visit requires three areas to be addressed based on a curriculum: development-oriented parenting, parent-child interactions, and the well-being of the family. (2) Group connections take place once a month. These connections serve to promote the networking of parents and the provision of information on educational practices, parent-child interactions, and	NA	NA	ETAU [ETAU], N=118, ni, community-based settings/paediatric primary care/home, Switzerland has a high standard of universal care for families with new-borns. It includes home visits by midwives during the immediate postnatal period, parental and educational counselling, and regular medical check-ups.	CBCL (1.5-5), caregiver, intermediate, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														community services for families. (3) Screenings on general health development and on hearing and vision development take place at least once a year. (4) The last component is the support of the parents in networking in the community and the referral to other public institutions and community services, as needed. Bronfenbrenner's bioecological model(61)).				
27	Sheridan et al. (92)	Two-arm RCT Cluster (classroom/teacher level)	Only children who were 3 years of age and eligible for 24 months of Head Start program services upon program entry were invited by teachers to be involved	ni	US	Facilitate school readiness among disadvantaged preschool children	Research team contacted each interested parent	Disadvantaged (and enrolled in head start) children and their parents, N=214 (parents) with N=220 (children)	Primary caregivers (mothers, fathers, grandparents and other)	48.4%	43.06 (3.55) months	Primary	Selective (family)	Getting Ready [Dyad], N=110[2], 10 sessions, 5 per year, 60 mins, over 2 years, family/individual (parent-teacher), face-to-face, educational/school-based/home, Head Start teachers. Getting Ready is an ecological, child and parent-focused, strengths-based intervention. The strategies that comprise Getting Ready are intended to: strengthen relationships between the parent and their child, and between the parent and care educator. The purposes of the four relationship-building strategies are to establish the parent as a warm and sensitive adult who is responsive to their child's	NA	NA	Business as usual [TAU], N=110, 10 sessions, 5 per year, 60 mins, over 2 years, family/individual (parent-teacher), face-to-face, educational/school-based/home, Head Start teachers, Standard (i.e., business-as-usual) services included an average of five home visits each academic year, parent–teacher conferences twice each year, and monthly family socialization activities at the school and in the community. ni	SCBE-30, teacher, baseline, intermediate, post-intervention

[2] In Sheridan et al (2010), N=110 was assumed from the total number of enrolled children (N=220) and we decided to divide the number of children to both arms equivalently. Attrition was not of concern as the authors imputed up to the randomised number.

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														needs, solidify the attachment between parent and child, and create meaningful connections between the parent and educator, build competencies in parents and educators, enabling them to support and scaffold children's positive development and learning. Ecological theory(49), triadic strategies (McCollum & Yates, 1994), collaborative (i.e., conjoint) consultation models (Sheridan & Kratochwill, 2008; Sheridan, Kratochwill, & Bergan, 1996)				
28	Sierau et al. (93) Kliem et al. (94)	Two-arm RCT Individual	Inclusion criteria were economic risk factors (e.g., unemployment, over-indebtedness >5.000 €) and at least one social risk factor (e.g., poor education, experiences of violence, or neglect)	ni	Germany	It focused on improving maternal prenatal health, family functioning, parenting competencies, and economic self-sufficiency to enhance children's development and to reduce child abuse and neglect	Various disseminators (eg, gynecologists, youth welfare offices, or employment agencies)	High-risk pregnant women, N=755	Expectant woman and mother	ni	12-18 gestational weeks	Primary	Selective (family)	NFP [Home visits], N=394, 52 sessions, weekly/bi-weekly/monthly, 90 mins, ~2.5 years, individual/dyad, face-to-face, home/community-based settings, home visitors (midwives, social education workers, paediatric nurse), The ProKind program implemented the NFP core components. The German adaptation involves home visits conducted by social workers and state-licensed family midwives either alone (mainly family midwives) or in tandem (family midwife and social worker). Theories of human ecology (49,50), self-efficacy(31), and theories of human attachment (30)	NA	NA	ETAU [ETAU], N=361, ni, ni, ~2.5 years, individual, hospital-based, face-to-face, ni, Both groups had access to the regular support offered by the German welfare system and were informed about the latter. Furthermore, travel expenses to medical check-ups during as well as after pregnancy were covered as part of the panel maintenance.	CBCL (1.5-5), caregiver, post-intervention CATI, computer-assisted telephone interview: (CBCL 6/18), caregiver, long-term-follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
29	Oxford et al. (95)	Two-arm RCT Individual	Participants were eligible if they had received mental health treatment during pregnancy at one of the participating health centres, were conversant in English. or Spanish, had an infant under three months of age, had access to a telephone, were planning to remain in the study area until the child's first birthday, and had not already received PFR	ni	US	1) To improve parenting sensitivity, maternal confidence, and understanding of infant and toddler behaviour. 2) To decrease infant difficult behaviours at 6 and 12 months and mothers' reports of externalizing and internalizing behaviours and dysregulation at 12 months.	Mental Health Integration Program (MHIP)care managers and Maternity Support Services (MSS) social workers talked with women on the list by phone or at a clinic visit,	Caregiver-child dyads with previous mental health difficulties, N=252	Mother	47.65%	18.5 (0.5)	Primary	Selective (family)	PFR [Video-feedback], N=127, 10 sessions, weekly, 60-75 mins, over 10 weeks, dyad, face-to-face, home, mental health professionals, PFR is a theoretically driven, relationship-based intervention. PFR providers are trained to use five "consultation strategies" labelled Joining, Positive Feedback, Instructive Feedback, Reflective Questions and Comments, and Instruction with Handouts. Each session has specific goals but broad structure. A central part of the program is that in alternate weeks, part of the visit is dedicated to either recording a play session between caregiver and child or observing and reflecting on a video of such a session, for a total of five opportunities for video reflection. Theories of human attachment (30).	NA	NA	Information-only [Dummy] N=125, 2 sessions, ni, ni, ni, mother, phone and self-help materials, phone/home, ni, mailed a resource packet containing a listing of a variety of local resources, child development handouts, and parenting handouts. Packets were provided in the mother's desired language. The materials did not overlap with the content of PFR. To help minimize attrition, mothers in the control condition also received two check-in phone calls before the second research visit to see if their contact information had changed and to answer any questions about the study	ITSEA, caregiver, short-term follow-up
30	Spieker et al. (96)	Two-arm RCT Individual	In one US county infants between ages of 10 and 24 months who had experienced a court-ordered placement that resulted in a change in primary caregiver within the prior seven	Children were also assessed with new caregivers if they had experienced a placement change, but dyads with new caregivers	US	To improve security and engagement in primary relationships (child), improve sensitivity (caregiver)	Authorized worker within DSHS accessed DSHS records and identified potentially eligible infants	Caregivers of infants and toddlers in state dependency, N=210	Primary caregiver	43.8%	18.28 (4.73)	Primary	Selective (family)	PFR [Video-feedback], N=105, 10 sessions, weekly, 60-75 mins, over 10 weeks, dyad/individual, face-to-face, PRF interventionist with PRF trainers, home, PFR is a theoretically driven, relationship-based intervention. PFR providers	NA	NA	EES [TAU], N=105, 3 sessions, monthly, 90 mins, over 3 months, individual, face-to-face, home, EES provider, 90-minute session focusing on needs and signposting to other organisations	CBCL (1.5-5), caregiver, short-term follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			weeks. Eligible caregivers spoke English and could be foster parents, biological parents, or adult kin.	are not included in these analyses.										are trained to use five "consultation strategies" labelled Joining, Positive Feedback, Instructive Feedback, Reflective Questions and Comments, and Instruction with Handouts. Each session has specific goals but broad structure. A central part of the program is that in alternate weeks, part of the visit is dedicated to either recording a play session between caregiver and child or observing and reflecting on a video of such a session, for a total of five opportunities for video reflection. Theories of human attachment (30).			as appropriate for help. Some activities suggested for parents which might promote child growth and development.	
31	Breitenstein et al. (97)	Two-arm RCT Individual	Participants in the study were the parent or legal guardian (referred hereafter as parent) of a child aged 2-5 years. Parents had to speak and read English. We included all parents, including those with and without potential risk for children with behaviour problems, as ezParent provides universal strategies to develop effective and positive parenting skills	Non-English speakers	US	To develop effective and positive parenting skills	Paediatric primary care (well-child visit)	Parents of children aged 2-5, N=287	Mothers, Fathers, and Other (foster parent, grandmother, aunt)	49.45%	2.2 (1.1) years	Primary	Universal	ezParent (digital delivery of the evidence-based Chicago Parent Program) [Parenting course], N=144, 6 sessions (modules), ~ weekly/biweekly, 60 mins, over 12 weeks, individual/online/self-help, ni, na (self-help), The ezParent program is a digital delivery adaptation of the group based CPP and consists of 6 modules designed to promote learning of behavioural parent training skills. Each module includes didactic teaching via video narration, video vignettes of parents and children, questions regarding the vignettes and skills, and interactive activities.	NA	NA	Health-e Kids [Dummy], N=143, na, ~ weekly/biweekly, 6 modules, over 12 weeks, individual/online/self-help, ni, na (self-help), Health-e Kids does not include any behavioural parenting content or skill development and was developed to function as an enhanced usual care to control for technology use and allow full testing of the interaction effect. Health-e Kids includes information sheets, websites, and relevant	SDQ, caregiver, baseline, post-intervention, short-term follow-up (3- and 6- months post-intervention)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														Social Cognitive Theory (31) and Coercion Theory (27) and Theories of human attachment (30)			resources typically provided to parents at PPC practices during well-child visits for children aged 2-5 years. Topics include child development, common childhood illnesses, nutrition and fitness, health and safety, and vaccinations. Parents were instructed to complete a health topic of their choice every 1-2 weeks. (Psychoeducation)?	
32	Yagmur et al. (98)	Two-arm RCT Family	Second-generation Turkish mothers with a child between the age of 18 months and 3 years. Families were selected if their toddlers had a score above the 75th percentile on the Externalizing Problems scale of CBCL for pre-schoolers	Families were excluded in case of severe physical or mental health problems of mother or child	Netherlands (in Turkish community)	To improve parental sensitivity and discipline practices in Turkish immigrant families with toddlers at risk for the development of externalizing problems	Municipal records of several cities and towns in the western region of the Netherlands	Second-generation Turkish mothers with a child between the age of 18 months and 3 years, N=86	Mother	41%	30.83 (6.44) months	Primary	Selective (child)	VIPP-SD (VIPP-TM) [Video-feedback], N=44, 6 sessions, biweekly, 150 - 180 minutes (of which around 90 minutes should focus on the intervention, the rest of the time dedicated to social conversations about daily life topics), over 16 weeks, dyad, face-to-face, home, female interveners with a Turkish background (with VIPP-TM training), The VIPP-SD program is both standardized and individualized. Each intervention visit starts with filming parent–child interaction and continues with video feedback based on the recordings of the previous visit. VIPP-SD is home-based and short-term: the interventions are implemented	NA	NA	Phone/attention control [Dummy], N=42, 6 sessions, biweekly, 15-30 minutes, over 16 weeks, individual, phone, phone, female interveners with a Turkish background, In the six telephone calls, mothers were invited to talk about the development of their child (e.g., eating, sleeping, playing) in a semi-structured interview format. Control group mothers received no advice or information about child development in general or (the development of)	CBCL/1½-5, caregiver, baseline, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														in the home or childcare setting in a modest number of visits. In the first and second intervention session parents are encouraged to accurately observe and interpret their child's behavior on the recorded video fragments. Therefore, the intervenor uses the 'Speaking for the child' technique (see before) and kindly invites the parent to participate in this process. During the third and fourth session the video feedback also focuses on the second part of Ainsworth's definition and parents are supported to respond to their child's behavior, emotions and expressions in a sensitive way. For sensitive discipline, relevant themes are highlighted during the intervention sessions; Theories of human attachment(30), Social Learning Theory (31) and Coercion Theory (27).			problem behaviour in their child. Requests for advice or information were kept minimal using specific questions inviting mothers to talk extensively about their child. If mothers did ask for advice or information, it was suggested that they consult their general practitioner or well-baby clinic	
33	O'Farrelly et al. (99) O'Farrelly et al. (100)	Two-arm RCT Family	Families were included if the parent(s) or caregiver(s) were older than 18 years and provided written informed consent and the child was aged 12 to 36 months and scored in the top 20% for externalizing	Families were excluded if the child or parent had a sensory impairment, learning disability, or language limitation that precluded their participation; if a sibling was already	England	To promote Positive Parenting and Sensitive Discipline (VIPP-SD), in reducing behaviour problems in children aged 12 to 36 months.	Recruitment via 6 NHS trusts in the UK involved a screening stage followed by a trial stage. Recruitment to the screening stage was through face-	Caregivers with children (12-36 months) with high scores on behavioural problems, N=300	Primary caregiver	46%	23 (6.65) months	Primary	Selective (child)	VIPP-SD [Video-feedback], N=151, 6 sessions, fortnightly, 60-120 mins, over 3 months, dyad, face-to-face, home, trained health professionals, The VIPP-SD program is both standardized and individualized. Each intervention visit starts with filming parent–child interaction and continues with video feedback based on the	NA	NA	TAU [TAU], N=149, health visitor or GP, Participants in both groups continued to receive their usual care, which was minimal in most cases (there are no standard care pathways in the NHS for early-onset behaviour problems).	CBCL, SDQ, caregiver, baseline, short-term follow-up CBCL, SDQ, caregiver, teacher, medium-term

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			behaviours on the SDQ	participating in the study; or if the family was participating in another closely related research trial, receiving an individualized video-feedback intervention, and/or participating in active court proceedings			to-face or postal contacts							recordings of the previous visit. VIPP-SD is home-based and short-term: the interventions are implemented in the home or childcare setting in a modest number of visits. In the first and second intervention session parents are encouraged to accurately observe and interpret their child's behavior on the recorded video fragments. Therefore, the intervenor uses the 'Speaking for the child' technique (see before) and kindly invites the parent to participate in this process. During the third and fourth session the video feedback also focuses on the second part of Ainsworth's definition and parents are supported to respond to their child's behavior, emotions and expressions in a sensitive way. For sensitive discipline, relevant themes are highlighted during the intervention sessions; Theories of human attachment (30), Social Learning Theory (31) and Coercion Theory (27).			Some participants received support and advice from a health visitor or GP, referral to early intervention mental health services linked to a children's centre, or parenting advice and support sessions.	
34	Chang et al. (101)	Four-arm RCT Cluster	Attend 6–8-week postnatal clinic	Infants born preterm, multiple births, those aged $10 weeks, or those admitted to the special care nursery for .48 hours after birth	Caribbean (Jamaica, Antigua, and St Lucia)	To improve parents' knowledge, stimulation provided, and children's developmental levels.	Health centers when they attended 6-week to 8-postnatal clinics	Caregiver-child dyads, N=501	Mother	48.5%	1.67 (0.27) months	Primary	Universal	Psychosocial intervention, N=250, 5 sessions, every 3 months, 35 mins, over 15 months, group, face-to-face, maternal and child health centre, nurses assisted by community health workers (CHWs),			TAU, N=251, nurses assisted by community health workers (CHWs), usual care (not specified)	NA

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
				were excluded. Participants were excluded if they intended to use a different centre for child immunizations or if there was no consistent caregiver										The intervention comprised viewing of short films, followed by interactive discussion, and demonstration and practice of activities led by community health workers (CHWs) assigned to the clinic. Training workshops were conducted over 3 days and CHWs were provided with a manual that contained information on intervention content and methods.				
	Smith et al. (102)				Jamaica (and not those in the other Caribbean Islands)			Caregiver-child dyads, N=396						Health centre intervention [ETAU], N=146, ni, every 3 months, over 15 months, face-to-face, groups, Maternal and child health centre, ni, ni	Home visits [Home visits], N=50, 30 mins, fortnightly, over 12 months, face-to-face, mother-child pairs, home, The visits followed a structured curriculum including concepts such as place, shape and size, and language activities that encouraged mothers to chat with their children and to label objects and actions The CHWs demonstrated new play and language activities and supported the mother as she practiced them with her child. Mothers were encouraged to continue play activities between the visits and to integrate them in their daily routines.	Health centre + home visits [Home visits], N=50, every 3 months/fortnightly, over 15 months, face-to-face, groups/mother-child pirs, home/maternal and child health centre	TAU, N=150, ni	SDQ, caregiver, long-term follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
5	Simkiss et al. (103)	Two-arm RCT Family	Parents with children aged 2–4 years living in the catchment area of 'Flying Start' early years centres	Not previously attended an FLNP	UK (four deprived areas of South Wales)	To improve parenting and child and parental well-being in the short and medium term	Approached by Flying Start practitioners (not clear how)	Caregiver-child dyads, N=287	Mother	ni	2-4 years	Primary	Selective (family)	FLNP [Parenting course], N=143, 10 sessions, weekly, 120 mins, over 10 weeks, groups, face-to-face, community-based settings, FLNP facilitators: varied within and between each study site. FLNP is a structured, manualised parenting support program. 10, weekly, 2 h sessions for parent groups which aims to help parents understand and manage feelings and behaviour, improve relationships at home and in school, improve emotional health and well-being and develop the self-confidence and self-esteem which are essential for effective parenting and learning. 4 core principles of optimal parenting: empathy, age or stage-appropriate expectations, positive discipline and emotional health. The programme provides experiential learning using guided discussion and role play and a copy of the programme book, the 'Parenting Puzzle'. Cognitive-relational approach that incorporates some behavioural elements, Social Learning Theory (31)	NA	NA	Waitlist [Waitlist], N=143, Families randomised to the control arm of the trial were offered usual practice, including advice and other forms of support available in the locality during the trial period. Participants agreed at recruitment not to attend the FLNP until after the 9-month follow-up data collection period was complete if randomised to the control arm.	PrePACS, coder, baseline, short-term follow-up
36	Kohlhoff et al. (104)	Two-arm RCT Dyad	Participants were 66 mothers and their 14–24-month-old	Participants were excluded from the study if, in line	Australia	To increase parental use of positive parenting	Clinic patients	Caregiver-child dyad with child	Mother	39.29%	19.01 (2.36) months	Primary	Selective (child)	CDI [Dyad], N=34, 13-17 sessions, biweekly, 50-60 mins/30-45 mins, over 6-8	NA	NA	Waitlist [Waitlist], N=32	ASEBA CBCL/1½-5, caregiver,

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
	Kohlhoff et al. (105)		children, referred to a specialist community-based child behaviour treatment clinic located in Southwestern Sydney, Australia for treatment of disruptive behaviours such as persistent tantrums, aggression, and noncompliance. In all cases, the referral was made by a health professional (e.g., General Practitioner, Paediatrician, community-based Early Childhood Health Nurse) and was taken up voluntarily by the parent.	with exclusionary criteria at the clinic, the mother did not speak English or had an intellectual disability or psychiatric condition that would have prevented the dyad from participating in the program or completing treatment and/or assessment measures		skills and decrease the use of negative parenting behaviours		with early-onset behavioural issues, N=66						weeks, dyad, face-to-face/one-way mirror using "bug-in-the-ear" technology, specialised clinics, Therapist with at least some PCIT expertise, CDI phase of PCIT, it involves actively coaching parents to follow their infant's lead in play in an effort to decrease disruptive (e.g., hitting) and increase prosocial (e.g., gentle touch) behaviours; Coercion Theory (27) and Theories of human attachment (30)				baseline, post-intervention NA
37	Weitlauf et al. (106)	Two-arm RCT Dyad	Eligibility criteria included having a child (less than 36 months of age at consent) with a gold-standard ASD diagnosis and parental English fluency.	Exclusion criteria included severe child sensorimotor impairment.	US	To enhance parent functioning and reduce the severity of ASD symptom	Diagnostic clinic	Caregiver-child dyads with children with ASD diagnosis, N=63	Primary caregiver	18%	2.38 (1.05) years	Primary	Selective (child)	P-ESDM + MBSR [Ineligible], N=32, 18 sessions, weekly, 60 mins, over 18 weeks, individual/dyad, face-to-face, specialised clinics/home, P-ESDM therapists + MBSR therapists/parent led, P-ESDM is an evidence-based structured approach that teaches parents ESDM techniques such as gaining the child's attention and motivating them, promoting dyadic engagement and joint activity routines, enhancing	NA	NA	P-ESDM [Ineligible], N=31, 12 sessions, weekly, 60 mins, over 12 weeks, individual/dyad, face-to-face, specialised clinics, P-ESDM therapists/parent led, P-ESDM is an evidence-based structured approach that teaches parents ESDM techniques such as gaining the child's attention and motivating them,	CBCL/1½-5, caregiver, baseline, post-intervention, short-term follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														verbal and nonverbal communication, and incorporating play skills. MBSR: it was introduced as a skills-focused stress reduction program, rather than individual therapy. The clinic-based sessions covered topics such as: an introduction to mindfulness for managing stress, awareness of the present moment, and cultivating gratitude. Weekly handouts offered written and pictorial practice cues for the home. Ni			promoting dyadic engagement and joint activity routines, enhancing verbal and nonverbal communication, and incorporating play skills. Ni	
38	Rogers et al. (107)	Two-arm RCT Individual	We included children between 12 and 30 months at enrolment who met full criteria for ASD both by ADOST(108) cut-off scores and by two independent clinicians' clinical judgment, and whose parents agreed to a weekly home visit and clinic visit, and who met no exclusion characteristics.	We excluded children with: (1) any identifiable genetic condition associated with autism or intellectual disability (2) neurological disease or injury (e.g., epilepsy) (3) significant sensory or motor impairment (e.g., cerebral palsy), (4) birth weight <2500 g and/or gestational age <36 weeks, (5) prenatal exposure to neurotoxins (including alcohol, drugs), (6) current substance abuse,	US	To (1) test the effects of an enhanced version on parent and child learning, and (2) evaluate the sensitivity to change of proximal versus distal measures of child behaviour	Website announcements and fliers to community pediatric care and service sites from diagnostic clinics	Caregiver-child dyads with children with ASD diagnosis, N=45	Mother	28.9%	2.1 (0.4) years	Primary	Selective (child)	P-ESDM++ [Ineligible], N=24, 24 sessions, biweekly, 90 mins, over 12 weeks, family, face-to-face, specialised clinics/home, psychologists/ speech/language therapist/behaviour analysts/family therapist, P-ESDM is an evidence-based structured approach that teaches parents ESDM techniques such as gaining the child's attention and motivating them, promoting dyadic engagement and joint activity routines, enhancing verbal and nonverbal communication, and incorporating play skills. Ni	NA	NA	P-ESDM [Ineligible], N=21, 12 sessions, weekly, 90 mins, over 12 weeks, family, face-to-face, specialised clinics, psychologists/ speech/language therapist/behavior analysts/family therapist, P-ESDM is an evidence-based structured approach that teaches parents ESDM techniques such as gaining the child's attention and motivating them, promoting dyadic engagement and joint activity routines, enhancing verbal and nonverbal communication, and incorporating play skills. Ni	CBCL/1½-5, caregiver, baseline, post-intervention, short-term follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
				bipolar disorder, or psychosis in caretaking parent, (7) home located greater than a specified distance from the clinic, (8) English not read fluently and spoken in the home on a daily basis; (9) previous ESDM treatment or 8 h or more weekly of 1:1 autism treatment; (10) DQ below 35 and (11) not yet walking due to requirements of the autism assessment measure, the ADOST														
39	Lenze et al. (109)	Two-arm RCT Individual	Pregnant women between 12–30 weeks gestation, aged 18 and older, English speaking, and scoring ≥10 on the EPDS	Exclusion criteria were psychotic disorders, suicidal ideation to preclude safety of outpatient treatment, acute mania, substance abuse in the past 3 months (with the exception of marijuana), and medically high-risk pregnancy.	US	To maintain mother's treatment gains and enhance the mother-infant relationship (called IPT-Dyad)	Flyers posted in an urban OB-Gyn clinic, OB-Gyn clinic staff referral, and referrals from local community social service agencies	High-risk mothers with depressive symptoms and their child, N=42	Expectant woman/mother	ni	12–30 gestational weeks	Primary	Selective (family)	IPT-Dyad [Dyad], N=21, 19 sessions, weekly/depending on needs, ni, from pregnancy to 1 year pp, dyad/individual, face-to-face, hospital-based (outpatient)/specialised clinics, clinical psychologist/professional counsellors. Sessions were structured to have a dual focus: on the mother's IPT problem area and on the mother-infant dyad with the overall aim of creating a "virtuous cycle" between the two. During postpartum	NA	NA	ETAU [ETAU], N=21, 15 sessions, biweekly/monthly, ni, up to 9 months pp, individual, phone, phone, ni, During the postpartum phase of the study, participants were contacted bi-weekly for the first 3 months postpartum and then monthly up to 9 months postpartum to complete brief mood and anxiety symptom	ITSEA, caregiver, intermediate, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														sessions, the therapist continued to assist with developing effective coping strategies for interpersonal problems and strengthening social networks. The new mother-infant relationship was nurtured using the same key IPT principles with the goal to foster a sense of mastery over the new role of mothering and reduce maternal insecurity and isolation. Postpartum IPT sessions were designed to explore the developing mother-infant dyadic relationship in vivo. To bolster interpersonal communication skills between the mother-infant dyad, the therapist emphasised modelling and imitation and, when necessary, translated the infant's emotional expressions so that they were understandable to the mother. Therapists also focused on the mental representations of the mother and child to understand the ongoing influence of past relationship experiences on the present parent-child relationship. The postpartum phase of IPT-Dyad, also multicomponent, focuses on maintaining interpersonal functioning, infant emotional development theory.			questionnaires. Participants were given 15 diapers for each telephone questionnaire session completed. Mothers were encouraged to engage in mental health services as needed and were assisted with obtaining community providers.	

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														Theories of human attachment (30)				
40	Goodson et al. (110)	Two-arm RCT Family	To be eligible for CCDP a family had to (a) have a family income at or below the Federal poverty guidelines, (b) include a pregnant woman or a child under age one, and (c) be willing to participate in CCDP activities for five years if selected for the program group.	ni	US	To enhance child development and helping low-income families to achieve economic self-sufficiency	Prenatal clinics, hospitals, maternal or child health programs, or through door-to-door recruiting	Low-income caregiver-child dyads, N=4410	Mother	49.8%	<1 year of age (median 1 month)	Primary	Selective (family)	CCDP [Mixed], N=2205, 120 sessions, biweekly, 30-90 mins, over 5 years, family, face-to-face, home, CCDP case managers, CCDP case managers conducted biweekly 30- to 90-minute home visits to each family. Activities conducted during home visits included assessing family needs, preparing a family service plan, counselling parents, making referrals for services, and making a record of the services that the family had received since the previous visit. NI	NA	NA	TAU [TAU], N=2205, ni, ni, free to avail themselves of whatever social, health and educational services were available in their communities.	CBCL 2/3, CBCL 4/18, caregiver, intermediate (at 3 and 4 years of age), post-intervention
41	Booth-LaForce et al. (111)	Two-arm RCT Family	To be eligible for the study, families had to have at least one parent or guardian who (1) was at least 18 years old, (2) spoke English, (3) was the primary caregiver for an AI/AN child aged 10–30 months, (4) had telephone access, (5) was not in a treatment facility or shelter, (6) was not hospitalized or imprisoned, (7) was willing to have researchers come to their home, and (8) lived on or near the	ni	US (AI tribe on a reservation in the Northwest region)	To improve the quality of caregiver-child interaction between American Indian toddlers and their primary caregivers.	Tribal health clinic, but we also posted flyers in the community, publicized the study on Facebook, etc	American Indian families (i.e., primary caregiver and their toddler), N=34	Primary caregiver (32 out of 34 were mothers)	50%	17.91 (5.9)	Primary	Universal	PFR [Video-feedback], N=17, 10 sessions, weekly, 60 mins, over 14 weeks, dyad, face-to-face, home, native PFR provider, PFR is a theoretically driven, relationship-based intervention. PFR providers are trained to use five “consultation strategies” labelled Joining, Positive Feedback, Instructive Feedback, Reflective Questions and Comments, and Instruction with Handouts. Each session has specific goals but broad structure. A central part of the program is that in alternate weeks, part of the visit is dedicated to either recording a play session	NA	NA	Waitlist [Waitlist], N=17, NA	ITSEA, caregiver, baseline, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			reservation. If the household included multiple children in the target age range, we selected the child with whom the caregiver wished to work for the present study.											between caregiver and child or observing and reflecting on a video of such a session, for a total of five opportunities for video reflection. Theories of human attachment (30)				
42	Tomfohr-Madsen et al. (112)	Three-arm RCT Family	To meet at least one of seven risk factors identified in previous literature on the transition to parenthood: (1) parental divorce in family of origin; (2) father-to-mother violence in the family of origin; (3) not being currently married; (4) a previous marriage; (5) reporting that they were unsure they wanted to have a baby at this time; (6) mild-to-moderate violence in the relationship as indicated by endorsing one or more items assessing physical aggression or injury (e.g., pushing, slapping); and (7) mild-to-clinical levels of depressive symptoms, as	Couples were excluded if both partners were not between the ages of 18–65, if this was not the first child for both partners, if either partner reported severe interpersonal violence (e.g., punching or more severe items) in the relationship, if either partner was diagnosed with a psychotic or personality disorder, or if either partner was unable to speak English fluently	US	Focused on improving either relationship satisfaction or co-parenting	Number of sources in the community, including childbirth classes (47%), gynecology offices (26%), flyers (10%), word of mouth (10%), and offices	Heterosexual couples expecting their first child, N=180	Expectant Mother/Father	ni	25-32 gestational weeks	Primary	Selective (family)	Coparenting intervention [Coparenting], N=60 couples, 4 sessions, non-standard pattern (two sessions conducted before birth and two session conducted approximately 3.5 months after birth), 90 mins, ~6.5 months, couples, face-to-face, unclear, clinical psychologist, The intervention was designed to address the four components of co-parenting identified by Feinberg (2003): support/undermining, joint family management, division of labour and childrearing agreement. The model of the coparenting relationship presented here is drawn from several sources (113,114)	Relationship intervention [Dummy], N=60 couples, 4 sessions, non-standard pattern (two sessions conducted before birth and two session conducted approximately 3.5 months after birth), 90 mins, ~6.5 months, couples, face-to-face, unclear, clinical psychologist, The intervention was designed to address couples identified “themes” for their relationship. Focus was on current relationship difficulties and problematic communication around couple dynamic in the transition to parenthood. Postpartum depression, anxiety, and stress were discussed, but only as they related to the romantic relationship.	NA	Information-only control [Dummy], N=60 couples, 1 session, na, 90 mins, couples, face-to-face, unclear, clinical psychologist, The information session discussed topics associated with the transition to parenthood such as budgeting, breastfeeding, etc. The couple were able to choose topics that they were most interested in and discuss those in more depth. At the end of the session the couples were offered the option of taking home handouts and pamphlets about the aforementioned topics. Psychoeducation.	ITSEA, caregiver, short-term (8.5 months post-intervention) and medium-term follow-ups (14.5- and 21.5-months post-intervention)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			indicated by a score of 14 or greater on the Beck Depression Inventory II during pregnancy.												Consistent with the theory of change underlying integrative behavioural couple therapy IBCT(115).			
43	Doyle (116) Doyle (117) Doyle (118) Doyle (119) Doyle (120) Doyle (121) Doyle (122)	Two-arm RCT Individual	The inclusion criteria for the PFL Programme were based on geographical residence and pregnancy status and include both primiparous and non-primiparous women.	ni	Ireland	To improve levels of school readiness of young children living in several designated disadvantaged areas of North Dublin, by intervening during pregnancy and working with families until the children start school	Maternity hospital or community	Families (mainly pregnant women) in disadvantaged, low-SES community, N=233	Expectant woman/mother	ni	21.5 gestational weeks	Primary	Selective (family)	High PFL [Mixed], N=115, 130 sessions, weekly/fortnightly, 60/120/120 mins, over 5 years, individual/group/dyad, face-to-face/phone/self-help, community-based/home/phone, information officer/PFL mentor, The high treatment receives developmental toys, facilitated access to preschool, public health workshops, and have access to a support worker. Participants in the high treatment group also receive home visits from a trained mentor and group parent training using the Triple P Positive Parenting Programme Theories of human attachment (30), Ecological theory (49), and social-learning (31).	NA	NA	Low PFL [Dummy], N=118, depending on needs, 12 sessions (Stress Control and Healthy Food Made Easy Programme), weekly, 60/12 mins, individual/group, face-to-face/self-help, information officer/PFL mentor, The low treatment group receives developmental toys, facilitated access to preschool, public health workshops, and have access to a support worker.	NA NA NA NA CBCL/1½-5, caregiver, intermediate (24 months after birth) CBCL/1½-5, caregiver, intermediate (36 months after birth) CBCL/1½-5, caregiver, post-intervention (48 months post-partum)
44	Mejdoubi et al. (123)	Two-arm RCT Individual	5 criteria: < 26 years of age, low educational level (pre-vocational secondary education), first time pregnancy, maximum 28 weeks of gestation, and some understanding of the	ni	Netherlands	To teach women parenting skills, to enhance their self-efficacy to reduce risk factors of child maltreatment and to improve the utilization of	Formal settings, such as primary and secondary health care practices, and in informal settings, such	Disadvantaged women who were pregnant for the first time, N=460	Expectant woman/mother	ni	20 (6) gestational weeks	Primary	Selective (family)	Dutch NFP [Home visits], N=237, 50 sessions, ~biweekly, ni, ~over 2 years and 5 months, individual/couple/dyad, face-to-face/texting/telephone, home/phone, VoorZorg nurses, VoorZorg is the Dutch version of NFP. The VoorZorg nurses	NA	NA	TAU [TAU], N=223, 9-11 sessions, individual, face-to-face, ni, midwife/trained nurse/Youth Health Care Nurse, The usual care consists of maternal health care	CBCL/1½-5, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			Dutch language. Women who met all five criteria were assigned to the second stage of the selection procedure in which VoorZorg nurses interviewed women to assess whether they had at least one of nine additional risk factors (i.e., being single, a history or present situation of domestic violence, psychosocial symptoms, unwanted pregnancy, financial problems, housing difficulties, no employment and/or education, or alcohol and/or drug abuse).			social and community resources.	as community centers							use three manuals that were designed for pregnancy, infancy and toddlerhood and focus on six domains: health status of the mother, child's health and safety, personal development of the mother, the mother as a role model, relation of the mother with her partner, family and friends and use of institutions.) VoorZorg nurses offered health education and aimed to teach women parenting skills, to enhance their self-efficacy to reduce risk factors of child maltreatment and to improve the utilization of social and community resources. VoorZorg is based on three theories of human ecology: Bandura's Self Efficacy Theory (31), Bronfenbrenner's ecological model (49,50), Theories of human attachment (30).			during pregnancy. After birth, a maternity care helper visits the mother at home to take care of the mother, the newborn and the household, and advises the mother about taking care of her baby. Furthermore, every newborn is registered in a child health care organization (ambulatory well-baby clinic) to monitor the health and development of the child and to support parents in their new role.	
45	Velderman et al. (124) Velderman et al. (125)	Three-arm RCT Dyad	Mothers with first-born 4-month-old infants, first-time mothers with more than 8 but less than 14 years of formal education, mothers classified as insecure with the AAI were included in the study.	One mother-child dyad in the VIPP group was excluded from the analyses because of substantial delay in the child's mental development.	Netherlands	VIPP aimed at enhancing mothers' sensitive responsiveness. VIPP-R additionally aimed at affecting the mother's representation of attachment	Town hall records	Caregiver-child dyads, N=81	First time mother with insecure adult attachment	50%	6.83 (1.03) months	Primary	Selective (family)	VIPP with a Representational focus (VIPP-R) [Video-feedback], N=26, 5 sessions, weekly, 180 mins, over 3-4 weeks, dyad, face-to-face, home/specialised clinics, Same as VIPP + discussions group with additional discussions about their attachment experiences aiming at affecting the mother's representation of attachment; Theories of human attachment (30), Social Learning Theory	Video-Feedback Intervention to Promote Positive Parenting (VIPP) [Video-feedback], N=28, 5 sessions, weekly, 90 mins, over 3-4 weeks, dyad, face-to-face, home/specialised clinics, each intervention session started with videotaping standardised mother–child interactions to prevent filming mother–	NA	No intervention [TAU], N=27, 1 session, na dyad, home	Dutch CBCL/2-3, caregiver, medium-term follow-up (child was ~40 months) NA

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														(31) and Coercion Theory (27).	child interaction immediately after giving the video feedback. In between home visits, the interveners selected specific video fragments and prepared comments based on the themes of each specific intervention session. The intervener gave feedback on the video fragments of the previous session and provided information and tips with respect to the general themes of sensitivity and discipline; Theories of human attachment(30), Social Learning Theory (31) and Coercion Theory(27).			
46	Longhi et al. (126)	Two-arm RCT Individual	Women expecting their first baby AND Aged 19 or under OR aged between 20 to 25 and any of the following: 1) eligible for means-tested benefits (or someone they lived with and depended upon, such as a partner or parent, was eligible for means-tested benefits); 2) not entitled to employer maternity pay; 3) living in a postcode falling within the	• Expectant mothers with a psychotic illness • Expectant mothers with substance abuse disorders/chronic drug dependence • Expectant mothers with profound or severe learning disabilities • Expectant mothers who would require the use of an interpreter	UK	To help mothers' reflectiveness – or mentalising as a means of supporting child, parental and family outcomes for young parents living in disadvantage circumstances	Antenatal services of three large teaching hospitals	First-time young mothers, N=148	Expectant woman/mother	ni	Unborn-2 years	Primary	Selective (family)	MTB [Mixed], N=75, at least 90 sessions, weekly/fortnightly, ~20 mins, over 2 years and 3 months, individual, face-to-face/phone, home/phone, senior practitioners in nursing and therapeutic social work, MTB is an intense, preventative, relationship-based home-visiting parenting programme focused in promoting parental reflective functioning and combines practice elements from models of nurse home-visiting and mother–child psychotherapy. The practitioners work to	NA	NA	TAU [TAU], N=73, depending on needs, mixed (Hospital-based/specialised clinics/community-based settings/home/pediatric primary care/phone), any practitioner (e.g., GP, health visitor and community midwives), TAU comprised the standard care provided to the mothers by their local services, including GPs, health visitors and community midwives.	CBCL, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			highest quintile of social deprivation as defined by national government statistics or living in sheltered accommodation.	• Expectant parents with a life-threatening illness • Expectant parents whose baby is expected to be born with a life-threatening illness or profound disability • The expectant mother had been screened for participation and accepted in a Family Nurse Partnership Service										improve the mother's ability to reflect on her own, as well as on her child's, mental states, and also to be more reflective in interaction with her child. The model is designed to be flexible and responsive to the sometimes-complex needs of highly disadvantaged young parents. Reflective parenting and mentalisation (mentalization based approach) (127), Theories of human attachment (30).			The level of standard care varied according to the individual's needs and the area where they lived. TAU also included support from family support workers, social workers, mental health services, family support groups, and home-visiting services.	
47	Kalinauskiene et al. (128)	Two-arm RCT Dyad	1) Mothers and their 6-month-old firstborn infants; 2) Mothers who scored below the midpoint of 5 on Ainsworth' s rating scale for sensitivity were considered "insensitive", because their infants run the risk of insecure attachment formation; 3) Only mothers from intact families, who were primary caregivers to their infants, did not work until their children reached 12 months of age, and	Mothers and infants with serious health problems.	Lithuania	To reinforce mothers' sensitive responsiveness to their infants' signals focusing on different characteristics of mother-infant interactions	NI	Caregiver-child dyads, N=54	Mother low in sensitivity	40.45%	6.11 (0.7)	Primary	Selective (family)	VIPP [Video-feedback], N=26, 5 sessions + 1 booster, monthly, 90 mins, over 5 months, dyad, face-to-face, home, two psychologists with a MA degree in clinical psychology, each intervention session started with videotaping standardised mother – child interactions to prevent filming mother – child interaction immediately after giving the video feedback. In between home visits, the interveners selected specific video fragments and prepared comments based on the themes of each specific intervention session. The intervener gave feedback on the video	NA	NA	Phone/attention control [Dummy], N=28, 5 sessions, monthly, ni, over 5 months, individual, phone, phone, ni, In order to create a 'dummy' intervention control group mothers were contacted by phone monthly for five months and asked for information on their infants' development. No advice about sensitive parenting or attachment was given to the control group mothers during these conversations.	CBCL 1.1/2-5, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
			had at least high school education, were included in the intervention and control groups											fragments of the previous session and provided information and tips with respect to the general themes of sensitivity and discipline. Theories of human attachment (30), Social Learning Theory (31) and Coercion Theory (27).				
48	Sadler et al. (129) Ordway et al. (131) Slade et al. (132)	Two-arm RCT Cluster (prenatal care group)	English speaking; between 14 and 25 years of age; having a first child;	No active heroin or cocaine use; no DSM-IV psychotic disorder; and no major or terminal chronic condition in the mother (AIDS, cancer, etc).	US	Focus on the development and enhancement of maternal reflective functioning or mentalization.	Community Health Center (CHC)c	Caregiver-child dyads, N=139	Expectant woman/mother	48%	27th gestational week	Primary	Selective (family)	MTB [Mixed], N=72, 84 sessions, weekly/biweekly, ~60 mins, over 2 years and 3 months, group/individual/dyad, face-to-face, home/community-based, nurse/social worker, MTB is an intense, preventative, relationship-based home-visiting parenting programme focused in promoting parental reflective functioning and combines practice elements from models of nurse home-visiting and mother–child psychotherapy. The practitioners work to improve the mother's ability to reflect on her own, as well as on her child's, mental states, and also to be more reflective in interaction with her child. The model is designed to be flexible and responsive to the sometimes-complex needs of highly disadvantaged young parents. Reflective parenting and mentalisation (mentalization based approach (130)), Theories of human attachment (30)	NA	NA	ETAU [ETAU], N=67, group/individual/dyad, face-to-face/phone, ni, Control group participants received routine pre- and postnatal well-woman health visits, and well-baby healthcare visits as dictated by clinical guidelines and infant/child immunization schedules in place at the CHC. Control group families were sent monthly information sheets from Healthy Steps materials about child rearing and health and were sent birthday and holiday cards.	NA CBCL/1½-5, CTRF, CBCL/6-18 caregiver 1, caregiver 2/teacher, medium-tern and long-term follow-up NA

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
49	Hiscock et al. (133)	Three-arm RCT Cluster	All 8-month-old babies who attended or planned to attend their MCH service in the participating local government areas between August 2010 and December 2010.	We excluded children with a major medical condition and primary caregivers with insufficient English to complete surveys.	Australia	To prevent child behavioural problems	Well-child Maternal and Child Health (MCH) centers in 9 local government areas (LGAs)	Families of at-risk children, N=1353	Primary and secondary caregiver	48.8%	9.03 (1.03) months	Primary	Universal	FCU [Video-feedback], N=453, 2-6 sessions, ni, minimum 120 mins, ni, individual, face-to-face, home/child health clinic, parent consultant (trainee psychologist). The FCU is a brief, strength based, intervention based on motivational interviewing and modelled after the Drinker's Check-Up. It involves a comprehensive ecological assessment where parent-child interactions are video-recorded; a feedback session where assessment data are shared and discussed with parents with the aim of enhancing parent motivation to set and work on goals for their child and family. When these goals involve reducing coercive interactions and the parents indicate they are interested in follow-up treatment sessions, the clinician strategically begins the family management skills training component, integrating the relevant details from the assessment and feedback. Family management skills training includes a collective set of family management skills falling within three domains: positive behaviour support, healthy limit setting, and relationship building.	Toddlers Without Tears [Parenting course], N=444, 3 + 2-6 sessions, ni, 15/120 mins, ~9 months, group + dyad/individual, face-to-face, community-based, nurse and cofacilitated by a parenting expert. TWT is a universal short-term (3 sessions) parenting programme. It targets key modifiable parenting risk factors for childhood behavioural problems: unreasonable expectations, harsh parenting, and lack of nurturing parenting. Theories of human attachment (30) and Social Learning Theory (31).	NA	TAU [TAU], N=456, 10 sessions, ni, 5-10 mins, over 5 years, individual, face-to-face, MCH nurse, usual healthcare from their MCH nurse, which may include some advice on early behaviour but does not incorporate a structured prevention programme to promote young children's behavioural development.	CBCL, caregiver, short-term (child aged 2 years) and medium-term follow-ups (child aged 3 and 4.5 years)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														Ecological theory(49), and Social Learning Theory(31).				
50	Maselko et al. (134)	Two-arm RCT Cluster	Eligible participants were women (aged ≥18 years) in their 3rd trimester and registered with their LHWs. Women who screened positive for depression (i.e., had a PHQ-9 score ≥10) were eligible for enrolment into the trial and follow-up as part of the Bachpan cohort	Women who needed immediate medical or psychiatric inpatient care were excluded from the study.	Pakistan	To improve maternal wellbeing but also childcare and development by encouraging mother–infant interaction and play.	Pregnant woman's residence or that of their LHW (Lady Health Workers)	Caregiver-child dyads, N=572	Expectant woman/mother with high depressive symptoms	ni	30th gestational week	Primary	Selective (family)	THPP+ [Parenting course], N=284, 32 sessions, fortnightly/monthly/every 2 months, ~50 mins, individual/group, face-to-face, community-based settings, trained lay peers, The key features of this psychosocial intervention, delivered by non-specialists, were peer-support, behavioural activation, and problem solving in a culturally sensitive, non-medicalised format, and developmental activities for children up to the 36th month; cognitive behaviour therapy.	NA	NA	ETAU [ETAU], N=288, ni, ni, individual/group, face-to-face, ni, ni, Enhanced usual care consisted of informing participants about their depression status and ways to seek help for it, informing their respective LHWs about each woman's depression status at enrolment, training all the 11 primary care facility-based physicians in the subdistrict on the mental health Gap Action.	SDQ, caregiver, post-intervention
51	Feinberg et al. (135) Damon et al. (137)	Two-arm RCT Couples	Heterosexual couples who were living together and expecting their first child and required to be at least 18 years of age	Severe parent or infant medical problems (e.g., severe congenital defect, poor maternal health), developmental disorders (e.g., autism, Down syndrome), or multiple births	US	Focusing on coparental conflict resolution and problem solving, communication, and mutual support strategies	Childbirth education programs and OB/GYN clinics located in or near one of five hospitals in three northeastern and one southwestern state	Expectant heterosexual couples, N=399	Expectant Mother/Father	ni	22.8th (5.5) gestational weeks	Primary	Universal	FF [Coparenting], N=221, 9 sessions, weekly, 120-180 mins, over 9 weeks, groups, face-to-face, community-based settings, team of male-female facilitators, FF is a manualised intervention, with didactic material, exercises, and behavioural rehearsal included in the curriculum for each session. FF focuses on emotional self-management, conflict management, problem solving, communication, and mutual support strategies that foster positive joint parenting of an infant.	NA	NA	Information-only [Dummy], N=178, ni, mailed written material, online, na, Families assigned to the control group received mailed written materials on selecting high-quality childcare and the stages of child development.	NA CBCL/1½-5, caregiver 1 and 2, medium-term follow-up

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														Ecological model of coparenting (136).				
52	Grantham-McGregor et al. (138)	Four-arms RCT Cluster (Village)	Children were identified through pre-baseline household censuses and were deemed eligible if they were singletons, aged 7 to 16 months by the beginning of the intervention, and had no obvious disability.	Obvious disability	India	To improve child health and development by improving parental practices and parent-child interactions.	ni	Caregiver-child dyads, N=1449	Mother	49.5%	12 (2.67) months	Primary	Universal	Psychosocial intervention (Group) [Home visits], N=363, 96 sessions, weekly, 130 mins (90 mins + 40 mins), over 2 years, group, face-to-face, community-based, facilitators from local communities, Home visiting and group sessions were both focused on psychosocial stimulation and included some nutritional education content. Facilitators showed mothers how to play and interact with and respond to their children in ways likely to promote development. Mothers were given the play materials to use at home and then exchanged weekly. The core of the program was supporting mothers to promote their children's development. This was done by using a structured curriculum of play and other developmental activities that the home visitor followed every week when she visited the target children and their primary caregivers. Mothers were encouraged to improve the quality of interactions with their children and use every day routine activities to teach them new words and concepts. Based on the Reach Up and Learn model.	Psychosocial intervention (Individual) [Home visits], N=369, 96 sessions, weekly, 100 mins (60 + 40 mins), over 2 years, individual, face-to-face, home, facilitators from local communities, Description (same as arm 1), Based on the Reach Up and Learn model	Nutritional education [Dummy], N=361, 96 sessions, weekly, 40 mins, over 2 years, individual, face-to-face, home, facilitators from local communities, The nutritional education focused on improving the quality of children's diets and basic hygienic practices in households through games, stories, and cooking demonstrations. The curriculum was designed as non–text-heavy simple information booklets ways	TAU [TAU], N=356, A basic HNSL service was provided by Pratham district coordinators. The service consisted of a one-off one-day visit (over the course of the 2 years of the project) of 1 district coordinator to each village, where she mobilized child caregivers and village officials and discussed the availability and importance of public services (other than our intervention activities) available in the community, such as growth monitoring and food supplementation provided by Anganwadi workers.	SDQ, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
53	Liu et al. (139)	Two-arm RCT Family	Families needed to (1) be eligible to receive EHS services (EHS targets low-income (i.e., below the federal poverty line, FPL, or receiving public assistance)), (2) have children aged between 4 and 36 months old, and (3) be fluent in English or Spanish.	(1) children not presenting developmental delay and (2) no regular use of medications that interfere with cortisol assays	US	To improve caregivers' self-efficacy and reducing children's behavioural problems.	Early Head Start (EHS) programs in the Denver metropolitan area	High-risk families, N=138	Mother and Father (predominantly mothers)	41.8%	23.15 (9.94) months	Primary	Selective (family)	FIND [Video-feedback], N=88, 10 sessions, weekly, 10 weeks (+ 3 years of EHS), 45 mins, dyad, face-to-face, home/community-based settings, trained therapists, FIND is a brief, flexible, and strength-based video feedback intervention program. FIND uses video coaching to strengthen developmentally supportive "serve and return" interactions. intervention is rooted in 1) microsocial interaction research at the Oregon Social Learning Center 2) Marte Meo video coaching intervention 3) Attachment research that underscore the importance of reciprocal interactions and attachment-based interventions. Theories of human attachment (30).	NA	NA	EHS [Parenting course], N=50, ni, ni, over 3 years, individual, face-to-face, mixed, ni, Families received standard services from EHS programs with no additional support or intervention provided. The critical elements of this model include (1) assessment of family needs, issues, challenges, strengths, and resources; (2) development of a positive partnership between the family support worker and client; (3) collaborative problem solving to devise solutions to family challenges; (4) the provision of support, mentoring, and advice to assist client families to mobilize their strengths and resources; and (5) involvement with the family throughout the child's preschool years. Social Learning Theory (31).	CBCL/1½-5, composite scores (CBCL & BITSEA), caregiver, baseline, post-intervention
54	Kaminski et al. (140)	Two-arm RCT (Individual)	Study eligibility criteria were that mothers had to be at	Mothers were excluded if they (1) were	US (two sites UCLA/UM)	To improve child health and development	Women, Infants and Children	Caregiver-child dyads, N=606	Low-income expectant woman and	50.23%	ni	Primary	Selective (family)	Legacy for Children UCLA [Mixed], N=361, 101 sessions, weekly, 90 mins, over 3 years	NA	NA	TAU UCLA [Mixed], N=245,	SDQ, caregiver, intermediate/post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
	Perou et al. (141) Barry et al. (142)		least 18 years of age, live within the catchment area, be comfortable speaking English, intend to raise their child to speak primarily English, have received at least some prenatal care, and have income below 20% of the poverty level (operationalized by receipt of Medi-Cal/Medicaid or food stamps, or Temporary Assistance for Needy Families eligibility)	expecting a multiple birth or (2) had existing substance abuse or mental health problems.		among low-income families.	clinics, prenatal clinics		low-income mother					and 2 months, group/individual, face-to-face, community-based settings/home, intervention specialists, The UCLA approach was built around three principles: 1) intervene when mothers are uncertain and motivated to learn needed skills; 2) training in parenting behavioural skills is effective; and 3) time-limited interventions help prevent participants' burn out and promote learning. The purpose of the mother-child sessions was to support the development of positive, supportive relationships between each mother and her child, by practicing new skills, observing how other mothers interacted with their child, and by the group leader modelling interactive behaviours and providing guidance if needed. For the mother-only sessions, participants also engaged in what was called FUN Club (Family Unity Network Club). FUN club was designed to provide mothers with additional unstructured time to socialize and to plan and do crafts or other activities together, to support their sense of community. In addition to the parent group sessions, the intervention design included two other components: (1)			Families in this "usual care" comparison group were not prevented from utilizing any service that would otherwise be available to them, even if the service was similar to the services received in the intervention arm of the study.	NA BASC-2, caregiver, long-term (4 years post-intervention for Miami site and 6 years post-intervention for LA site)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														periodic one-on-one visits to the home; and (2) community-building events and activities. Ni				
55	Attanasio et al. (143) Andrew et al. (144)	Four-arm RCT Cluster	Study participants were children aged 12–24 months from FeA beneficiary families living in these towns. Nationally, the poorest 20% of households are eligible for FeA, but this fraction is substantially higher in our study area. We chose towns with between 2,000 and 42,000 inhabitants where FeA had been active since it began in 2002 from 3 central regions of Colombia, Towns were selected based on similarities in cultures and customs and in terms of safety.	As in the initial evaluation, we excluded 1 child with a baseline Bayley-III cognitive score less than 3 SD below the mean of the external norms, due to potential disability.	Colombia	Aimed at promoting Colombian children's development through increasing the PS they experienced in their home environment.	Door to door house listing	Caregiver-child dyads, N=1440	Low-income mother	49.5%	18.08 (3.82)	Primary	Selective (family)	Psychosocial-stimulation program [Home visits], N=360, 78 sessions, weekly, 60 mins, over 18 months, dyad, face-to-face, home, home visitors (female community mother leaders). The psychosocial stimulation program was based on the Jamaican home visiting model. Home visitors demonstrated play activities using low cost or homemade toys. The aims of the visits were to improve the quality of maternal-child interactions and to assist mothers to participate in developmentally appropriate learning activities, many centred on daily routines. Throughout the play activities, mothers are encouraged to provide contingent positive reinforcement to children for progress toward the learning goals (praise) and to follow the child's interest. Based on the Reach Up and Learn model. Theories of human attachment (30) and Social Learning Theory (31)	Psychosocial-stimulation program + nutrition/supplementation [Home visits], N=360, 114 (78 + 36) sessions, weekly/fortnightly, 60 mins, over 18 months, dyad/individual, face-to-face/material support, home, home visitors (female community mother leaders), Combination of arm 1 and 3. Based on the Reach Up and Learn model	Nutritional education [Dummy], 36 sessions, N=360, fortnightly, ni, over 18 months, individual, material support, home, home visitors (female community mother leaders), The micronutrient supplementation consisted of Sprinkles encapsulated micronutrients in powder form—developed to treat childhood anaemia.	No treatment, N=360	NA SDQ, caregiver, medium-term
56	Leung et al. (4)	Two-arm RCT Family	(i) the target child should be attending nursery school, (ii) the target child should be between the age of	Children with developmental disabilities were excluded.	China (Hong Kong)	To (i) equip parents with the skills and knowledge to promote child	E-mail to all eligible schools	Caregiver-child dyads, N=164	Primary caregiver (mother, father and other)	47.9%	2.51 (0.47) years	Primary	Selective (family)	HOPE-20 [Parenting course], N=105, 20 sessions, weekly, 120 mins, over 20 weeks, group, face-to-face,	NA	NA	Waitlist [Waitlist], N=59		SDQ, caregiver, short-term

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *		Primary outcome scales, reporters, and time-points
			2 years to 2 years 11 months at the commencement of the study, and (iii) the participating parent should be residing in Hong Kong with the target child. All local preschools with nursery class provisions registered with the Social Welfare Department/Education Bureau were eligible to participate.			learning and to manage child behavior, (ii) to reduce parental stress, and (iii) to increase parent social support.								educational/school-based, trained social workers, HOPE-20 is a structured program, and the package included a facilitator's manual detailing the content of every session, with accompanying PowerPoint slides for lecture to parents, parent notes, and homework activities for parents. In each session, role play was used to help parents master the homework skills. Parents had to spend 5 minutes each day between sessions to do homework practice with their children. Each session consisted of (i) review of the previous session and homework, (ii) mini lecture on the topic to be covered, (iii) explanation and demonstration of the homework for the coming week by the facilitator, and (iv) role play by participating parents to practice the homework, with feedback by the facilitator. The children were not present during the group sessions. Parents could bring their spouses where possible though the same parent from each family who completed the pre-intervention measures would complete the post-intervention measures in the study. Each session began with a review of the previous session and homework, followed by a					

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *		Primary outcome scales, reporters, and time-points
														mini-lecture on the topic to be covered, then explanation and demonstration of the homework for the coming week by the facilitator, and finally, role play by participating parents to practice the homework, with feedback by the facilitator. Social Learning Theory (31) and the theories of Piaget and Vygotsky.					
57	Leung et al. (145)	Two-arm RCT (Parent-child dyad)	(i) children should be 2 years old at the commencement of the program, (ii) the families should be from disadvantaged backgrounds (e.g., income below median household income, new immigrant parents, single parents, and on social welfare benefits), and (iii) children and parents should normally reside in Hong Kong.	Children with diagnosed developmental disabilities were excluded.	China (Hong Kong)	To (i) enhance child learning, (ii) enhance child psychosocial development, and (iii) equip parents with the skills and knowledge to promote the cognitive and psychosocial development of their children.	Four social services centers	Caregiver-child dyads, N=149	Disadvantaged caregivers (mother, father and other)	48.3%	2.29 (0.37) years	Primary	Selective (family)	PACE [Mixed], N=76, 40 sessions, biweekly. 120 mins, over 20 weeks, group, face-to-face, social service centres, registered social worker. The activities covered areas such as preschool concepts, reading, self-care, and fine and gross motor skills. In the second hour, the social workers conducted parent training for the parents on strategies to enhance child learning, increase positive behaviour, and to manage undesirable behaviour. There was a mini lecture, followed by explanation and role play of homework. The parents had to engage in homework activities with the children each day between sessions, to practice the strategies taught during the session. Parents were supplied with homework activity sheets for each day, and parent notes summarizing the major themes	NA	NA	Waitlist [Waitlist], N=73		SDQ, caregiver, post-intervention
	Leung et al. (5)																		SDQ, caregiver, medium-term

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														covered in the parent training sessions. A program manual and PowerPoint slides were used by the facilitators. The PACE program took reference from evidence-based parent training programs and early intervention programs such as Triple P (146), PCIT (147) and HIPPY (148) as well as locally developed programs such as HOPE (149) and Healthy Start Home Visit Program (149). Social Learning Theory (31).				
58	Stams et al. (88)	Study 2: Three-arms RCT. Family	Study 2 (all adoptive): adoptive families without biological children	Families without adopted children	Netherlands	To enhance maternal sensitive responsiveness, with the goal of promoting secure infant–mother attachment relationships and child competence	Dutch adoption agencies	Adoptive caregiver and child, N=130	Mother	52.4%	6 months, 6-9	Primary	Selective (family)	book + video group [Video-feedback], N=30, 3 sessions, 2 at 6 months and 1 at 9 months, over 3 months, ni, mother-child dyad, face-to-face, self-help (book), home, female intervenors with a master's degree in social sciences. Intervention description provided under ID 24.	Book only [Dummy], N=30, 2 sessions, 1 at 6 months and 1 at 9 months, over 3 months, mother-child dyad, self-help (book), home, written information which focused on sensitive parenting. The parents in the intervention group received a Dutch booklet titled 'The First Year of Life' (Juffer, Metrnan & Andoetoe, 1986), focused on information about sensitive and responsive parenting in daily life situations. Furthermore, to attune this information to adoptive parents, the booklet discussed several adoption themes, such as dealing with the racially	NA	No intervention [TAU], N=30, NA	CBCL, TRF, CCQ, caregiver/teacher, long-term follow-up (child is 7 years old)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
															different appearance of the child, the recognition of developmental delays, and the role of the child's temperament; psychoeducation/ Theories of human attachment(30)			
59	Kaminski et al. (140)	Two-arm RCT (Individual)	Study eligibility criteria were that mothers had to be at least 18 years of age, live within the catchment area, be comfortable speaking English, intend to raise their child to speak primarily English, have received at least some prenatal care, and have income below 20% of the poverty level (operationalized by receipt of Medi-Cal/Medicaid or food stamps, or Temporary Assistance for Needy Families eligibility)	Mothers were excluded if they (1) were expecting a multiple birth or (2) had existing substance abuse or mental health problems.	US (UM site)	To improve child health and development among low-income families.	Women, Infants and Children clinics, prenatal clinics	Caregiver-child dyads, N=606	Low-income expectant woman	50.23%	ni	Primary	Selective (family)	Legacy for Children UM [Mixed], N=361, 250 sessions, weekly, 150 mins, over 4 years and 9 months, group/individual, face-to-face, community-based settings/home, intervention specialists. The UM approach was built around "reality-based parenting." Each 90-minute parent groups session comprised three segments facilitated by a group leader with professional training in early childhood development: (1) a "Building Sense of Community" (BSC); (2) a "Main Session Topic" (MST) portion, in which a parenting topic was presented in a hands-on, interactive manner; and (3) "Parent child Together Time" (PCTT) in years 1 to 4 and "Creative Learning Activities for Time Together" (CLATT) in	NA	NA	TAU UM [TAU], N=245, Families in this "usual care" comparison group were not prevented from utilizing any service that would otherwise be available to them, even if the service was similar to the services received in the intervention arm of the study.	SDQ, caregiver, intermediate/post-intervention
	Perou et al. (141)																	NA
	Barry et al. (142)																	BASC-2, caregiver, long-term (4 years post-intervention for Miami site and 6 years post-intervention for LA site)

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														year 5. The PCTT portion of the parent group session was one-on-one time for the group leader to support and coach mothers during mother-child interaction activities. Ni				
60	Bywater (150)	Two-arm RCT (Individual)	Parents with a child <= 8 weeks; Parents were eligible for the IY-I or IY-T programs if they were obtained 'mildly depressed' or higher scores on the PHQ-9, or if their child scored in the 'monitoring zone or above' on the ASQ:SE-2 (suggesting potential social-emotional issues) at follow-up 1 or 2.	Parents were excluded if they were enrolled on another group-based program or had a child with obvious/diagnosed organic child developmental difficulties	UK	To enhance child social-emotional wellbeing at 20 months of age	Community settings across four local authorities in England; Parents could also self-refer and invite co-parents to participate	Caregiver-child dyads, N=341	Parents with a child <= 8 weeks	49%	6 (2.1) weeks	Primary	Universal	E-SEE Steps [Parenting course], N=285, at least 12 sessions, weekly, 120 mins, over 9-12 weeks, dyad/group/self-help, face-to-face/self-help, community-based/self-help, Early Years Children's Services and/or Public Health Nursing staff, trained by accredited IY mentors. All parents were randomised to Incredible Years Baby Book (IY-B) post randomisation (child 2 months old), then some parents are offered the 10 weeks Incredible Years Infant (IT0I) group program. Finally, some parents are offered the 12-week Incredible Years Toddler (IY-T) group program. The IY-B was posted to all intervention parents to increase awareness of their babies' socioemotional needs. The IY-I and IY-T targeted group sessions were delivered weekly in collaborative two-hour sessions which include video clips of real-life situations and group	NA	NA	TAU [TAU], N=56, the control group/arm received services as usual (SAU).	SDQ, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework	Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														discussions, plus exercises to practice at home. Social Learning and attachment theory.				
61	MacKinnon (151)	Two-arm RCT (Individual)	Inclusion criteria were being an adult (aged 18 years or older) mother or other primary caregiver who identify as a woman (e.g., grandmother, aunt) of a child aged 18–36 months old, experiencing moderate to severe depression (Patient Health Questionnaire (PHQ-9) score ≥ 10), living in Alberta or Manitoba, comfortable understanding, speaking and reading English, and available for weekly telehealth sessions (via Zoom).	Potential participants were excluded if they had significant suicidal ideation, a history of attempted suicide in the past year or self-harm in the past 6 months.	Canada	To improve maternal symptoms of depression and promote a positive parent-child relationship.	Online advertisements and electronic mailing lists or public announcements	Caregiver-child dyads, N=65	Female primary caregiver experiencing moderate to severe depression with a child aged 18-36 months	38.5%	26.02 (6.38)	Primary	Selective (family)	The BEAM program [Parenting course], N=33, 10 sessions, weekly, ~75 mins, over 10 weeks, group/individual, online, app based, a mental health therapist and a parent coach. The BEAM program is a novel 10-week App-based digital intervention that combines maternal mental health treatment and parenting skills training with clinician-facilitated peer support and social connection. There are five main components of the program: (1) weekly expert-led psychoeducation videos (5–15 min) using (a) adapted Unified Protocol therapy modules, which target maternal mental health symptomology, and (b) emotion-focused parenting skills modules, which were designed to correspond to the Unified Protocol modules and promote maternal responsivity to children's emotions ; (2) a monitored closed group online forum with reflection activities and open discussion to encourage social support; (3) weekly 1-h structured telehealth group sessions (via Zoom for Healthcare) to review program content and	NA	NA	TAU [TAU], N=32, the TAU group was encouraged to access parenting and mental health resources available in their community.	CBCL, caregiver, post-intervention

ID	Authors	Study design (unit of randomisation)	Inclusion criteria	Exclusion criteria	Country	Aim of the study	Recruitment setting	Target sample, total randomised	Caregiver role	Females child (%)	Child age, mean (SD) or range in months	Prevention (primary, secondary, tertiary)	Prevention (Population)	Arm 1 Main Intervention (Name [group name for NMA], N randomised, sessions, frequency, length, format (group/individual & face-to-face/online, etc), setting, therapist), brief description and theoretical framework		Arm 2*	Arm 3*	Main Control[a] *	Primary outcome scales, reporters, and time-points
														connect with other participants; (4) participants are encouraged to complete weekly activities (i.e., homework) based on the mental health and parenting modules, such as worksheets, reflections, practice exercises and strategies; and (5) participants are also asked to complete a brief weekly survey measuring symptoms of depression and parenting stress. Evidence-informed psychoeducation.					
62	Blower (152)	Two-arm RCT (Individual)	Inclusion criteria were: the participant had the main parental responsibility for a child aged ≤8 weeks at initial engagement; was willing to participate in the research; was willing to be randomized and, if allocated to intervention, able and willing to receive IY services offered; and was fully competent to give consent.	Exclusion criteria applied if the child had obvious or diagnosed organic or developmental difficulties or the parent was enrolled on another group parent program at recruitment.	UK (England)	To enhance social emotional wellbeing in infancy	Via health visitors and family support workers (self-referral was also possible)	Caregiver-child dyads, N=205	Parents with a child <= 8 weeks	56%	6 (2.1) weeks	Primary	Universal	E-SEE Steps [Parenting course], N= 152, at least 12 sessions, weekly, 120 mins, over 9-12 weeks, dyad/group/self-help, face-to-face/self-help, community-based/self-help. (Same intervention as in Bywater – see above)	NA	NA	TAU [TAU], N=53, the control group/arm received services as usual (SAU).	SDQ, caregiver 1, post-intervention	

[a]: as used in the analyses.

Intervention names: IBP: Infant Behavior Program; CDI: Child-Directed Interaction; TAU: Treatment as Usual; NFP: Nurse Family Partnership; FF: Family Foundations; CHCC: Child Health Center care; MIP: Mother-infant psychoanalytic treatment; HFD: Healthy Families Durham; MISC: Mediational intervention for sensitizing caregivers; CPP: Chicago Parent Program; Child FIRST: Child and Family Interagency, Resource, Support, and Training, ES: Early Start; VIPP: Video-feedback Intervention to promote Positive Parenting; VIP: Video Interaction Project; IY: Incredible Years; HFAK: Healthy Families Alaska; FCU: Family Check-Up; WIC: Women, Infants, and Children Nutrition Program as usual; HS: Healthy Steps; PP: PrePare; PAT: Parents as Teachers; PFR: Promoting First Relationships; EES: Early Education Support; ETAU: Enhanced Treatment as Usual; VIPP-SD: Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline; VIPP-TM: VIPP-Turkish Minorities; P-ESDM: Early Start Denver Model; MBSR: mindfulness-based stress reduction; P-ESDM++: Enhanced Early Start Denver Model; FLNP: Family Links Nurturing Programme; IPT-Dyad: Interpersonal Psychotherapy for the Mother-Infant Dyad; CCDP: Comprehensive Child Development Program; PFL+: High treatment Preparing for Life; PFL: Low treatment Preparing for Life; MTB: Minding the Baby; THPP+: Thinking Healthy Program Peer Delivered Plus; HOPE-20: Hands-On Parent Empowerment-20; PACE: Parent and Child Enhancement; FIND: Filming Interactions to Nurture Development; EHS: Early Head Start; BEAM: Building Emotional Awareness and Mental Health; E-SEE: Enhancing Social-Emotional Outcomes in Early Years.

Measures (outcomes and or baseline screening): Brief Infant-Toddler Social and Emotional Assessment (BITSEA), Infant Toddler Social and Emotional Assessment (ITSEA); Parent–Infant Relationship Global Assessment Scale (PIR-GAS), Swedish Parenthood Stress Questionnaire (SPSQ), Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR, 2000), Beck Depression Inventory (BDI), Parent Risk Questionnaire [PRQ], Kempe's Family Stress Checklist (FSC), Autism Diagnostic Observation Schedule-Toddler Module (ADOST), The Caregiver-Teacher Report Form (C-TRF); Strengths and Difficulties Questionnaire (SDQ); Child Behaviour Checklist 6-18 (PCBC), Total Child Behaviour Checklist (TCBC), California Child Q-set (CCQ), Social Competence and Behaviour Evaluation short form (SCBE-30), Parent Account of Child Symptoms (PrePACS), Behaviour Assessment System for Children, second edition (BASC-2).

We used “ni” when there was no information provided in the reports of the study, and “NA” when the category was not applicable.

1.5.2 Grouping of interventions for analyses

STable 6. Grouping of interventions for analyses based on consensus among IC, JE, and RMP.

Interventions	**Control conditions**				**Parenting interventions** **Each parenting intervention group had a defining feature**						
Intervention classes	**TAU/Nothing**	**ETAU**	**Waitlist**	**Dummy control (placebo)**	**Home visiting**	**Parenting course**	**Dyadic relational focus**	**Video feedback**	**Mixed/multi-interventions programme**	**Coparenting**	**Ineligible for the network**
Coding	1	2	3	4	5	6	7	8	9	10	11
Definition	Treatment as usual or no treatment are a control intervention where participants can access usual services indicated for the specific problem and population. TAU usually does not include structured therapy.	Enhanced treatment as usual refers to a control intervention where participants are referred to usual services with some additional treatment. We included here also TAU of countries (such as Switzerland) where the TAU include	Waitlist is a control condition in which the participants do not receive any active treatment during the study, but they can receive the targeted intervention once the study is complete	Dummy control is a control intervention where participants receive a treatment without the hypothesised active ingredients of the target intervention	"Home visiting" included a professional with mental health expertise visiting the family at home to provide broad support to the caregiver, and there was not a primary focus of direct live coaching on the parent-child relationship Nurse/equivalent led, home visiting (key is the professional led) – they usually target a range of maternal and child outcomes. Home visiting is a parenting intervention where home-visiting is the main component (as it allows ecological evaluation, support in direct life and relationship). To be noted that while nursing models include attention to relationship building, this is not the primary focus, and most of the professionals are not extensively trained in mental health. Mainly shaped after the "Old's model" (see https://www.nursefamilypartnership.org/about/)	"Parenting course": the focus of the intervention was on teaching caregivers different parenting skills, often in groups, and without the child being present. . The focus is on attending parent courses or using a parent community as setting to learn and practice new parenting skills and on receiving some sort of education on parenting.	"Relational" aimed primarily at improving the parent-child relationship as a mechanism of change, both parent and child were the target of the in-vivo intervention Improving the dyadic relationship represents the final mechanisms of change of the treatment. Other components may (and will) be present (such as home visiting) but the parent-child relationship should be considered the	"Video-feedback": video recordings of interaction taken and fed back to the family. Video-feedback is the main component of the intervention (this obviously can include home-visiting, family support network and focus on the dyadic relationship…). However, video-feedback is considered the main driving component so we should not include interventions where video-feedback constituted only a small part of it.	"Mixed": included more than one of the above and often a staged/person-centred approach "Mixed/multi-interventions programme" refers to complex parenting intervention without clear main intervention/component. Multisystemic intervention with a variety of "packages" across a multitude of setting.	"Coparenting": the coparental relationship is the focus of the intervention.	Parenting interventions excluded by network a priori due to clinical/methodological heterogeneity (e.g., they have specific components targeted for autism).

Interventions	**Control conditions**				**Parenting interventions** **Each parenting intervention group had a defining feature**						
Intervention classes	**TAU/Nothing**	**ETAU**	**Waitlist**	**Dummy control (placebo)**	**Home visiting**	**Parenting course**	**Dyadic relational focus**	**Video feedback**	**Mixed/multi-interventions programme**	**Coparenting**	**Ineligible for the network**
		structured therapies and intense treatments.	d. As being on the waiting list may discourage them from availing services, (153) we classified Waitlist separately from TAU even though participants may still access services.				main ingredient/component of the intervention. The child was involved in the session and the parent had the opportunity to "practice" with the child.				
Specific treatments	TAU (Prenatal transportation +	ETAU, Optimized standard care,	Waitlist	Low PFL, Relationship intervention, Nutritional education,	Nurse home visit, NFP, Dutch NFP, Psychosocial intervention (Individual), psychosocial stimulation program, psychosocial intervention (group),	FLNP peer-delivered, THPP+, EHS, HOPE-20, TWT, IY BASIC,	IBP, Getting Ready, CDI, IPT-Dyad, Child FIRST, MISC	Modified "you make the difference", VIPP-SD, VIP, FCU, book + video, PFR, VIPP-SD (VIPP-	HFD, relief nursery, Early Start, PAT, CCDP, High PFL, MTB, Legacy for	FF, Coparenting intervention	P-ESDM, P-ESDM + MBSR, P-ESDM + + MIP

Interventions	**Control conditions**				**Parenting interventions** **Each parenting intervention group had a defining feature**						
Intervention classes	**TAU/Nothing**	**ETAU**	**Waitlist**	**Dummy control (placebo)**	**Home visiting**	**Parenting course**	**Dyadic relational focus**	**Video feedback**	**Mixed/multi-interventions programme**	**Coparenting**	**Ineligible for the network**
	prenatal care appointments), TAU, Usual care, TAU UCLA, TAU UM, EES, Respite care, No treatment, Prenatal transportation + prenatal care appointments	CHCC, Prenatal transportation + developmental screenings and referrals, developmental screening + referrals, WIC, Health centre intervention		home visits for Breast-feeding/nutrition education, Yearly Check-Up, Health, and nutrition, book-only, information-only, phone/attention control, Health-e Kids	Family Spirit, HS, Healthy Steps and PrePare, Psychosocial stimulation program + nutrition/supplementation, Paraprofessional home visitation, Home visits, Health centre + home visits	CPP, ezParent, E-SEE Steps, BEAM		TM), VIPP-R, VIPP, FIND, Dutch KOPP	Children, PACE, HFAK		
Theories	NA	NA	NA	Psychoeducation; Integrative behavioural couple therapy IBCT (154)	Theories of human ecology (49,50); Social Cognitive Theory (155); Theories of human attachment (30); Coercion Theory (27); Reach Up and Learn model	Cognitive-relational approach that incorporates some behavioural elements;Social Learning	Coercion Theory (27); Theories of human attachment (30); Social Cognitive	Theories of human attachment (30); Coercion Theory (27); Social Learning Theory (31)	Theories of human attachment (30); Theories of human ecology (49); Tenets	Conceptual theory of coparenting;Theories of human ecology (49)	Bion's concept of the "container/container" (44);Winnicott's concept of "holding" (45)

Interventions	**Control conditions**				**Parenting interventions** **Each parenting intervention group had a defining feature**						
Intervention classes	**TAU/Nothing**	**ETAU**	**Waitlist**	**Dummy control (placebo)**	**Home visiting**	**Parenting course**	**Dyadic relational focus**	**Video feedback**	**Mixed/multi-interventions programme**	**Coparenting**	**Ineligible for the network**
						Theory (31);Cognitive behaviour therapy;Theories of Piaget and Vygotsky;Theories of human attachment (30);Evidence-informed psychoeducation	Theory (155); Theories of human ecology (49,50);Triadic strategies (156);Collaborative (i.e., conjoint) consultation models (157);Strategies of standard IPT (158);The relationship-based infant– and child–parent psychotherapy (71,72); Feuerstein’	1) Psychoeducation;micro social interaction research at the Oregon Social Learning Centre; Marte Meo video coaching intervention	of trauma-informed care; Social Learning Theory (31); Bronfenbrenner’s bioecological model (61); Reflective parenting and mentalisation (mentalization based approach) (127)		

Interventions	**Control conditions**				**Parenting interventions** **Each parenting intervention group had a defining feature**						
Intervention classes	**TAU/Nothing**	**ETAU**	**Waitlist**	**Dummy control (placebo)**	**Home visiting**	**Parenting course**	**Dyadic relational focus**	**Video feedback**	**Mixed/multi-interventions programme**	**Coparenting**	**Ineligible for the network**
							s theory of cognitive modifiability (64).				

1.6 Fine grained components and text examples found in the included studies

In STable 7, we provide text examples that the researchers involved in the extraction used to identify the intervention components. The same extracted text may have been used to code different components if they covered more than one intervention component.

STable 7. Fine grained components with text examples from included studies.

Detailed parenting components	Examples
1. **Positive reinforcement techniques**	• "Increasing do skills (i.e., pride: praising the infant, reflecting the infant's speech, imitating the infant's play, describing the infant's behavior, and expressing enjoyment in the play) ...parents were encouraged to use non-verbal praise (e.g., clapping) along with verbal praise to enhance reinforcement for appropriate behavior" • "Strategies to encourage desirable behaviors included praise and rewards". • "Imitating the infant's sounds or facial expressions elicited the child's attention and excitement. The mother was encouraged to do the same and thereby experience the reinforcement of her infant's positive response"
2. **Praise**	• "The parent-training component involves discussions of 17 core child-management strategies designed to help parents promote their children's competence and development (e.g., praise for good behavior, creating engaging activities, and imparting incidental teaching)" • "Coaching aims to increase parental use of positive parenting skills ("do skills"), namely labeled praise, reflections of appropriate child verbalizations, imitating appropriate child behaviors, describing the

	child's play and enjoying the interaction (represented with the acronym, p-r-i-d-e" • "Increase parents' positive communication skills, such as the use of praise and positive feedback to children". • "Parents were taught specific skills based on social learning theory, including use of praise and rewards to increase positive behavior"
3. **Rewards**	• "Parents were taught specific skills based on social learning theory, including use of praise and rewards to increase positive behavior". • "...using praise, encouragement and rewards..." • "Strategies to encourage desirable behaviors included praise and rewards"
4. **Parent-child play**	• "Enhancing interest in playing with their children in ways that promote emotional and cognitive development". • "Play sessions with the mother and child to encourage mother-child interaction". • "Nine modules, each ~3 minutes in duration, covered the following topics: love, responding and comforting, talking to children, praise, using bath time to play and learn, looking at books, simple toys to make, drawing and games, and puzzles". • "Mother's ability to promote her child's development through play". • "Intervention home visit 1: mother's reading to the child was replaced by mother and child playing together with a tea set; home visit 3: mother's singing songs with their toddlers was replaced by fantasy play; home visit 4: playing together with hand puppets was replaced by playing together with clay". • "Demonstrated play activities using low cost or homemade toys, picture books, and form boards". • "Family is given a developmentally stimulating, age-appropriate learning material (e.g., toy or book). These learning materials were picked to be gender neutral and culturally sensitive and promote

	verbal engagement. Examples include a mirror at 2 months, a puppet at 6 months, and a telephone at 9 months"
5. **Follow child's lead**	• "Encouraging parents to follow child's interest in interactions". • "Mothers are encouraged to provide contingent positive reinforcement to children for progress toward the learning goals (praise) and to follow the child's interest". • "Inhibitory control: caregivers are instructed to wait for children's cues ("serve"), allowing children to take the lead". • "Encouraging parents to follow child's interest in interactions"
6. **Disciplinary communication**	• "Decreasing parental use of negative parenting skills ("don't" skills), namely criticisms, questions, and commands". • "Parents are provided with tips on how to respond sensitively in situations in which discipline is required to replace potentially negative and coercive discipline strategies". • "Reduce the use of criticism and unnecessary commands". • "Giving clear and specific commands to increase compliance, and use of planned to ignore and time out to deal with undesirable behavior"
7. **Discipline and behaviour management**	• "Four visits each have their own themes regarding sensitivity and discipline; parents are provided with tips on how to respond sensitively in situations in which discipline is required to replace potentially negative and coercive discipline strategies. Sensitive discipline includes the adoption of positive and child-oriented discipline methods, such as the use of explanations for rules about child behavior, also referred to as induction, and empathy for the child when he or she is frustrated or angry". • "Improve parents' limit-setting skills by replacing smacking and other negative physical behaviours with non-violent discipline techniques and by promoting positive strategies such as ignoring the child's behaviour".

	• "Enhancing sensitive discipline strategies. Addressed the importance of distraction and induction as noncoercive responses to difficult child behavior or potentially conflict-evoking situations (discipline). Teaching parents to use positive reinforcement by praising the child for positive behavior and ignoring negative attention seeking (discipline)"
8. **Direct and positive commands**	• "Using your authority wisely: say what you mean and mean what you say". • "Behaviour management: effective commands"
9. **Rule setting**	• "Healthy limit setting" • "How consistency in limit setting would be implemented" • "Setting of rules and boundaries" "Timely discussions and partnering/problem solving about common parenting challenges such as safety, feeding, discipline, and limit setting". • "Using consistent and adequate discipline strategies and clear limit setting (discipline)"
10. **Monitoring**	• "Positive parenting lessons were focused on reducing behaviors (i.e., poor monitoring...)" • "The fourth element, back and forth interaction, occurs when the caregiver notices the child's serve, responds, and waits for the child's next serve"
11. **Time-out**	• "Parents get detailed information about a "sensitive time out" as a way of dealing with difficult child's behaviour". • "Rather than smacking and yelling, parents were encouraged to identify "low priority" problem behaviours (for which strategies such as planned ignoring, distraction, and logical choices were discussed) and "high priority" behaviours (for which "quiet time" was discussed)"

	• "Giving clear and specific commands to increase compliance, and use of planned ignoring and time out to deal with undesirable behavior". • "Third session's discipline theme concerned the use of a sensitive time-out to deescalate temper tantrums"
12. **Ignore**	• "Using planned ignoring and time out to deal with misbehavior". • "Model 4: threats, consequences, ignore and distract." • "Rather than smacking and yelling, parents were encouraged to identify "low priority" problem behaviours (for which strategies such as planned ignoring, distraction, and logical choices were discussed)" • "Strategies to manage problematic behaviors included ignoring, logical consequences, distraction, quiet time, and anxiety desensitization"
13. **Natural/logical consequences**	• "Using antecedent-behavior-consequence relationships ("abc's of learning")" • "Allowing for logical consequences". • "Management of child behaviour: giving effective instructions, family rules and logical consequences". • "Model 4: threats, consequences, ignore and distract." • "Rather than smacking and yelling, parents were encouraged to identify "low priority" problem behaviours (for which strategies such as planned ignoring, distraction, and logical choices were discussed)"
14. **Intervening on challenging behaviours**	• "Intervening with challenging behaviors (assessing through discussions and observations; identifying young children's feelings and unmet social emotional needs; identifying possible causes for challenging behaviors; reframing the behaviors for caregiver; developing individualized intervention plans)" • "Deal with the baby's crying, sleeping, and eating problems". • "Reduce aggressive and oppositional behavior in early and middle childhood by increasing positive parenting".

15. **Psychoeducation**	• "Mothers received four handouts discussing normal child behavioural, motor, and social development". • "Education regarding parenting" • "During home visits, family support workers provide information on: 1) infant care, 2) child growth and development., 3) nutrition, 4) prenatal care, 5) community resources, 6) child care, 7) support groups, 8) parenting skills, 9) support groups" • ".... parent treatment manual, an early start for your child with autism, which was given to all parents.... An early start for your child with autism, which was given to all parents; materials provided in multiple modalities according to parent preferences (e.g., paper materials as requested including sketches, worksheets, cue cards and a website containing video examples, narrated and print condensed text for each topic)" • "Parenting education for mothers (or another adult if the mother was not the child's primary caregiver)" • "Showing on the video recordings the difference between attachment and exploration behaviours". • "Participants discussed information focusing on infant development. Topics related to the transition to parenthood (e.g., budgeting for a child, the benefits of breastfeeding, coping with common infant health concerns etc.), from which the couple picked a few topics they wanted to discuss more in-depth."
16. **Explaining child developmental stages**	• "Discussion of the child's development, addressing parental expectations and concerns about the child and the child's present and anticipated developmental progress. This discussion is facilitated using age-specific parenting pamphlets developed for the project in English and in Spanish". • "Promoted parental knowledge of child development".

	• "The program covered essential elements in child psychosocial and cognitive development"
17. **Explaining parent-child interactions**	• "Improvement of mother-child relationship - before birth. Strategies include thinking fondly and preparing for the baby's arrival and monitoring one's mood." • "The provision of information on educational practices, parent-child interactions."
18. **Child development knowledge and care**	• "Improve care of their children". • "Increasing caregivers' knowledge about the upbringing and development of young children, general child development themes in order to keep in contact with the mothers and provide them with a similar amount of attention as the mothers in the intervention group". • "Health-e kids includes information sheets, websites, and relevant resources typically provided to parents at ppc practices during well-child visits for children aged 2-5 years. Topics include child development, common childhood illnesses, nutrition and fitness, health and safety, and vaccinations". • "Pamphlets about childcare and community resources" • "Education regarding parenting, infant nutrition, development, physical health, and other services in conjunction with infant medical checkups, education regarding parenting, infant nutrition, development, physical health, and other services in conjunction with infant medical checkups"
19. **Increasing parent understanding of child**	• "Reducing inappropriate expectations of child development. Mothers received four handouts (discussed in 15 min) on what to expect in terms of normal child behaviour over the ensuing 12 months (ie, high mobility and tantrums)" • "Increased awareness of child abuse and neglect issue" • "Parenting strategies include an understanding of temperament". • "Parent treatment manual, an early start for your child with autism"

20. **Parent involvement (including parent education programs and workshops)**	• "Group-based parent education and support services complement and synergize with individual parent education and support activities within the home visiting program". • "Pays attention to psychological issues of parenthood and offers parental groups". • "Involvement with the family throughout the child's preschool years" • "Promoting parent engagement". • "Promote maternal responsibility, investment & devotion of time and energy"
21. **Partner support**	• "Enhance coparenting relationships". • "The father, when present, was encouraged to support his wife in her interaction with the child". • "Encouraging stable, positive partnerships: reduction of partner violence and partner conflict and improvements in partner relationships"
22. **Parent coaching**	• "Parent practiced the technique in an activity with the child while the therapist provided coaching, encouragement, and feedback on technique used". • "Helping parents provide more competent caregiving". • "Model and foster a range of parenting skills". • "Training parents/caregivers in practical skills for enriching the intellectual, social, and emotional developmental milieu of their hiv-affected children". • "Parent training for the parents on strategies to enhance child learning, increase positive behavior, and to manage undesirable behavior". • "Coaching aims to increase parental use of positive parenting skills ("do skills")"
23. **Proactive parenting techniques**	• "Parenting skills helping mothers acquire and develop adequate parenting skills".

	• "Help parents build on pre-existing parenting skills". • "Parents learn a range of strategies for using their behavior, words, affect, and attention for guiding and selectively reinforcing children's behavior". • "Coaching aims to increase parental use of positive parenting skills ("do skills")" "Ways to manage unwanted child behaviour". • "Promote parenting skills"
24. **Skills for parents themselves**	• "Family management includes a collective set of parenting skills, commonly referred to as parent management training (pmt)" • "In the phone calls, the mothers were supported with practical parenting advice". • "Improvements in parenting skills: parental sensitivity, positive parenting, and nonpunitive parenting" • "The health practitioner focused mostly on parental care and health education" "Parenting education for mothers (or another adult if the mother was not the child's primary caregiver)" • "Use five "consultation strategies" labeled joining, positive feedback, instructive feedback, reflective questions and comments, and instruction with handouts. These strategies create trust and rapport between the pfr provider and the caregiver"
25. **Education (Learning/developmental skills)**	• "Breast-feeding/ nutrition education program". • "Therapeutic early childhood program facilitates learning experiences and healing emotional support for these children". • "Parental and educational counselling" • "Enhancing parent–child relationship, learning basic preschool concepts, enhancing language skills". • "Offered health education and aimed to teach women parenting skills to enhance their self-efficacy".

	• "The developmentally sequenced legacy curricula cover themes such as discipline, attachment, developmental milestones, parenting stress management, establishment of goals and dreams for their children and early literacy". • "Active participation in learning"
26. **Promoting secure attachment**	• "The developmentally sequenced legacy curricula cover themes such as discipline, attachment, developmental milestones..." • "Helping parents build strong, healthy attachment relationships with their children". • "...attachment, exploration, importance of sharing emotions" • "Baby's contact seeking, playing, exploration and crying behavior and possible reactions to it, understanding baby's feelings, sensitive responsiveness to the baby's signals, and sharing emotions". • "Caregiving that promotes secure infant attachment and emotion regulation (individualized attention; empathy, labeling and organizing feelings and emotions; and predictability)" • "The therapist used a combination of behavioral strategies to enhance maternal sensitivity and responsiveness, positive touch, and mutual regulation, with attachment-based exploration of the maternal-infant relationship" • "Promote sensitive caregiving and secure mother–child attachment"
27. **Promoting emotion regulation**	• "Helping direct and shape the child's behavior in constructive ways with a goal towards self-regulation". • "Anxiety desensitisation"
28. **Positive interactions with child**	• "Parenting strategies such as enhancement of parent–child relationship, increasing positive behavior" "Supporting and encouraging, which happens when the caregiver responds to the child's serve by offering help and comfort". • "Support positive parent–child interaction via role modeling and reinforcement of positive interactions and parental empathy".

	• "Strategies for enhancing parent–child relationship; positive child management skills were taught to enhance positive parent–child interaction". • "Promote parent-child interaction by facilitating parents' understanding of their infants' and toddlers' communicative signals". • "Improve maternal child interactions" • "Encouraging mother–infant interaction and play". • "Strengthen the parent-child relationship by increasing the emotional availability of parents"
29. **Responsiveness, sensitivity, and nurturing**	• "Promote parent-child interaction by facilitating parents' understanding of their infants' and toddlers' communicative signals". • "Promoting parental warmth and sensitivity". • "Promote responsive, sensitive mother-child relationships". • "Intervention efforts in the video group were directed at stimulating and reinforcing maternal sensitivity". • "Teaching and encouraging parents to provide positive, responsive caregiving, reflecting on their parenting style and observable strengths"
30. **Emotional communication**	• "To bolster interpersonal communication skills between the mother-infant dyad, the therapist emphasized modeling and imitation". • "Sharing emotions and parents show and teach their child empathy". • "The mother was encouraged to expand her range of appropriate communicative behaviours, using the videotapes to show her when to respond to the baby's eye contact, movements, or sounds". • "Communicating emotional excitement, appreciation, and affection with the learning experience". • "The importance of sharing both positive and negative emotions" • "Naming, refers to the caregiver verbally labelling what the child is seeing, doing, or feeling"

31. **Relationship enhancement techniques**	• "Support positive parent–child interaction via role modelling and reinforcement of positive interactions and parental empathy". • "Strategies for enhancing parent–child relationship". • "Integrates triadic (parent–child–professional and collaborative (family–school) strategies to promote parent–child and parent–professional partnerships". • "The pctt portion of the parent group session was one-on-one time for the group leader to support and coach mothers during mother-child interaction activities.; primary objective of pctt was to support the development of positive, supportive relationships between each mother and her child"
32. **Thinking for the baby/Mind-mindedness**	• "The mother was provided with personal video-feedback from the recording of the previous visit. She was supported whenever she showed moments of sensitive maternal behavior. Mother's empathy and understanding of her baby's feelings and intentions were encouraged by "speaking for the baby" (carter, osofsky, & hann, 1991). Corrective messages to the mother's behavior were given in the third and later sessions of the intervention". • "Video feedback used in reflective ways helps caregivers appropriately understand the mind of the developing child" "Through "speaking for the child", the parent is invited and encourage to verbalise the child's behaviour on the video-recording". • "Improve the mother's ability to reflect on her own, as well as on her child's, mental states". • "Encourage the caregiver to reflect on their own and their child's underlying needs and behaviors"
33. **Promoting children's social skills or prosocial behaviour**	• "Encouraging (emotional support of the child to foster a sense of security and competence); and regulating (helping direct and shape the child's behavior in constructive ways with a goal towards self-regulation)"

	• "Promote the physical, cognitive, social, and emotional development of infants and toddlers through safe and developmentally enriching caregiving". • "...learning though play..." • "Enhancing interest in playing with their children in ways that promote emotional and cognitive development". • "Respond to their children in ways likely to promote development, facilitated the conducting of certain socioemotional activities such as sharing and taking turns". • "Facilitated the conducting of certain socioemotional activities such as sharing and taking turns"
34. **Promoting children's cognitive or academic skills**	• "Enhancing interest in playing with their children in ways that promote emotional and cognitive development". • "Promoting speech development". • "Enhance child health and development, increase school readiness; the hfd program incorporates the evidence-informed and widely used parents as teachers curriculum, a parent education tool designed to promote all aspects of child development". • "Showing of films depicting mothers doing behaviours to promote child development, show mothers ways to promote development. The visits followed a structured curriculum including concepts such as place, shape and size, and language activities that encouraged mothers to chat with their children and to label objects and actions, show mother ways to promote her child's development and during the hci: showing of films depicting mothers doing behaviours to promote child development. The visits followed a structured curriculum including concepts such as place, shape and size, and language activities that encouraged mothers to chat with their children and to label objects and actions"

35. **Promoting growth and development**	• "Supporting child's health and development". • "Promote the physical, cognitive, social, and emotional development of infants and toddlers through safe and developmentally enriching caregiving" "Improving the quality of children's diets and basic hygienic practices in households through games, stories, and cooking demonstrations". • "The developmentally sequenced legacy curricula cover themes such as discipline, attachment, developmental milestones, parenting stress management, establishment of goals and dreams for their children and early literacy"
36. **Children's emotion regulation skills**	• "Support mothers as guides to their children's behavioural and emotional regulation" • "Use skills that will help the child to emotionally regulate". • "Fostering children's self-regulation". • "Emotional support of the child to foster a sense of security and competence". • "Anxiety desensitisation"
37. **Children's problem-solving skills**	• "Providing re-direction and developing problem-solving and empathy skills"
38. **Children's social skills**	• "(B) using sensory social routines"
39. **Skills parents teach their children;**	• "Most of the misc training of caregivers is devoted to helping parents become aware and develop practical strategies for focusing, exciting, expanding, encouraging, and regulating the child as learning opportunities arise in the course of natural everyday caregiver/child interactions". • "Parents were also taught the strategies to teach these basic concepts and skills such as paired reading, matching, and counting activities"
40. **Promoting healthy identity formation**	• "Caregiving that promotes healthy identity formation in the toddler years (managing feelings of distress; offering rituals and routines;

	encouraging exploration, independence, and cooperation through appropriate choices and limits)"
41. **Attention focus**	• "Facilitating joint attention, increasing child's attention and motivation". • "Gaining the child's attention and directing them to the learning experience in an engaging manner". • "Ways parents can engage their child to sustain their attention". • "The first element is sharing the child's focus, in which the caregiver notices and shows interest in objects, activities, or experiences that the child is focused on"
42. **Building parent reflective capacity**	• "Watching videos of themselves during daily interactions with their child may also encourage parents to reflect on their own parenting behaviours". • "Preventative home-visiting parenting programme focused on promoting parental reflective functioning". • "Encourage the caregiver to reflect on their own and their child's underlying needs and behaviors". • "Reflective video-feedback" • "Encourage parents' developing reflective capacity". • "Enhance maternal reflectivity and empathy with the child's experience". • "Both practitioners used the concept of reflective function as an overarching approach to working with families: encouraging thinking about the baby, about the mothers' experience of being a parent, her relationships and her past"
43. **Parental emotion regulation skills**	• "Building parents own reflective capacity by exploring the parent's own sense of self, emotion regulation and supports that influence caregiving". • "The therapist also actively assists the parent to regulate their own emotions".

	• "FF focuses on emotional self-management, conflict management, problem solving, communication, and mutual support strategies that foster positive joint parenting of an infant". • "Improve parents' stress management, mental health, and parenting quality". • "Improve parents' problem-solving skills and anger management"
44. **Parental problem-solving skills**	• "Improve parents' problem-solving skills and anger management". • "Stress management, problem-solving skills, and skill maintenance"
45. **Empathy**	• "Empathy for the child when he or she is frustrated or angry". • "Promoting empathy for the child". • "Support positive parent–child interaction via role modeling and reinforcement of positive interactions and parental empathy". • "Importance of positive reinforcement and empathy" • "Maternal empathy, understanding the baby's feelings and desires, is encouraged by speaking "from the baby's point of view""
46. **Connecting to resources**	• "The ees provider helped to connect the family to resources such as early head start, early intervention, housing, mental health services, and child care". • "Transportation to recommended prenatal and well-baby clinic visits, pamphlets about childcare and community resources, and referrals to local services" • "Referral to early intervention mental health services, or parenting support" • "The couples in the no-treatment control group were mailed a brochure about selecting quality child care". • "They linked women and their family members with other needed health and human services" • "Family support workers provide information on community resources and support groups".

	• "Facilitate referrals to community supports (e.g., for housing difficulties)"
47. **Health care services (including medical, dental, mental health and nutrition services)**	• "Women, infants, and children nutrition program wic services (e.g., food vouchers) wic services (e.g., food vouchers)" • "Childbirth education material is now incorporated into the prenatal ff classes to reduce the need for parents to enroll in more than one prenatal preparation program". • "Comprised the standard care provided to the mothers by their local services, including gps, health visitors and community midwives". • "Developmental screening and referral services for their children at 6, 12, 15, 21, and 24 months old" • "Some participants received support and advice from a health visitor or gp, referral to early intervention mental health services linked to a children's centre, or parenting advice and support sessions". • "Ensuring prenatal check-ups. Improvement of mother's personal health. Strategies include monitoring mood, diet, rest and relaxation. Ensuring postnatal check-ups"
48. **Social services (including community outreach, referrals, family needs assessments etc)**	• "Social worker is available to help mothers negotiate issues involving the legal and court systems". • "Screening referrals to other health, welfare, and social services" • "Families assigned to the control group were referred to other community services". • "System of care component. ''system of care'' refers to a comprehensive, individualized, well-integrated, community-based approach to providing services and supports driven by the strengths, needs, and culture of the family". • "Support of the parents in networking in the community and the referral to other public institutions and community services, as needed".

	• "Healthy steps is a package of services comprising enhanced well child visits, home visits, telephone support for developmental and behavioral concerns, child development and family health check-ups, written informational materials for parents (including a child health and development record), parent groups, and links to community resources"
49. **Video-feedback**	• "Three sessions of video feedback, personal, individualized feedback on the mother's interactive behavior" • "The interveners select specific video fragments and prepare feedback based on the specific theme to be discussed in the next intervention session". • "The second step is a comprehensive assessment that includes videotaping parent – child interactions. The third step is a structured feedback session that is based on the results of the assessment and that emphasizes parenting and family strengths yet draws attention to possible areas of change". • "Strength-based video feedback intervention.... Video feedback programs typically highlight naturally occurring and developmentally supportive parenting behaviors". • "Personalized video feedback" • "Enhancing primary caregiver sensitivity and positive and disciplinary strategies using video-feedback (gives feedback using the video recorded in the previous home visit)"
50. **Live coaching**	• "CDI-T utilizes direct live coaching from a trained therapist during parent–child play sessions, from behind a one-way mirror using "bug-in-the-ear" technology". • "Therapist provided coaching, feedback and assessment on technique used" "Each parent and child pair were videotaped practising the new strategies with coaching as needed, from which a short positive clip

	was drawn for the group to view the following week to reinforce specific strategies"
51. **Relaxation/Mindfulness techniques**	• "Introduction to mindfulness for managing stress, awareness of the present moment, and cultivating gratitude"
52. **Parent self-esteem and confidence**	• "Positive interaction moments shown on the video recording are always emphasised. Focusing on positive interactions serves the goal of showing the mother that she is able to act as a sensitive and competent parent: she should feel empowered by the positive feedback" "Promote maternal feelings of competence in infant caretaking". • "They established trusting relationships with parents and helped mothers set small, achievable behavioral objectives between visits that, when met, would increase mothers' confidence in their ability to manage greater challenges". • "Selected video clips of primarily positive parent-child interaction to highlight parents' strengths and promote motivation for change, selected video clips of primarily positive parent-child interaction to highlight parents' strengths and promote motivation for change". • "Change her negative way of thinking about the child and her competence as a parent". • "…empowerment" • "Giving positive feedback that builds caregivers' confidence and competence in their parenting"
53. **Parental self-awareness**	• "Self-observation without self-evaluation" • "Improve the mother's ability to reflect on her own, as well as on her child's, mental states". • "Ongoing review and reflection" • "When video feedback is strengths-based, as in pfr, the provider delivering the intervention highlights instances of sensitive

	nurturance, thereby increasing caregiver awareness, confidence and competence”
54. **Baby massage**	• “Baby massage. This massaging technique, which was often introduced during modeling, aims to improve the quality of the physical contact between the mother and her infant. It encourages her to touch her child more tenderly and may help her make her baby feel more comfortable”. • “A baby massage course in the first year” • “Infant massage”
55. **Other**	• “Creating households that are safer for children”. • “The first prenatal session was focused on having couples discuss their expectations about the transition to parenthood, particularly pertaining to common co-parenting tasks, such as expectations about the division of labour, anticipated changes to schedules, or strategies to handle child rearing disagreements”. • “Role play by participating parents to practice the home- work” • “Promote child environmental safety”. • “Home visitor core training emphasizes the importance of developing a trusting relationship”. • “Brochures” • “Psychodynamic understanding of mother’s history, feelings, and experience of the child” • “Material was provided in any form desired by the parent+ employing prompting, shaping and fading techniques, employing prompting, shaping and fading techniques”. • “Each session was videotaped for clinical supervision and fidelity coding of parent and therapist. All parents videotaped themselves monthly at home carrying out play routines with and without toys as per a written set of instructions. The project supplied tiny cameras that were worn on the body. Parent recordings were uploaded and

	viewed when they came to clinic sessions. Any un-codable videos resulted in a request to the family to send another video"
56. **Enhance Coparenting/coparental relationships**	• "Coparental conflict resolution, problem-solving, and communication and mutual-support strategies around raising an infant". • "Positive parenting for co-parents (VIPP-CO), was delivered when two caregivers in the family were participating. The content and themes of the vipp-co intervention broadly mirrored the VIPP-SD manual, with additional emphasis on interactions involving both caregivers together with the child and on positive co-parenting". • "Enhanced coparental support and, subsequently, enhanced parental adjustment would facilitate more positive parent–child interaction". • "Encouraging stable, positive partnerships: reduction of partner violence and partner conflict and improvements in partner relationships"
57. **Motivational Interviewing techniques**	• "The intervention involves the use of motivational interviewing, a therapeutic technique that addresses the client's ambivalence about change and it should motivate parents to engage in positive, proactive parenting practices. Motivation is also addressed by sharing assessment results with parents and by discussing parenting and child behavior relative to norms and parent expectations". • "Emphasizes motivation to change. Motivational interviewing strategies" • "The parent consultant summarized the results of the assessment by using motivational interviewing strategies". • "The FCU utilises two main components to facilitate change: motivational interviewing and family management practices"
58. **Focus on caregiver mental health**	• "Techniques from cognitive behaviour therapy were used to explain to her that negative thinking can make her depressive feelings toward herself and her infant persist".

	• "Supporting parental physical and mental health: reductions in rates of unplanned pregnancy, early detection and treatment of depression, assistance with mental health and substance use disorders, and encouragement to use general practitioner services". • "Improve parents' stress management, mental health, and parenting quality". • "To improve maternal and foetal health during pregnancy by helping women improve their health-related behaviors". • "Promoting mental health (e.g., assessed and explored maternal feelings about the pregnancy.)" • "The PP and HS interventions offered screening and referral for maternal depression along with general social support from the hss"
59. **Focus on caregiver physical health**	• "Ensuring that the physical, social and emotional health of the child's mother is supported, protected and sustained". • "The nurses helped women complete 24-hour diet histories on a regular basis and plot weight gains at every visit; they assessed the women's cigarette smoking and use of alcohol and illegal drugs and facilitated a reduction in the use of these substances through behavioral analysis". • "Offered health education". • "Attending to the mother's health"
60. **Focus on child mental health**	• "It also provides specific cues on indiscriminate friendliness, and the distinct needs of adopted children, such as special attention to physical contact and communicative signals for seeking help". • "Promoting the behavioural and emotional regulation of the child"
61. **Focus on child physical health**	• "Promoting physical care of the child". • "Informing mother about nutrition and foetal brain development". • "Child's physical health and development, standard paediatric visits"

	• "All children participate in developmental screenings designed to reveal the need for further assessment and/or specialized services to ensure appropriate and healthy development". • "Check-ups consist of weighing and measuring the baby, providing inoculations, nutritional advice, scheduled paediatric check-ups, and so on. Check aims at assisting parents concerning their children's physical, psychical, and social development, this may concern nursing, food, sleep, and other concerns about the child's health." • "Early detection of developmental delays and health issues"
62. **Video-vignettes**	• "Not personalised (not of their own interactions). However, films with content of other home-visiting were used to discuss topics and reflect of interactions". • "Video vignettes are shown to parents and used to stimulate discussion and problem solving related to child behavior and parenting skills". • "Brief videotaped vignettes of parents interacting with children in family life situations illustrate childrearing concepts. Group leaders use these scenes to facilitate group discussion and problem solving"
63. **Culturally sensitive**	• "Cultural adaptation" • "The antepartum phase is based upon brief, culturally relevant IPT as developed by Grote and colleagues; during the ethnographic interview, we noted the specific concerns the woman raised pertinent to each topic and made a special attempt to acknowledge the strengths she showed in facing her real-life difficulties". • "The family spirit curriculum was carefully crafted to reflect local native practices but not community-specific traditions or spiritual beliefs. Tribal stakeholders emphasized that there is a broad spectrum of cultural beliefs and practices within and across tribal sites and supported that the family spirit curriculum address the shared needs of all of the participants. In addition, the interventionists were trained to

	interact in ways that respected the participants' cultural orientation and living situation". • "Adapted only those aspects of PFR that could increase cultural relevance while maintaining PFR's core principles and components". • "Peer volunteers were trained to use culturally grounded vignettes that served as tools to deliver health and wellbeing messages". • "MISC as a culturally appropriate intervention; MISC principles can be readily translated into actions within the cultural and contextual constraints of everyday living in each of their families"
64. **Trusting relationship**	• "Families develop a close relationship with the nurse who becomes a trusted resource they can rely on for advice on everything from safely caring for their child to taking steps to provide a stable, secure future for their new family". • "Promote authentic and non-judgmental interaction between the PFR provider and caregiver." • "Building parent-intervener relationship: develop rapport." • "Although the therapist was focused on the needs of the mother through the IPT focus, the therapist had to also hold the needs of the dyad. In this way, the therapist served as a model of appropriate emotional regulation as well as a secure attachment base". • "Sessions 1 and 2 main goals are building a relationship with the mother"

1.7 Final decision for clustered components based on agreement among independent assessors

To aid interpretability and data analyses of the 63 above-identified intervention components, 3 co-authors of this work who were blinded to the design, sample characteristics, and results of the studies, in addition to IC (first author of the study), clustered the components into fewer component groups (STable 8). RMP resolved conflict where agreement among researchers was not reached.

STable 8. Final components obtained through agreement among four independent researchers.

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
Behavioural	**1. Positive reinforcement** **2. Praise** **3. Reward** **4. Disciplinary commands** **5. Behaviour management** **6. Positive commands** **7. Rules setting** **8. Monitoring** **9. Time-out** **10. Ignore** **11. Logical consequences** **12. Challenging behaviours** 13. Promoting emotional regulation	**Behavioural**	**1. Positive reinforcement** **2. Praise** **3. Reward** **4. Disciplinary commands** **5. Behaviour management** **6. Positive commands** **7. Rules setting** **8. Monitoring** **9. Time-out** **10. Ignore** **11. Logical consequences** 12. Parent coaching 13. Proactive parenting techniques	**Behavioural: Positive reinforcement** **Behavioural: Discipline**	**1. Positive reinforcement** **2. Praise** **3. Reward** **1. Disciplinary commands** **2. Behaviour management** **3. Positive commands** **4. Rules setting** **5. Monitoring** **6. Time-out** **7. Ignore** **8. Logical consequences** **9. Challenging behaviours (post-hoc)**	**Behavioural**	**1. Positive reinforcement** **2. Praise** **3. Reward** **4. Disciplinary commands** **5. Behaviour management** **6. Positive commands** **7. Rules setting** **8. Monitoring** **9. Time-out** **10. Ignore** **11. Logical consequences** **12. Challenging behaviours (post-hoc)**	**Behavioural**	**1. Positive reinforcement** **2. Praise** **3. Reward** **4. Disciplinary commands** **5. Behaviour management** **6. Positive commands** **7. Rules setting** **8. Monitoring** **9. Time-out** **10. Ignore** **11. Logical consequences** **12. Challenging behaviours**

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
	14. Empathy for the child 15. Baby massage		14. Skills for parents 15. Promoting growth and development 16. Promoting child problem solving 17. Skills parents teach their children 18. Video-feedback 19. Live coaching **20. Challenging behaviours (post-hoc)**						**13.** Promoting emotion regulation
Psychoeducation/information	**1. Psychoeducation 2. Explaining developmental stages 3. Explaining parent-child interactions 4. Increase knowledge and care of the child**	**Psychoeducation/information**	**1. Psychoeducation 2. Explaining developmental stages 3. Explaining parent-child interactions 4. Increase knowledge and care of the child**	**Psychoeducation/information**	**1. Psychoeducation 2. Explaining developmental stages 3. Explaining parent-child interactions 4. Increase knowledge and care of the child**	**Psychoeducation /information**	**1. Psychoeducation 2. Explaining developmental stages 3. Explaining parent-child interactions 4. Increase knowledge and care of the child**	**Information/psychoeducation**	**1. Psychoeducation 2. Explaining developmental stages 3. Explaining parent-child interactions 4. Increase knowledge and care of the child**

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
	5. Increase understanding of the child **6. Education**		**5. Increase understanding of the child** **6. Education** **7. Promoting growth and development** **8. Focus on child mental health** 9. Skills for parents themselves		**5. Increase understanding of the child** **6. Education** **7. Promoting growth and development (post-hoc)** **8. Focus on child mental health (post-hoc)** **9. Video-vignettes**		**5. Increase understanding of the child** **6. Education** 7. Promoting children's cognitive or academic skills **8. Promoting growth and development** 9. Skills parents teach their children 10. Promoting healthy identity formation **11. Focus on child mental health** 12. Focus on child physical health **13. Video-vignettes**		**5. Increase understanding of the child** **6. Education** **7. Promoting growth and development** **8. Focus on child mental health** **9. Video-vignettes**

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
Social support	1. Focus on child physical health 2. Focus on parent physical health **3. Social services** **4. Health care services** **5. Connecting to resources** **6. Partner support** **7. Parent involvement**	Support	1. Focus on parent physical health 2. Focus on parent mental health **3. Coparenting** 4. Self-esteem **5. Social services** **6. Health care services** **7. Connecting to resources** 8. Parent problem solving 9. Parent emotion regulation **10. Partner support** 11. **Parent involvement**	**Support**	**1. Coparenting** **2. Partner support** **3. Parent involvement** **4. Social services** **5. Health care services** **1. Connecting to resources**	**Community empowerment: working with systems**	**1. Connecting to resources** **2. Health care services** **3. Social services**	**Support (community)**	**1. Connecting to resources** **2. Health care services** **3. Social services**
						Family relational dynamics	**1. Coparenting** 2. Parent problem solving **3. Partner support** **4. Parent involvement (post hoc)**	**Support (family)**	**1. Coparenting** **2. Partner support** **3. Parent involvement**

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
Relationship	**1. Attachment** **2. Relationship enhancement** **3. Emotional communication** **4. Positive interactions**	**Play/attachment**	**1. Attachment** **2. Relationship enhancement** **3. Emotional communication** 4. **Positive interactions** **5. Sensitivity and responsiveness** **6. Follow child's lead** **7. Play** 8. Emotion regulation 9. Focus on child mental health 10. Baby massage 11. Video-feedback **12. Attention focus** 13. Promoting healthy identity formation 14. Promoting growth and development	**Attachment**	**1. Attachment** **2. Relationship enhancement** **3. Emotional communication** 4. **Positive interactions** **5. Sensitivity and responsiveness** **6. Follow child's lead** **7. Play** 8. Emotion regulation 9. Mind-mindedness 10. Baby massage	**Reflecting**	**1. Attachment** **2. Emotional communication** **3. Positive interactions** **4. Sensitivity and responsiveness** 5. Mind-mindedness 6. Promoting child problem solving 7. Emotion regulation 8. Reflectiveness 9. Parent emotional regulation 10. Empathy for the child 11. Self-esteem 12. Self-awareness 13. Motivational interviewing **14. Attention focus (post-hoc)**	**Attachment: emotional**	**1. Attachment** **2. Relationship enhancement** **3. Emotional communication** **4. Positive interactions** **5. Sensitivity and responsiveness** **6. Follow child's lead** **7. Play** **8. Attention focus**
Responsiveness	**1. Sensitivity and responsiveness** **2. Follow child's lead** **3. Play**							**Attachment: reflectiveness**	**1. Mind-mindedness** **2. Parent Emotion regulation** **3. Empathy for the child** **4. Reflectiveness** **5. Self-awareness (see below)**

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
			15. Promoting children's cognitive and academic skills 16. Mind-mindedness						6. Promoting healthy identity formation*
Cognitive	**1. Mind-mindedness** 2. Promoting children's cognitive and academic skills 3. Promoting growth and development 4. Promoting emotion regulation 5. Child problem solving 6. Skills parents teach their children 7. Promoting healthy identity formation **8.** Attention focus	**Mentalising**	1. Self-awareness 2. Video-feedback 3. Empathy for the child **4. Parent emotion regulation** **5. Reflectiveness** **6. Mind-mindedness** 7. Challenging behaviours	**Mentalising**	**7. Mind-mindedness** **8. Parent emotion regulation** 9. Empathy for the child **10.** Active listening **11. Reflectiveness**	**Reflecting**	1. Attachment 2. Emotional communication 3. Positive interactions 4. Sensitivity and responsiveness **5. Mind-mindedness** 6. Promoting child problem solving 7. Emotion regulation **8. Reflectiveness** **9. Parent emotional regulation** 10. Empathy for the child 11. Self-esteem 12. Self-awareness	See above: Attachment (reflectiveness)	See above: Attachment (reflectiveness)

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
	9. Reflectiveness **10. Parent emotion regulation** 11. Parent problem solving 12. Video-feedback 13. Self-esteem 14. Self-awareness 15. Parent mental health 16. Child mental health 17. Vignettes 18. Culture sensitive						13. Motivational interviewing		
Proactive techniques	1. Motivational interviewing **2. Coparenting** **3. Live coaching** **4. Skills for parent themselves** **5. Proactive parenting techniques**	**Proactive techniques (post-hoc)**	**1. Parent problem solving (post-hoc)** **2. Skills parents teach their children (post-hoc)**	**Proactive techniques**	**1. Coparenting** 2. Motivational interviewing **3. Skills for parent themselves** **4. Proactive parenting techniques** **5. Live coaching**	**Modelling and self-modelling**	**1. Parent coaching** **2. Proactive parenting techniques** **3. Skills for parent themselves** **4. Live coaching** 5. Baby massage 6. Play	**Proactive techniques**	**1. Parent coaching** **2. Proactive parenting techniques** **3. Skills for parent themselves** **4. Live coaching**

Researcher 1		Researcher 2		Researcher 3		Researcher 4		Final set of components	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
	6. Parent coaching				**6. Parent coaching** **7. Parent problem solving** **8. Skills parents teach their children**		7. Follow child's lead 8. Challenging behaviours 9. Attention focus 10. Video-feedback **11. Parent problem-solving (post-hoc)** **12. Skills parents teach their children (post-hoc)**		**5. Parent problem solving** **6. Skills parents teach their children** 7. Child problem solving* 8. Promoting children's cognitive and academic skills* 9. Active listening (agreed IC and RP) 10. Promoting children's social skills or prosocial behaviour (agreed IC and RP)
			1. Focus on parent physical health (post-hoc)	**Health: Parent mental health**	**3. Parent mental health** **4. Self-esteem** 5. Self-awareness	**Mothering mothers**	**1. Parent physical health** **2. Parent mental health**	**Care for caregivers**	**1. Parent physical health** **2. Parent mental health**

Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
			2. Self-esteem (post-hoc)		**6. Parent physical health (post-hoc)**		**3. Self-esteem (post-hoc)**		**3. Self-esteem**
		Child physical health	**1. Child physical health**	**Health: Child/parent health**	**1. Child physical health** 2. Child mental health **3. Parent physical health**		**1. Child physical health (post-hoc)**	**Child health**	**1. Child physical health**
-	-	**Motivational interviewing**	Motivational interviewing	**Motivational interviewing**	**1. Motivational interviewing (post hoc)**	**Motivational interviewing**	**1. Motivational interviewing (post hoc)**	**Motivational interviewing**	**1. Motivational interviewing**
Video-feedback	**Video-feedback (post-hoc)**	-	-	**Video-feedback**	Video-feedback	**Video-feedback**	**Video-feedback (post-hoc)**	**Video-feedback**	**1. Video-feedback**
-	-	-	-	-	-	**Peer learning**	Parent involvement	-	-
-	-	-	-	-	-	**Respect for cultural practices**	Cultural adaptation	**Respect for cultural practices**	**1. Cultural adaptation**
-	-	-	-	**Stimulation**	1. Promoting children's cognitive and academic skills 2. Promoting growth and development	-	-	-	-

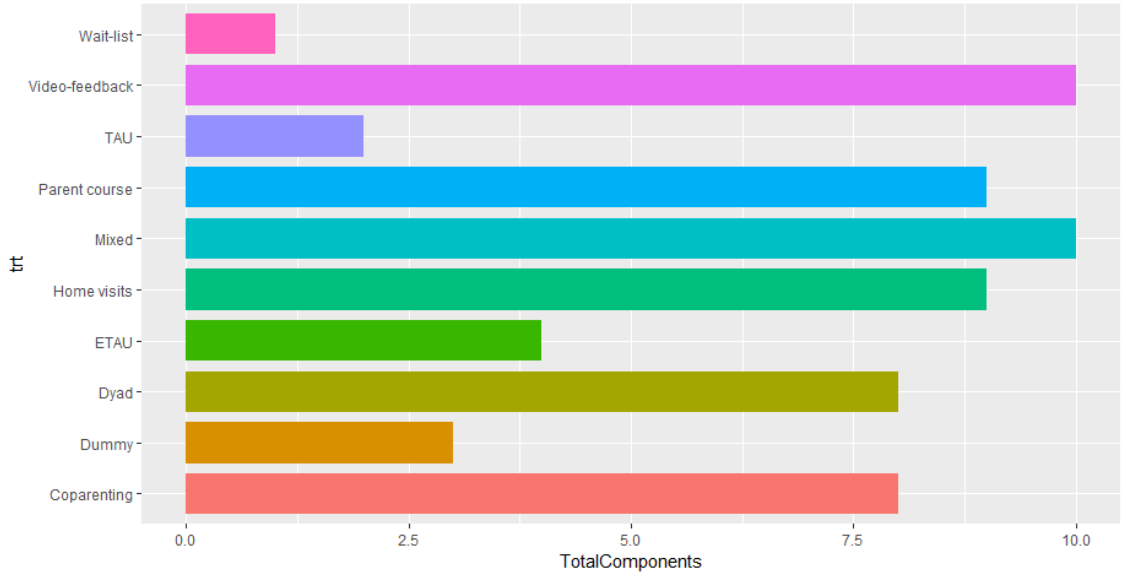
Researcher 1		**Researcher 2**		**Researcher 3**		**Researcher 4**		**Final set of components**	
Cluster Name	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**	**Cluster Name**	**Specific components identified**
					3. Child problem solving 4. Skills parents teach their children 5. Promoting healthy identity formation 6. Attention focus				
-	-	-	-	-	-	-	-	**Baby massage**	1. Baby massage
		Therapeutic alliance (trust)	**Building a trusting and safe relationship between parent and intervener (post-hoc)**	**Therapeutic alliance (trust)**	**Building a trusting and safe relationship between parent and intervener (post-hoc)**	**Therapeutic alliance (trust)**	**Building a trusting and safe relationship between parent and intervener (post-hoc)**	**Therapeutic alliance (trust)**	**1. Building a trusting and safe relationship between parent and intervener**

This table illustrates the decision-making process for the final categorisation of the intervention components. Four researchers contributed to the classification independently from each other's. If every researcher (blindly) agreed on the clustering of the components and on the decision/"name" of the cluster, then the cluster was automatically created, and the components added to the cluster. If at least two people agreed, a third person (who did not take part to the task) will decide whether to add the components to the cluster.

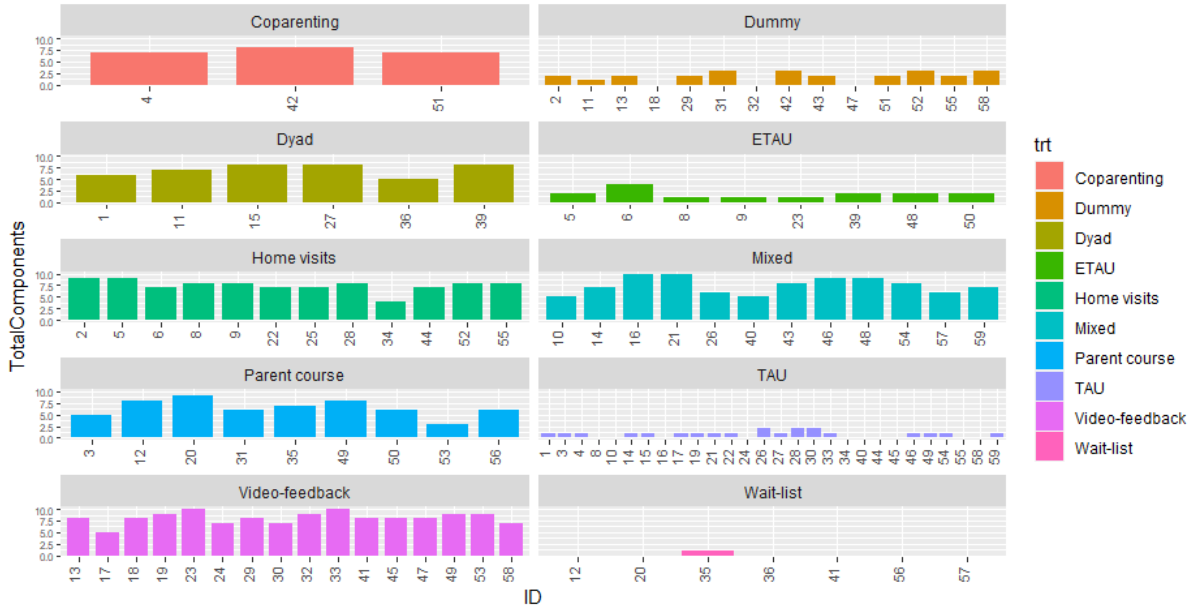
1.8 Number of grouped components by intervention group

The figures below illustrate the number of components (components clusters as identified in STable 7) per intervention group (SFigure 2) and by intervention group and study identifier (i.e., ID).

SFigure 2. Bar chart illustrating number of components per intervention group.



SFigure 3. Number of intervention components by treatments (trt) and study ID.

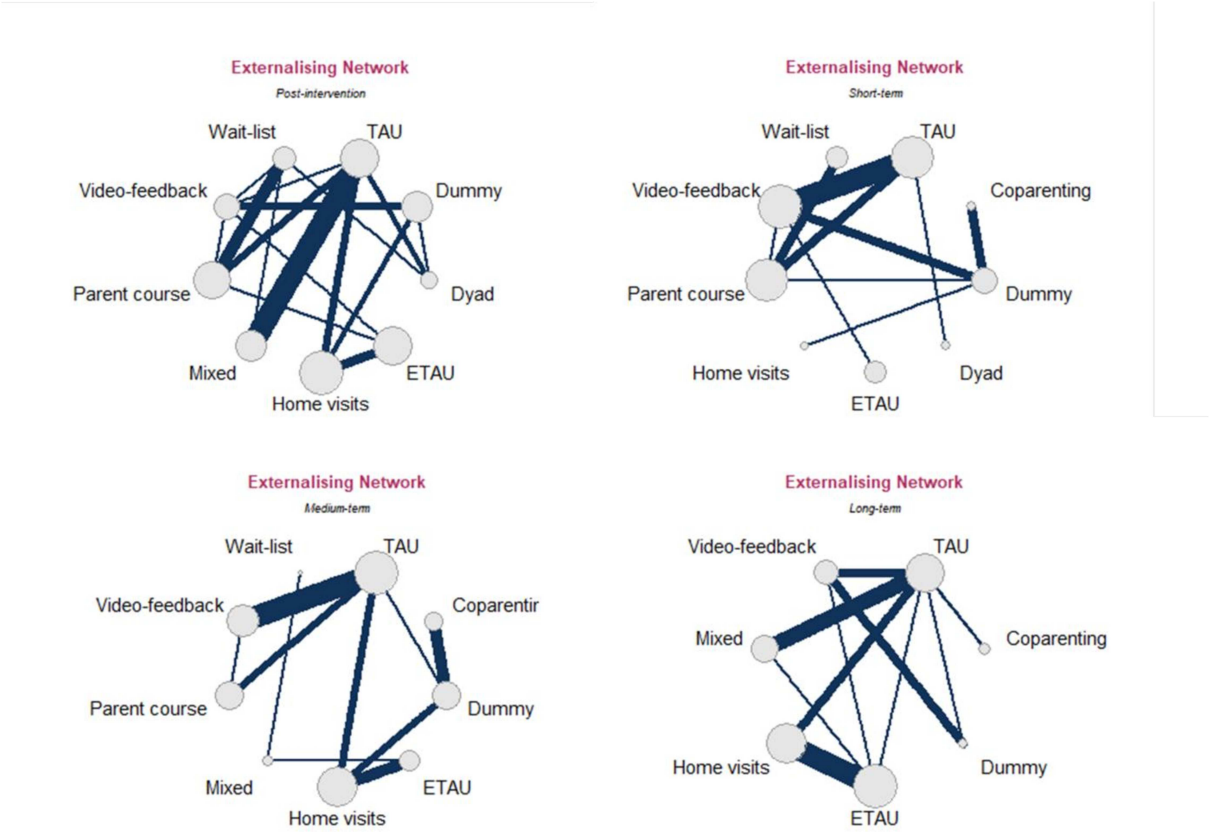


1.8.1 Network plots for child primary outcome and secondary outcomes at different follow-ups

SFigures 4 and 5 depict the network plots for internalising and externalising problems, respectively, when exploring the network according to the pre-specified follow-up periods (detailed in the protocol of the study) of when the outcomes were measured. The outcome was not available for all of the interventions at the different follow-up points, as highlighted by the sparser networks and by standalone nodes.

SFigure 4. Plots of network geometry for internalising problems at different follow-up timepoints.

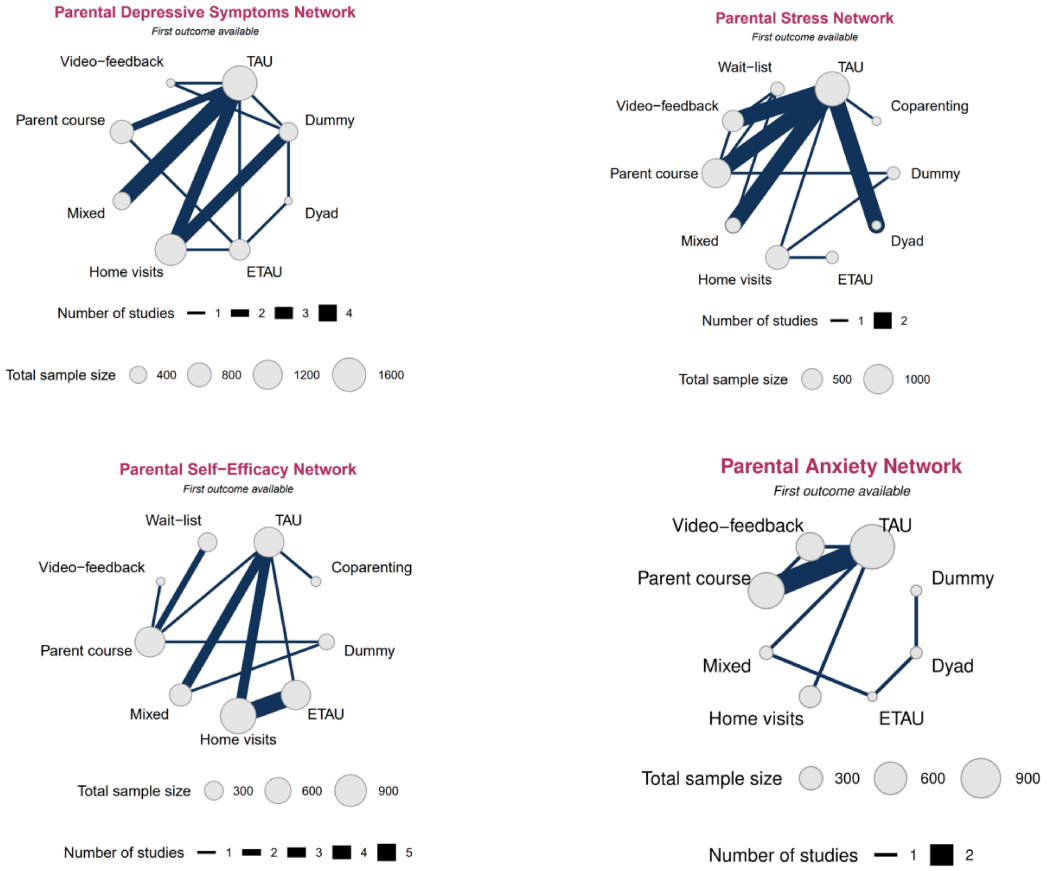
SFigure 5. Plots of network geometry for externalising problems at different follow-up timepoints.



1.8.2 Network plots for caregiver secondary outcomes at first time-point available

SFigure 6 illustrates the network geometry for the caregiver outcomes at the first follow-up point available. The networks were all connected but they had a sparse structure, with several standalone nodes. Therefore, interpretation of results from these analyses should be interpreted with caution as they may be biased.

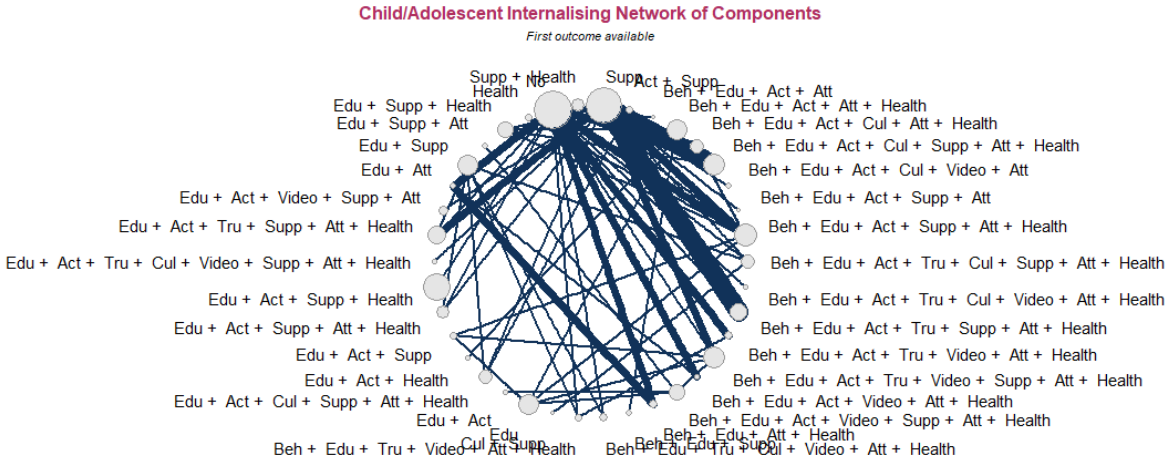
SFigure 6. Plots of network geometry for parental outcomes at first available time-point.



1.8.3 Network plots for the full-interaction component-based model at the first time-point available of the internalising problems

SFigure 7 depicts the full-interaction model of the intervention components that was fitted only for the primary outcome and taking the first outcome available from each study. The number of combinations makes it difficult to interpret the findings from these analyses, which primarily indicated no preferable component or combination of components (STable 14).

SFigure 7. Network plot for the full-interaction component-based network for the internalising outcome.

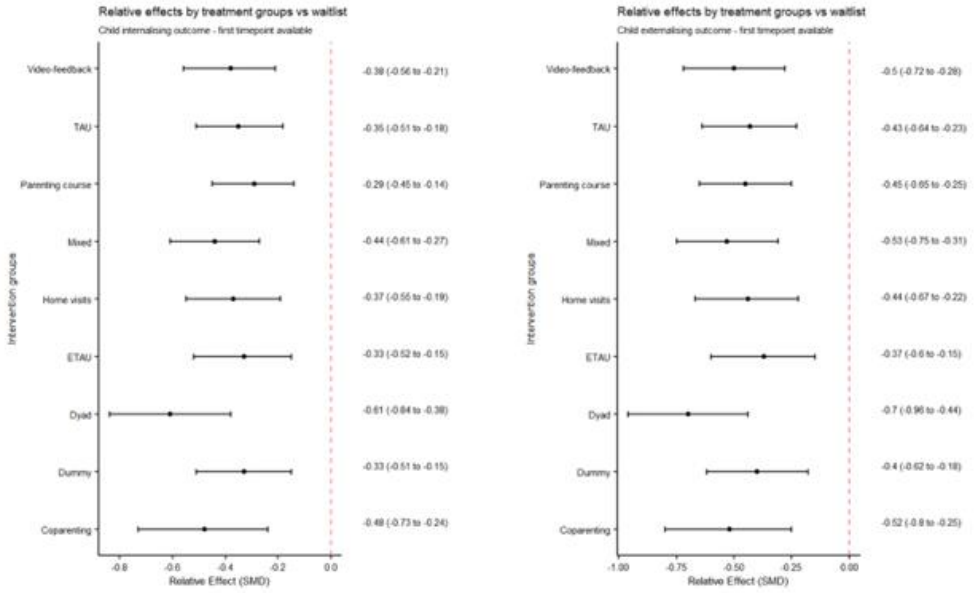


1.9 Results from primary and secondary analyses

1.9.1 Network meta-analysis of parenting interventions for internalising outcome vs waitlist

All interventions were more effective than waitlist in reducing internalising and externalising problems (SFigure 8).

SFigure 8. Forest plot of relative effect of NMA for internalising and externalising problems at the first available time-point when the reference group is waitlist.



Negative estimates indicate a favourable effect of the interventions in lowering internalising and externalising problems, respectively, whilst positive effect estimates indicate an increase in internalising and externalising problems as compared to the reference treatment (waitlist, indicated by the red dotted line).

1.10 Checking NMA assumptions

1.10.1 Assessment of transitivity

STable 9 reports the distribution of relevant (and fully extracted) covariates of the intervention groups that were hypothesised as relevant effect modifiers. The dyadic/relational and mixed interventions were conducted in a selected population only, however, upon investigating the effect of the type of prevention on internalising problems, we did not find supporting evidence for effect modification of Universal compared to Selective interventions in reducing internalising problems (STable 12).

STable 9. Distribution of covariates by intervention groups to assess exchangeability assumption.

Covariates	**TAU/Nothing**	**ETAU**	**Waitlist**	**Dummy control (placebo)**	**Nurse/equivalent led, home visiting**	**Parenting course**	**Behavioural interpersonal/ dyadic – relationship focus**	**Video feedback**	**Mixed/multi-interventions programme**	**Coparenting**
First time-point available	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Intermediate	3 (10%)	1 (11.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (17%)	1 (5.9%)	2 (16.7%)	0 (0%)

Post-intervention	15 (50%)	5 (55.6%)	5 (71.4%)	5 (36%)	9 (60%)	7 (58.3%)	5 (83%)	6 (35.3%)	8 (66.7%)	0 (0%)
Short-term	5 (16.7%)	0 (0%)	2 (28.6%)	6 (43%)	1 (6.7%)	5 (41.7%)	0 (0%)	6 (35.3%)	0 (0%)	1 (33%)
Medium-term	2 (6.7%)	2 (22.2%)	0 (0%)	2 (14.3%)	3 (20%)	0 (0%)	0 (0%)	2 (11.8%)	1 (8.3%)	1 (33%)
Long-term	5 (16.7%)	1 (11.1%)	0 (0%)	1 (7.1%)	2 (13.3%)	0 (0%)	0 (0%)	2 (11.8%)	1 (8.3%)	1 (33%)
Prevention (intervention)	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**
Universal	7 (23.3%)	2 (20%)	2 (28.6%)	4 (25%)	8 (47.1%)	6 (50%)	0 (0%)	2 (11.8%)	0 (0%)	2 (66.67%)
Selective	23 (76.7%)	8 (80%)	5 (71.4%)	12 (75%)	9 (52.9%)	6 (50%)	6 (100%)	15 (88.2%)	12 (100%)	1 (33.33%)
Flexibility (intervention)	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**	**N (%)**
No	25 (83.3%)	9 (90%)	6 (85.7%)	15 (93.8%)	8 (47.1%)	8 (66.7%)	6 (100%)	16 (94.1%)	3 (25%)	3 (100%)

Yes	5 (16.7%)	10 (10%)	1 (14.3%)	1 (6.2%)	9 (52.9%)	4 (33.3%)	0 (0%)	1 (5.9%)	9 (75%)	0 (0%)
	Median [IQR]	**Median [IQR]**	**Median [IQR]**	**Median [IQR]**	**Median [IQR]**	**Median [IQR]**	**Median [IQR]**	**Median [IQR]**	**Median [IQR]**	**Median [IQR]**
Age child at the start of the intervention in months	13.3 [8 to 18.34]	-3.98 [-4.94 to 22.67]	28.2 [19.32 to 36]	9.06 [3.67 to 14.92]	-3.11 [-4.67 to 12]	18.17 [4.70 to 33.36]	19 [18.89 to 33.6]	11.15 [5.95 to 18.25]	22.07 [12 to 34.2]	2.13 [2.13 to 2.13]

1.10.2 Assessment of heterogeneity

We reported the estimated τ for between-study heterogeneity for each network meta-analysis conducted. In the main NMA model τ was 0·04 (0·00 to 0·09), whilst UME τ was 0·05 (0·00 to 0·12).

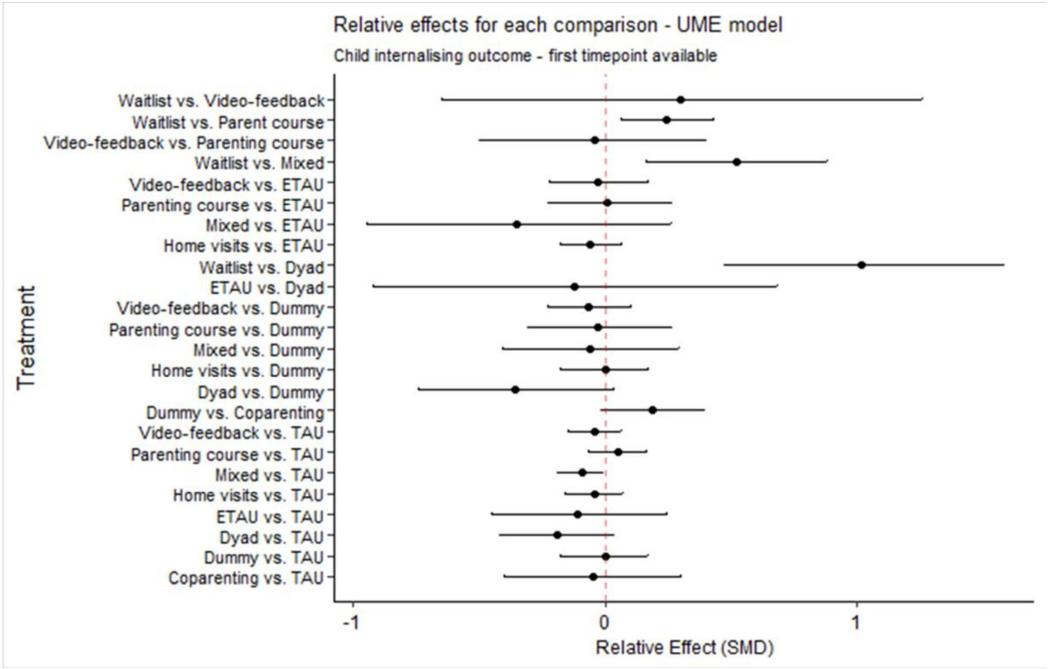
1.10.3 Assessment of inconsistency

We explored inconsistency following guidance by Daly et al(169). We performed a global assessment of inconsistency using the unrelated means effect (UME) model in R package multinma for the primary outcome. In the UME model, the consistency assumption (i.e., direct and indirect evidence needs to be consistent) is relaxed, and relative treatment effect for each treatment pair with direct data is estimated separately (SFigure 9). Model fit of the UME model against the NMA model is provided in STable 16. We further investigated inconsistency by plotting the individual data points' posterior mean deviance contribution in both

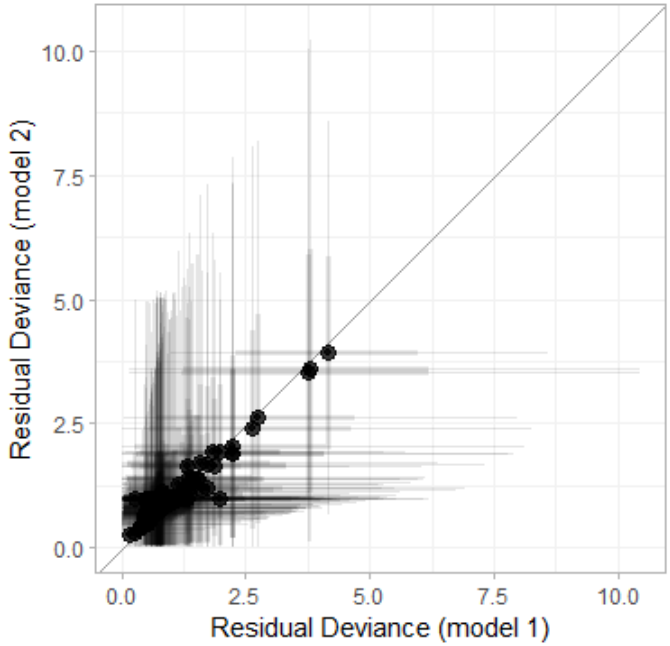
the consistency model (Model 1: NMA) and in the inconsistency model (Model 2: UME). The plot of where the individual data points' posterior mean deviance lies along with the line of equality suggest that the consistency assumptions is likely to be met(170) (SFigure 10).

SFigure 9. UME model for internalising problems at first available time-point.

Comparisons	Posterior SMD	2.5% CrIs	97.5% CrIs	Rhat
d[Coparenting vs. TAU]	-0.05	-0.40	0.30	1.00
d[Dummy vs. TAU]	0.00	-0.18	0.17	1.00
d[Dyad vs. TAU]	-0.19	-0.42	0.03	1.00
d[ETAU vs. TAU]	-0.11	-0.45	0.23	1.00
d[Home visits vs. TAU]	-0.04	-0.16	0.07	1.00
d[Mixed vs. TAU]	-0.09	-0.18	-0.01	1.00
d[Parent course vs. TAU]	0.05	-0.06	0.16	1.00
d[Video-feedback vs. TAU]	-0.04	-0.15	0.06	1.00
d[Dummy vs. Coparenting]	0.19	-0.02	0.40	1.00
d[Dyad vs. Dummy]	-0.36	-0.74	0.03	1.00
d[Home visits vs. Dummy]	0.00	-0.18	0.17	1.00
d[Mixed vs. Dummy]	-0.06	-0.40	0.29	1.00
d[Parent course vs. Dummy]	-0.03	-0.31	0.25	1.00
d[Video-feedback vs. Dummy]	-0.07	-0.23	0.10	1.00
d[ETAU vs. Dyad]	-0.12	-0.92	0.68	1.00
d[Wait-list vs. Dyad]	1.03	0.48	1.58	1.00
d[Home visits vs. ETAU]	-0.06	-0.18	0.06	1.00
d[Mixed vs. ETAU]	-0.35	-0.95	0.26	1.00
d[Parent course vs. ETAU]	0.02	-0.23	0.26	1.00
d[Video-feedback vs. ETAU]	-0.03	-0.23	0.18	1.00
d[Wait-list vs. Mixed]	0.52	0.16	0.88	1.00
d[Video-feedback vs. Parent course]	-0.05	-0.50	0.41	1.00
d[Wait-list vs. Parent course]	0.24	0.06	0.43	1.00
d[Wait-list vs. Video-feedback]	0.30	-0.65	1.23	1.00
tau	0.05	0.00	0.12	1.00



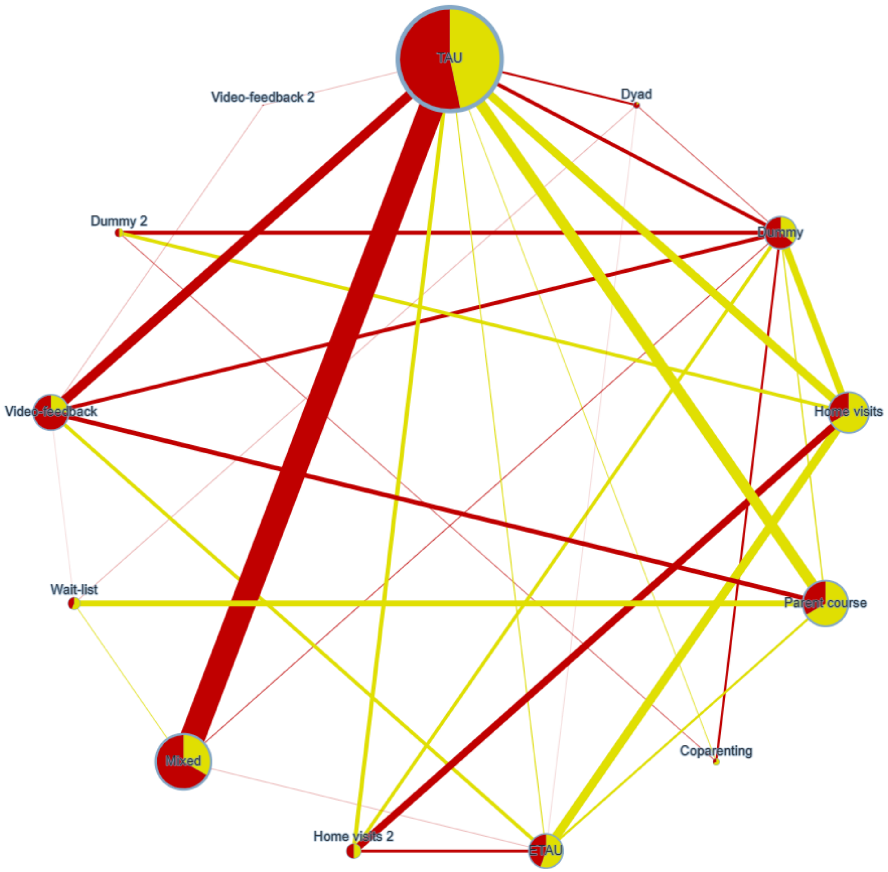
SFigure 10. Deviance contribution plot of model 1 (NMA) vs model 2 (UME).



1.11 Evaluation of the certainty of evidence using the CINeMA framework for the primary outcome

We evaluated the certainty of evidence for the internalising outcome by using the Confidence in Network Meta-Analysis Software CINeMA(171). CINeMA is a software which uses the netmeta R-package for performing NMA of the data. Because CINeMA is not implemented for multinma, we had to adapt the dataset to satisfy the software requirements. As we already interpret our results cautiously, taking into consideration uncertainty and heterogeneity, we report here only some of the CINeMA criteria that we could most easily implement with our data. Among the adaptations we had to perform to use CINeMA with our dataset formatted for multinma, one was that we had to rename treatment arms within the same study when the treatment name was the same (e.g., a three-arm trial including TAU vs home visit vs Home visit was recoded as TAU vs Home visit vs Home visit 2). Indirectness was not evaluated but was set at the same value for all the included studies.

SFigure 11. Risk of bias network implemented in CINeMA.



Node size indicates the sample size, the node is coloured by risk of bias as implemented using the overall risk of bias coded using RoB-2. The width of the edges indicates the sample size. The edges are coloured by the average RoB. Red corresponds to studies coded as at 'High risk' of bias, whereas yellow indicates studies rated as 'Some concerns'.

The graphs below show the average within-study bias of the 59 studies included in the NMA network for internalising problems. 33 studies contributed with 'High-risk' of bias (red), and 26 with 'Moderate' risk of bias (yellow).

SFigure 12.Risk of bias network implemented in CINeMA.

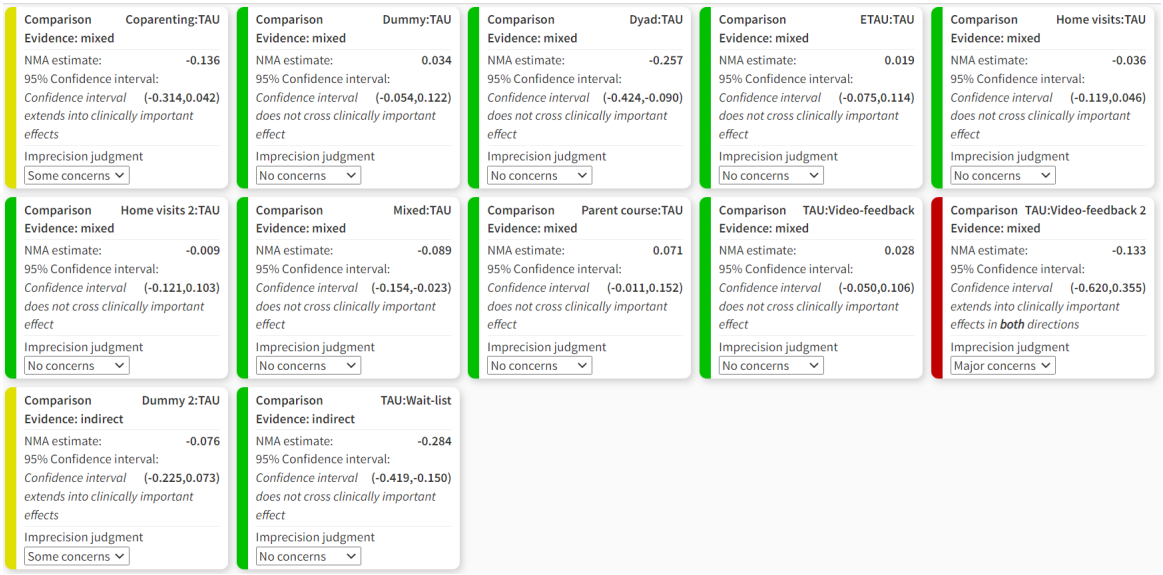
1.11.1 Assessment of reporting bias

We assessed reporting bias separately using RoB-2 (Appendix B.1.9). However, given the completeness of our search (20,000 initial search + 50,000 updated search + screening of reference lists and citation indexes + contacting authors), we have reasons to believe that reporting bias in this study should be minimal.

1.11.2 Assessment of imprecision using CINeMA

Imprecision is assessed within the CINeMA framework, evaluating whether the 95% confidence intervals estimated include values that would lead to different clinical conclusions. It is important to note that we present this assessment only as a general tool to observe severe deviations of the data and we refrain from drawing any firm conclusion from this assessment for several reasons. First, the estimates differ from our primary analysis as they were estimated using different statistical models and different software (see here(171) for details on the models employed). Second, the treatments included are not the same of those we included in our main analyses for the reasons provided above. Third, setting a clinically important value is rather subjective. We set here a value of 0.20 indicating a small effect size in terms of SMD. Relative effect estimates below -0.20 and above 0.20 are considered clinically important.

SFigure 13. Assessment of imprecision using CINeMA framework.



1.11.3 Assessment of heterogeneity using CINeMA

Measures of heterogeneity have already been reported above. However, for comprehensiveness, we report here the assessment of heterogeneity using CINeMA. We set a clinically important effect size at 0.20, the importance of the heterogeneity is estimated in relation to the variability of the effects and to the clinically important effect size. More details on how the prediction intervals were estimated and how judgment were made can be found here(171). As for the other sections, CINeMA estimates differ from our NMA estimates because of differences in the classification of the treatments, of the statistical models employed, and the software utilised.

SFigure 14. Assessment of heterogeneity in CINeMA.

Each box includes both confidence and prediction intervals (i.e., where the range of values within the true effect of a new study is likely to lie), a description in relation to the clinically important effects, and the heterogeneity judgement.

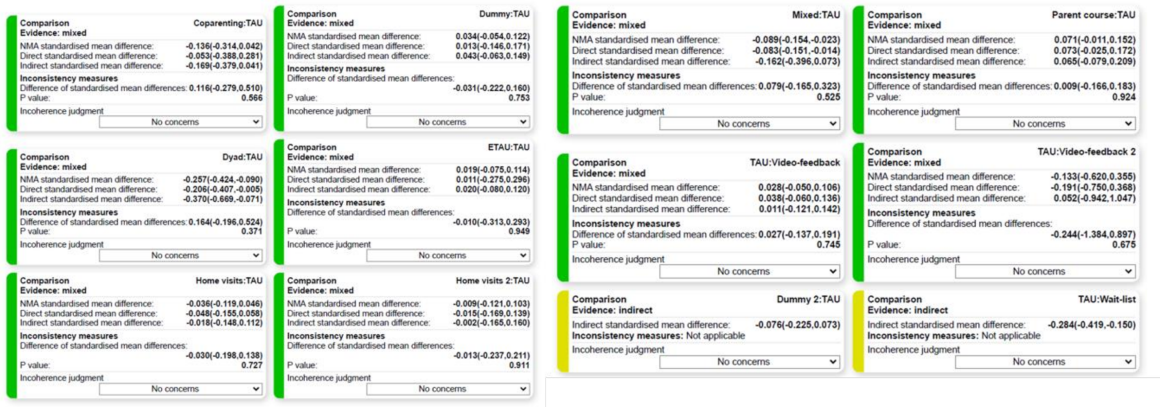
1.11.4 Assessment of incoherence in CINeMA

The above specified range of clinically important effects is also considered in the estimation of the "Incoherence" domain. The same considerations about the difference from the effect estimates present in our analyses and those presented using CINeMA apply for this domain too (that is that CINeMA employs different methods to estimate the NMA relative effects as compared to multinma). Incoherence refers to the disagreement between the direct and indirect evidence (i.e., inconsistency). Inconsistency was also assessed using UME models. Thus, this analysis aimed to aid the interpretation of the UME findings and is reported here for comprehensiveness.

CINeMA employs two tests: the first is a global method that assesses incoherence by performing a design-by-treatment interaction test. This approach combines the idea of loop inconsistency with design inconsistency to assess consistency in the NMA whilst accounting for multi-arm trials(171,172). The second method utilises Separating Indirect from Direct Evidence (SIDE)(173) and it includes the NMA relative effect estimates, the direct and indirect effects, a measure of agreement among the direct and indirect estimates and their p-value (SFigure 15). Following CINeMA guidelines, no concern was assigned to studies having a p-value>0.10. However, these results should not be interpreted by themselves but alongside the other tests for inconsistency that we performed (e.g., UME models).

The Global test based on a random-effects design-by-treatment interaction model had a χ^2 statistic: 21.184, based on 29 degrees of freedom (P value: 0.852).

SFigure 15. Local tests separating indirect from direct evidence in CINeMA to assess statistical incoherence (i.e., inconsistency) CINeMA for internalising outcome at first time-point available.



This figure illustrates the CINeMA test for inconsistency. Whilst effect estimates are not directly comparable because CINeMA is implemented using a different software compared to the one that we have employed for our analyses, it is still possible to generally assess risk of statistical inconsistency (i.e., discrepancy in the estimates when using direct vs indirect evidence). CINeMA automatically performs a statistical test to indicate whether the discrepancy is statistically meaningful, using a *p*-value threshold of > 0.10 to indicate no concerns. However, it is possible to personalise this rule and assess concerns over inconsistency on a case-by-case basis.

1.12 Risk of bias assessment

We tailored some of the Cochrane-specific guidelines to our study and the nature of the interventions included, the biases that are likely to arise due to the nature of the interventions and complex situations to evaluate. Specifically, we operationalised the following domains:

1) Risk of bias arising from missing data.
    a. Low: study authors reported =<10% missingness and/or there was clear evidence that there were no differences among study arms via appropriate sensitivity analyses.

b. Some concerns: moderate or high missingness but little evidence suggesting for differential drop-out.

c. High: high missingness and clear differential missingness (either linked to arm assignment or some relevant covariates/outcome).

2) Risk of bias arising from measurement of the outcome.

a. Low: if multiple assessors (of whom at least one was not involved in the treatment or was blinded to allocation) reported on the outcome, if the reporter was the child multiple years after the end of the study, if the assessor used some "objective" measure of coding the behaviour.

b. Some concerns: if assessor was involved/aware of the intervention (for example, in case the parent is reporting child's symptoms).

c. High: the nature of the intervention in likely to have modified the assessor's ability to evaluate internalising symptoms (e.g., interventions targeting parents' sensitivity to infant's distress signals), the parent was interviewed in a way that might be more likely to "please" the study leaders (e.g., interview conducted by study authors or therapists).

If, the treatment, but not the control, had a specific focus on increasing parental ability to recognise child's distress, we rated the report as at high risk of bias due to potential differential misclassification of the outcome (e.g., parents in the treatment group are better able to recognise, thus report, emotional distress, as compared to parents in the control group).

STable 10. Risk of bias assessment of each individual report.

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
1 (159)	**Low**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
2 (28)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
3 (160)	**Low**	**Low**	**Low**	**Some concerns**	**Low**	**Some concerns**
3 (161)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
4 (33)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
4 (34)	**Low**	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**
4 (36)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
4 (35)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
5 (37)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
5 (162)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
6 (163)	**Low**	**Some concerns**	**Low**	**High**	**Some concerns**	**High**
7 (40)	**Low**	**Low**	**Low**	**Low**	**Low**	**Low**
7 (164)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
7 (47)	**Low**	**Low**	**Some concerns**	**Low**	**Low**	**Some concerns**
8 (48)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
8 (51)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
8 (52)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
8 (165)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
8 (53)	**Low**	**Low**	**Some concerns**	**Low**	**Low**	**Some concerns**
8 (56)	**Low**	**Low**	**Some concerns**	**Low**	**Low**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
8 (55)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
9 (57)	**Low**	**Low**	**High**	**Some concerns**	**Some concerns**	**High**
9 (166)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
9 (59)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
10 (60)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
11 (63)	**Some concerns**	**Some concerns**	**Low**	**Some concerns**	**Some concerns**	**High**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
12 (65)	**Low**	**Low**	**Some concerns**	**Low**	**Some concerns**	**Some concerns**
13 (66)	**Low**	**High**	**Some concerns**	**High**	**Low**	**High**
13 (68)	**Low**	**High**	**High**	**High**	**Low**	**High**
14 (69)	**Some concerns**	**Some concerns**	**High**	**Some concerns**	**Some concerns**	**High**
15 (70)	**Low**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
16 (167)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
16 (74)	**Low**	**Low**	**Low**	**Some concerns**	**Low**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
17 (75)	**Low**	**Low**	**Low**	**Some concerns**	**Low**	**Some concerns**
18 (76)	**Low**	**Low**	**Low**	**High**	**Some concerns**	**High**
19 (77)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
20 (78)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
21 (168)	**Low**	**Some concerns**	**High**	**Some concerns**	**Low**	**High**
21 (81)	**Low**	**Some concerns**	**High**	**Some concerns**	**Low**	**High**
22 (83)	**Low**	**Low**	**High**	**High**	**Some concerns**	**High**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
22 (82)	**Low**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
23 (84)	**Low**	**Some concerns**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
23 (85)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
23 (86)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
23 (87)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
24 (88) (Study 1)	**High**	**High**	**Some concerns**	**High**	**Some concerns**	**High**
25 (89)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
25 (90)	**Low**	**Low**	**High**	**Some concerns**	**Some concerns**	**High**
26 (91)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
27 (92)	**Low**	**Low**	**Low**	**High**	**Some concerns**	**High**
28 (93)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
28 (94)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
29 (95)	**Low**	**Low**	**Low**	**High**	**Low**	**High**
30 (96)	**Low**	**Low**	**High**	**High**	**Some concerns**	**High**
31 (97)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
32 (98)	**Low**	**Some concerns**	**Some concerns**	**High**	**Some concerns**	**High**
33 (99)	**Low**	**Low**	**Low**	**High**	**Low**	**High**
33 (100)	**Low**	**Low**	**Low**	**High**	**Low**	**High**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
34 (101)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
34 (102)	**Low**	**Low**	**Low**	**Some concerns**	**Low**	**Some concerns**
35 (103)	**Low**	**High**	**Some concerns**	**Some concerns**	**Low**	**High**
36 (104)	**Low**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
36 (105)	**Low**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
37 (106)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
38 (107)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
39 (109)	**Low**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
40 (110)	**Low**	**High**	**High**	**Some concerns**	**Some concerns**	**High**
41 (111)	**Low**	**Low**	**Low**	**High**	**Some concerns**	**High**
42 (112)	**Some concerns**	**Low**	**Some concerns**	**Some concerns**	**High**	**High**
43 (116)	**Low**	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**
43 (117)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
43 (118)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
43 (119)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**
43 (120)	**Low**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
43 (121)	**Low**	**Low**	**Low**	**High**	**Some concerns**	**High**
43 (122)	**Low**	**Low**	**Low**	**High**	**Some concerns**	**High**
44 (123)	**Low**	**Low**	**Low**	**Some concerns**	**Low**	**Some concerns**
45 (124)	**Some concerns**	**Some concerns**	**Low**	**High**	**Some concerns**	**High**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
45 (125)	**Some concerns**	**Some concerns**	**Low**	**Low**	**Some concerns**	**Some concerns**
46 (126)	**Low**	**Low**	**Low**	**High**	**Low**	**High**
47 (128)	**Some concerns**	**Low**	**Some concerns**	**High**	**Some concerns**	**High**
48 (129)	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**	**High**
48 (131)	**Low**	**Some concerns**	**Some concerns**	**High**	**Some concerns**	**High**
48 (132)	**Low**	**Low**	**High**	**Some concerns**	**Some concerns**	**High**
49 (133)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
50 (134)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
51 (135)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
51 (137)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
52 (138)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
53 (139)	**Low**	**Some concerns**	**Low**	**High**	**Some concerns**	**High**
54 (140)	**Low**	**Low**	**Low**	**High**	**Some concerns**	**High**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
54 (141)	**Low**	**Low**	**Some concerns**	**Low**	**Low**	**Some concerns**
54 (142)	**Low**	**Low**	**High**	**Some concerns**	**Low**	**High**
55 (143)	**Low**	**Low**	**Some concerns**	**Low**	**Low**	**Some concerns**
55 (144)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Low**	**Some concerns**
56 (4)	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**	**Some concerns**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
57 (145)	**Low**	**Low**	**Low**	**Some concerns**	**Some concerns**	**Some concerns**
57 (5)	**Low**	**Low**	**High**	**Some concerns**	**Some concerns**	**High**
58 (88) (Study 2)	**Some concerns**	**High**	**Some concerns**	**High**	**Some concerns**	**High**
59 (140) (Study UM)_	**Low**	**Low**	**High**	**Some concerns**	**Low**	**High**
60 (150)	**Low**	**Low**	**Low**	**High**	**Low**	**High**
61 (151)	**Low**	**Low**	**High**	**Some concerns**	**Low**	**High**

	1	2	3	4	5	6
Study ID	**Risk of bias arising from the randomisation process**	**Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)**	**Risk of bias due to missing outcome data**	**Risk of bias in measurement of the outcome**	**Risk of bias in selection of the reported result**	**Overall risk of bias per study**
62 (152)	**Low**	**Low**	**Low**	**High**	**Low**	**High**

1.13 Further details on NMA models

1.13.1 Network meta-analyses model

All NMA models were fitted using four Markov chains that were run simultaneously with different arbitrarily chosen initial values, generating 10,000 sample iterations with 1,500 burn-ins and a thinning interval of 1. Diagnostic tests such as Rhat and Neff were examined. We fitted all models of network meta-analysis with weakly informative prior distributions for the treatment effects. A half-normal prior that allows only for non-negative values was used for non-negative parameters (heterogeneity SD), as recommendation by Philippo(2).

$$prior_{intercept} = normal(0,10)$$

$$prior_{trt} = normal(0,10)$$

$$prior_{reg} = normal(0,10)$$

$$prior_{het} = half_{normal}(scale = 5)$$

As sensitivity analyses, we used flat priors (see below), but the results did not change. We present findings using the weakly informative priors as they were more efficient.

$$prior_{intercept} = normal(0,100)$$

$$prior_{trt} = normal(0,100)$$

$$prior_{reg} = normal(0,100)$$

$$prior_{het} = normal(scale = 5)$$

The network plot for the main model (i.e., model using the internalising outcome at the first time-point available) is presented in Figure 3. In the table below, we provide further information on this network.

STable 11. Further details on network(s) geometry.

Model	**Parameters**	**Values**
Main internalising outcome model	Number of nodes (total number of interventions)	10
	Number of edges (total number of direct comparisons)	45
	Number of studies (total number of studies included in the network)	59

1.13.2 Network meta-regression and sensitivity analyses for main outcome

We conducted network meta-regressions and sensitivity analyses to estimate the impact of effect modifiers on the effectiveness of parenting interventions in reducing internalising problems in children at the first time-point available. We did not find evidence supporting effect modification by the identified effect modifiers (STable 12).

STable 12. Meta-regression models to investigate the influence of the identified effect modifiers on the effectiveness of the different parenting intervention groups.

Intervention groups	**SMD (95% CrI)**	**SMD (95% CrI)**	**Rhat**
Time of follow-up	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.31 (-0.69 to 0.07)	1
Dummy	0.02 (-0.07 to 0.12)	0.02 (-0.09 to 0.12)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.71 (-1.60 to 0.16)	1
ETAU	0.02 (-0.08 to 0.12)	0.00 (-0.11 to 0.12)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.03 (-0.12 to 0.06)	1

Mixed	-0.09 (-0.17 to -0.02)	-0.11 (-0.20 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.05 (-0.04 to 0.15)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.03 (-0.13 to 0.06)	1
Waitlist	0.36 (0.19 to 0.53)	0.33 (0.15 to 0.52)	1
tau	0.04 (0.00 to 0.09)	0.05 (0.00 to 0.11)	1
Sample size	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.11 (-0.33 to 0.10)	1
Dummy	0.02 (-0.07 to 0.12)	0.02 (-0.09 to 0.13)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.25 (-0.69 to 0.19)	1
ETAU	0.02 (-0.08 to 0.12)	-0.03 (-0.17 to 0.11)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.06 (-0.17 to 0.05)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.13 (-0.23 to -0.03)	1
Parenting course	0.06 (-0.03 to 0.15)	-0.01 (-0.14 to 0.12)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.04 (-0.14 to 0.06)	1
Waitlist	0.36 (0.19 to 0.53)	0.10 (-0.20 to 0.40)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.11)	1
Setting	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.19 (-0.39 to 0.01)	1
Dummy	0.02 (-0.07 to 0.12)	0.03 (-0.12 to 0.18)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.76 (-1.36 to -0.16)	1
ETAU	0.02 (-0.08 to 0.12)	-0.04 (-0.16 to 0.08)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.04 (-10.18 to 10.32)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.26 (-0.69 to 0.17)	1
Parenting course	0.06 (-0.03 to 0.15)	0.05 (-0.09 to 0.20)	1
Video-feedback	-0.03 (-0.11 to 0.05)	0.02 (-0.22 to 0.25)	1
Waitlist	0.36 (0.19 to 0.53)	0.39 (0.01 to 0.77)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.11)	1

Flexibility of the intervention	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.10 (-4.68 to 4.49)	1
Dummy	0.02 (-0.07 to 0.12)	0.02 (-0.08 to 0.12)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.25 (-4.90 to 4.37)	1
ETAU	0.02 (-0.08 to 0.12)	0.03 (-0.10 to 0.15)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.03 (-0.14 to 0.08)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.06 (-0.20 to 0.09)	1
Parenting course	0.06 (-0.03 to 0.15)	0.07 (-0.03 to 0.16)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.02 (-0.11 to 0.07)	1
Waitlist	0.36 (0.19 to 0.53)	0.39 (0.20 to 0.58)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.11)	1
Treatment intensity	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.09 (-0.33 to 0.14)	1
Dummy	0.02 (-0.07 to 0.12)	0.02 (-0.09 to 0.12)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.30 (-0.84 to 0.24)	1
ETAU	0.02 (-0.08 to 0.12)	0.05 (-0.15 to 0.25)	1
Home visits	-0.03 (-0.11 to 0.06)	0.02 (-0.17 to 0.21)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.19 (-0.41 to 0.04)	1
Parenting course	0.06 (-0.03 to 0.15)	0.04 (-0.11 to 0.19)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.06 (-0.16 to 0.04)	1
Waitlist	0.36 (0.19 to 0.53)	0.20 (-16.69 to 17.17)	1
tau	0.04 (0.00 to 0.09)	0.05 (0.00 to 0.11)	1
Overall RoB (High is the reference category)	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.33 (-0.69 to 0.03)	1
Dummy	0.02 (-0.07 to 0.12)	-0.02 (-0.18 to 0.14)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.27 (-0.45 to -0.09)	1

ETAU	0.02 (-0.08 to 0.12)	-0.01 (-0.28 to 0.26)	1
Home visits	-0.03 (-0.11 to 0.06)	0.06 (-0.18 to 0.31)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.07 (-0.16 to 0.00)	1
Parenting course	0.06 (-0.03 to 0.15)	0.13 (-0.06 to 0.31)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.09 (-0.23 to 0.05)	1
Waitlist	0.36 (0.19 to 0.53)	0.32 (0.04 to 0.60)	1
tau	0.04 (0.00 to 0.09)	0.03 (0.00 to 0.09)	1
Total RoB	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.21 (-0.41 to -0.01)	1
Dummy	0.02 (-0.07 to 0.12)	-0.03 (-0.13 to 0.08)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.29 (-0.55 to -0.02)	1
ETAU	0.02 (-0.08 to 0.12)	0.00 (-0.13 to 0.12)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.01 (-0.10 to 0.09)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.11 (-0.19 to -0.03)	1
Parenting course	0.06 (-0.03 to 0.15)	0.00 (-0.18 to 0.17)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.06 (-0.15 to 0.04)	1
Waitlist	0.36 (0.19 to 0.53)	0.29 (0.08 to 0.50)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Child being present	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.11 (-6.76 to 6.46)	1
Dummy	0.02 (-0.07 to 0.12)	-0.05 (-0.23 to 0.12)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.14 (-10.75 to 10.46)	1
ETAU	0.02 (-0.08 to 0.12)	0.01 (-0.12 to 0.15)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.06 (-0.17 to 0.05)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.10 (-0.18 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.04 to 0.15)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.06 (-0.19 to 0.06)	1

Waitlist	0.36 (0.19 to 0.53)	0.26 (-6.38 to 6.83)	1
tau	0.04 (0.00 to 0.09)	0.05 (0.00 to 0.11)	1
Type of prevention (universal vs selective)	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.23 (-0.49 to 0.03)	1
Dummy	0.02 (-0.07 to 0.12)	0.03 (-0.07 to 0.13)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.25 (-5.08 to 4.52)	1
ETAU	0.02 (-0.08 to 0.12)	-0.01 (-0.13 to 0.11)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.04 (-0.13 to 0.05)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.04 (-4.79 to 4.76)	1
Parenting course	0.06 (-0.03 to 0.15)	0.03 (-0.11 to 0.17)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.04 (-0.13 to 0.04)	1
Waitlist	0.36 (0.19 to 0.53)	0.35 (0.17 to 0.53)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Expectant parent at the start of the intervention	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.13 (-3.16 to 2.87)	1
Dummy	0.02 (-0.07 to 0.12)	0.07 (-0.05 to 0.19)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.21 (-0.42 to -0.01)	1
ETAU	0.02 (-0.08 to 0.12)	-0.01 (-0.15 to 0.12)	1
Home visits	-0.03 (-0.11 to 0.06)	0.00 (-0.09 to 0.10)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.18 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.05 (-0.04 to 0.14)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.03 (-3.08 to 3.03)	1
Waitlist	0.36 (0.19 to 0.53)	0.35 (-2.69 to 3.38)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Baseline caregiver mental health	**Basic NMA**	**Meta-regression**	

Coparenting	-0.14 (-0.32 to 0.05)	-0.11 (-0.32 to 0.08)	1
Dummy	0.02 (-0.07 to 0.12)	0.02 (-0.09 to 0.13)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.22 (-0.42 to -0.02)	1
ETAU	0.02 (-0.08 to 0.12)	0.03 (-0.10 to 0.16)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.01 (-2.90 to 2.86)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.18 to -0.01)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.04 to 0.16)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.04 (-0.14 to 0.05)	1
Waitlist	0.36 (0.19 to 0.53)	0.36 (-2.50 to 3.24)	1
tau	0.04 (0.00 to 0.09)	0.05 (0.00 to 0.11)	1
Intention to treat analysis	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.17 (-0.41 to 0.08)	1
Dummy	0.02 (-0.07 to 0.12)	0.03 (-0.06 to 0.13)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.26 (-0.44 to -0.7)	1
ETAU	0.02 (-0.08 to 0.12)	0.01 (-0.10 to 0.11)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.03 (-0.11 to 0.06)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.12 (-0.22 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.05 (-0.04 to 0.14)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.05 (-0.14 to 0.03)	1
Waitlist	0.36 (0.19 to 0.53)	0.35 (0.17 to 0.53)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1

We present here the meta-regression (column on the right) in comparison to the main NMA findings. Rhat is presented only once because it was estimated at 1 in both models.

We also conducted a meta-regression analysis to explore the effect modification of the identified intervention components on the effectiveness of the parenting interventions in reducing internalising problems in children (first follow up time available) (STable 13). We did not find evidence supporting one intervention component over another. Credible intervals are often wide, suggesting uncertainty in the estimates and that we might have been under-powered to detect effect modification by intervention components in these analyses.

STable 13. Meta-regression NMA for internalising problems including relevant hypothesised components of parenting interventions.

Intervention group	**SMD (95% CrI)**	**SMD (95% CrI)**	**Rhat**
Psychoeducation	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.11 (-6.35 to 6.04)	1
Dummy	0.02 (-0.07 to 0.12)	0.01 (-0.09 to 0.10)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.25 (-6.50 to 5.94)	1
ETAU	0.02 (-0.08 to 0.12)	0.05 (-0.08 to 0.16)	1
Home visits	-0.03 (-0.11 to 0.06)	0.00 (-6.29 to 6.26)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.05 (-6.29 to 6.19)	1
Parenting course	0.06 (-0.03 to 0.15)	0.03 (-6.33 to 6.25)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.05 (-6.29 to 6.14)	1
Waitlist	0.36 (0.19 to 0.53)	0.14 (-10.81 to 10.84)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Behavioural	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.18 (-0.38 to 0.01)	1
Dummy	0.02 (-0.07 to 0.12)	0.01 (-7.46 to 7.46)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.20 (-10.05 to 9. 66)	1
ETAU	0.02 (-0.08 to 0.12)	-0.03 (-0.19 to 0.13)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.02 (-0.11 to 0.08)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.17 to -0.02)	1

Parenting course	0.06 (-0.03 to 0.15)	0.04 (-0.10 to 0.18)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.01 (-0.15 to 0.13)	1
Waitlist	0.36 (0.19 to 0.53)	0.31 (-7.17 to 7.80)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Video-feedback	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.16 (-3.25 to 2.87)	1
Dummy	0.02 (-0.07 to 0.12)	0.01 (-3.05 to 3.06)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.25 (-0.43 to -0.07)	1
ETAU	0.02 (-0.08 to 0.12)	0.01 (-3.03 to 3.04)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.02 (-3.07 to 3.07)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.18 to 0.00)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.04 to 0.15)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.03 (-12.51 to 12.42)	1
Waitlist	0.36 (0.19 to 0.53)	0.37 (-2.66 to 3.41)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Emotional Attachment	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.10 (-8.58 to 8.32)	1
Dummy	0.02 (-0.07 to 0.12)	-0.04 (-0.20 to 0.11)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.18 (-8.70 to 8.35)	1
ETAU	0.02 (-0.08 to 0.12)	-0.03 (-0.22 to 0.15)	1
Home visits	-0.03 (-0.11 to 0.06)	0.02 (-8.40 to 8.34)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.17 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.04 (-0.18 to 0.27)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.04 (-8.62 to 8.45)	1
Waitlist	0.36 (0.19 to 0.53)	0.21 (-8.94 to 9.34)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Reflective Attachment	**Basic NMA**	**Meta-regression**	

Coparenting	-0.14 (-0.32 to 0.05)	-0.09 (-11.37 to 11.32)	1
Dummy	0.02 (-0.07 to 0.12)	-0.02 (-0.13 to 0.09)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.21 (-11.54 to 11.08)	1
ETAU	0.02 (-0.08 to 0.12)	-0.01 (-5.48 to 5.46)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.00 (-5.42 to 5.40)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.10 (-0.17 to -0.03)	1
Parenting course	0.06 (-0.03 to 0.15)	0.07 (-0.02 to 0.16)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.01 (-0.10 to 0.08)	1
Waitlist	0.36 (0.19 to 0.53)	0.34 (-5.18 to 5.76)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Motivational Interview	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.14 (-0.63 to 0.35)	1
Dummy	0.02 (-0.07 to 0.12)	0.01 (-0.46 to 0.49)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.26 (-0.76 to 0.24)	1
ETAU	0.02 (-0.08 to 0.12)	0.03 (-0.45 to 0.50)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.02 (-0.49 to 0.44)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.56 to 0.37)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.05 to 0.16)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.06 (-0.16 to 0.05)	1
Waitlist	0.36 (0.19 to 0.53)	0.36 (-0.14 to 0.85)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Community Support	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.11 (-7.00 to 6.74)	1
Dummy	0.02 (-0.07 to 0.12)	0.01 (-0.10 to 0.12)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.27 (-0.45 to -0.09)	1
ETAU	0.02 (-0.08 to 0.12)	-0.03 (-0.18 to 0.12)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.04 (-0.13 to 0.05)	1

Mixed	-0.09 (-0.17 to -0.02)	-0.10 (-0.27 to 0.07)	1
Parenting course	0.06 (-0.03 to 0.15)	0.04 (-0.06 to 0.14)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.04 (-0.13 to 0.05)	1
Waitlist	0.36 (0.19 to 0.53)	0.23 (0.00 to 0.46)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.11)	1
Family Support	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.04 (-13.38 to 13.24)	1
Dummy	0.02 (-0.07 to 0.12)	0.02 (-0.08 to 0.11)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.26 (-1.64 to 1.14)	1
ETAU	0.02 (-0.08 to 0.12)	0.02 (-1.34 to 1.39)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.03 (-1.38 to 1.35)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.17 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-1.32 to 1.43)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.03 (-0.13 to 0.05)	1
Waitlist	0.36 (0.19 to 0.53)	0.36 (-1.05 to 1.75)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Care for Caregivers	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.11 (-9.33 to 9.13)	1
Dummy	0.02 (-0.07 to 0.12)	0.02 (-8.25 to 8.30)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.30 (-0.49 to -0.12)	1
ETAU	0.02 (-0.08 to 0.12)	-0.03 (-0.17 to 0.12)	1
Home visits	-0.03 (-0.11 to 0.06)	0.05 (-0.15 to 0.25)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.12 (-0.25 to 0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.06 to 0.18)	1
Video-feedback	-0.03 (-0.11 to 0.05)	0.01 (-0.14 to 0.16)	1
Waitlist	0.36 (0.19 to 0.53)	0.28 (-8.07 to 8.62)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1

Child Physical Health	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.12 (-4.44 to 4.17)	1
Dummy	0.02 (-0.07 to 0.12)	0.03 (-0.07 to 0.14)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.20 (-4.50 to 4.14)	1
ETAU	0.02 (-0.08 to 0.12)	-0.01 (-0.15 to 0.13)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.04 (-0.17 to 0.09)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.04 (-0.17 to 0.10)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.04 to 0.16)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.03 (-4.36 to 4.29)	1
Waitlist	0.36 (0.19 to 0.53)	0.37 (-3.95 to 4.67)	1
tau	0.04 (0.00 to 0.09)	0.05 (0.00 to 0.11)	1
Trust	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.12 (-4.02 to 3.74)	1
Dummy	0.02 (-0.07 to 0.12)	0.04 (-3.92 to 4.01)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.25 (-0.43 to -0.07)	1
ETAU	0.02 (-0.08 to 0.12)	-0.04 (-3.90 to 3.92)	1
Home visits	-0.03 (-0.11 to 0.06)	0.00 (-0.09 to 0.09)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.16 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.05 (-0.07 to 0.16)	1
Video-feedback	-0.03 (-0.11 to 0.05)	0.03 (-0.13 to 0.20)	1
Waitlist	0.36 (0.19 to 0.53)	0.34 (-3.55 to 4.26)	1
tau	0.04 (0.00 to 0.09)	0.03 (0.00 to 0.09)	1
Culture adaptation	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.14 (-3.31 to 3.08)	1
Dummy	0.02 (-0.07 to 0.12)	0.05 (-0.08 to 0.18)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.33 (-0.55 to -0.11)	1
ETAU	0.02 (-0.08 to 0.12)	-0.03 (-3.21 to 3.18)	1

Home visits	-0.03 (-0.11 to 0.06)	-0.01 (-0.10 to 0.08)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.18 to -0.01)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.04 to 0.14)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.04 (-0.12 to 0.05)	1
Waitlist	0.36 (0.19 to 0.53)	0.33 (-2.84 to 3.49)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Baby Massage	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.12 (-0.48 to 0.23)	1
Dummy	0.02 (-0.07 to 0.12)	0.04 (-0.28 to 0.36)	1
Dyad	-0.26 (-0.43 to -0.08)	-0.25 (-0.61 to 0.11)	1
ETAU	0.02 (-0.08 to 0.12)	0.02 (-0.30 to 0.35)	1
Home visits	-0.03 (-0.11 to 0.06)	-0.02 (-0.34 to 0.30)	1
Mixed	-0.09 (-0.17 to -0.02)	-0.09 (-0.17 to -0.02)	1
Parenting course	0.06 (-0.03 to 0.15)	0.06 (-0.26 to 0.38)	1
Video-feedback	-0.03 (-0.11 to 0.05)	-0.03 (-0.12 to 0.05)	1
Waitlist	0.36 (0.19 to 0.53)	0.36 (0.01 to 0.70)	1
tau	0.04 (0.00 to 0.09)	0.04 (0.00 to 0.10)	1
Behavioural + VideoFeedback + Psychoeducation + Attachment (Reflective + Emotions) + Support (Community + Family) + Health (Care for caregivers + Child Physical Health) + Trust + Culture	**Basic NMA**	**Meta-regression**	
Coparenting	-0.14 (-0.32 to 0.05)	-0.11 (-13.28 to 12.90)	
Dummy	0.02 (-0.07 to 0.12)	-0.14 (-8.71 to 8.36)	
Dyad	-0.26 (-0.43 to -0.08)	-0.15 (-12.75 to 12.74)	

ETAU	0.02 (-0.08 to 0.12)	-0.01 (-6.16 to 6.07)	
Home visits	-0.03 (-0.11 to 0.06)	0.11 (-10.06 to 10.39)	
Mixed	-0.09 (-0.17 to -0.02)	-0.28 (-10.09 to 9.57)	
Parenting course	0.06 (-0.03 to 0.15)	0.04 (-6.24 to 6.24)	
Video-feedback	-0.03 (-0.11 to 0.05)	0.07 (-13.98 to 14.23)	
Waitlist	0.36 (0.19 to 0.53)	-0.04 (-14.95 to 14.80)	
tau	0.04 (0.00 to 0.09)	0.06 (0.00 to 0.15)	

We present here the meta-regression (column on the right) as compared to the main NMA findings. Rhat is presented only once because it was estimated at 1 in both models.

STable 14. Full-interaction component-based NMA.

The network of evidence is built on the combination of components each intervention had		
Components	**SMD (95% CrI)**	**Rhat**
None	0.01 (-0.14 to 0.17)	1
Health	-0.23(-0.58 to 0.12)	1
Edu	-0.03 (-0.23 to 0.18)	1
Act + Supp	0.10 (-0.31 to 0.51)	1
Cul + Supp	0.03 (-0.55 to 0.60)	1
Edu + Act	-0.27 (-0.82 to 0.31)	1
Edu + Att	0.00 (-0.34 to 0.35)	1
Edu + Supp	-0.01 (-0.20 to 0.18)	1
Supp + Health	-0.08 (-0.33 to 0.15)	1
Beh + Edu + Supp	-0.15 (-0.55 to 0.23)	1
Edu + Act + Health	0.00 (-0.46 to 0.44)	1
Edu + Act + Supp	-0.08 (-0.38 to 0.22)	1
Edu + Supp + Att	0.09 (-0.35 to 0.54)	1
Edu + Supp + Health	-0.07 (-0.26 to 0.10)	1
Beh + Edu + Act + Att	-1.01 (-1.59 to -0.42)	1
Beh + Edu + Att + Health	-0.08 (-0.47 to 0.33)	1
Edu + Act + Supp + Health	-0.04 (-0.27 to 0.20)	1
Beh + Edu + Act + Att + Health	0.01 (-0.24 to 0.25)	1
Beh + Edu + Act + Supp + Att	-0.26 (-0.86 to 0.37)	1
Edu + Act + Supp + Att + Health	-0.10 (-0.34 to 0.14)	1
Edu + Act + Video + Supp + Att	0.07 (-0.23 to 0.36)	1
Beh + Edu + Act + Cul + Att + Health	-0.23 (-0.47 to -0.01)	1

Beh + Edu + Act + Cul + Video + Att	-0.37 (-0.74 to 0.04)	1
Beh + Edu + Act + Cul + Video + Att	-0.37 (-0.74 to 0.04)	1
Beh + Edu + Act + Supp + Att + Health	-0.19 (-0.35 to -0.03)	1
Beh + Edu + Act + Video + Att + Health	-0.14 (-0.56 to 0.26)	1
Beh + Edu + Tru + Video + Att + Health	-0.03 (-0.37 to 0.31)	1
Edu + Act + Cul + Supp + Att + Health	-0.01 (-0.25 to 0.23)	1
Edu + Act + Tru + Supp + Att + Health	-0.02 (-0.20 to 0.15)	1
Beh + Edu + Act + Cul + Supp + Att + Health	0.00 (-0.15 to 0.14)	1
Beh + Edu + Act + Tru + Supp + Att + Health	-0.16 (-0.32 to -0.02)	1
Beh + Edu + Act + Tru + Video + Att + Health	-0.09 (-0.39 to 0.21)	1
Beh + Edu + Act + Video + Supp + Att + Health	0.03 (-0.21 to 0.29)	1
Beh + Edu + Tru + Cul + Video + Att + Health	-0.14 (-0.47 to 0.18)	1
Beh + Edu + Act + Tru + Cul + Supp + Att + Health	-0.33 (-0.53 to -0.12)	1
Beh + Edu + Act + Tru + Cul + Video + Att + Health	-0.14 (-0.66 to 0.37)	1
Beh + Edu + Act + Tru + Video + Supp + Att + Health	-0.06 (-0.21 to 0.10)	1
Edu + Act + Tru + Cul + Video + Supp + Att + Health	-0.09 (-0.54 to 0.35)	1
tau	0.07 (0.00 to 0.16)	1

"Act": Proactive, "Att": Emotional and Reflective attachment, "Beh": Behavioural, "Cul": Culture, "Edu": Psychoeducation, "Health": Child Physical Health and Care for caregivers, "Supp": Community support and Family support, "Video": Video-feedback, "Tru": Trust.

1.13.3 Model fit across the utilised models

We report here the pD, which represents the effective number of parameters of the models, and thus represents a measure of model complexity(174,175), and the deviance Information Criterion (DIC). DIC is a Bayesian method for model comparison and appropriately takes into account model complexity(175). Smaller values of the DIC indicate a better model fit.

STable 15. Model fit among fitted models for internalising problems.

Model	Residual deviance	pD	DIC
Consistency (NMA) and inconsistency (UME) models			
NMA Basic	127.2	73.4	200.6
UME Basic	132.3	90.1	222.3
Meta-regression models with hypothesised and measured effect modifiers			
NMA + follow-up	130.2	83.2	213.4
NMA + setting	125.3	87	212.4
NMA + flexibility	129.2	81.1	210.3
NMA + treatment intensity	130.8	82.3	213.1
NMA + overall RoB	128.2	80.9	209.1
NMA + Total RoB	128.4	81.8	210.1
NMA + child present	128.4	80.9	209.3
NMA + type of prevention	127.3	80.5	207.7
NMA + caregiver mental health	128.9	81.8	210.7
NMA + sample size	127.6	82	209.6
NMA + expectant parent	127.8	80	207.8
Meta-regression models with intervention components			
NMA + Psychoeducation component	127	75.5	202.5
NMA + Behavioural component	128.6	78.9	207.5
NMA + Video-feedback component	128.8	77.1	206

NMA + Emotional Attachment	128.1	77.2	205.3
NMA + Reflective Attachment	127.3	76.8	204.1
NMA + Motivational Interview	128.1	75.9	204
NMA + Baby Massage	126.8	75.7	202.4
NMA + Community Support	128.2	81.9	210
NMA + Family Support	128.7	77	205.7
NMA + Child Physical Health	128.2	79.8	208
NMA + Care for Caregivers	127.6	79.8	207.4
NMA + Trust	124.6	77	201.6
NMA + Culture	127.9	79.8	207.7
Component based NMA and meta regressions			
NMA + all components	128.6	107.9	236.5
Component NMA (full interaction) Basic (no effect modifier)	129.2	102.7	232

1.13.4 Network meta-analyses for child outcomes at different follow-up timepoints

STable 16. NMA for internalising problem at post-intervention.

Intervention group	**SMD**	**95% CrI**	**Rhat**
Dummy	0.54	-0.18 to 1.44	1.00
Dyad	-0.22	-0.78 to 0.11	1.00
ETAU	0.49	-0.18 to 1.16	1.00
Home visits	0.43	-0.23 to 1.08	1.00
Mixed	-0.30	-0.81 to 0.17	1.00
Parent course	0.24	-0.24 to 0.72	1.00
Video-feedback	0.79	-0.01 to 1.52	1.00
Waitlist	1.04	0.36 to 1.78	1.00

tau	0.21	0.01 to 0.65	1.00

STable 17. NMA for internalising problems at long-term follow-up.

Intervention group	**SMD**	**95% CrI**	**Rhat**
Coparenting	0.05	-2.76 to 2.84	1.00
Dummy	-1.48	-3.42 to 0.47	1.00
ETAU	-0.20	-0.94 to 0.56	1.00
Home visits	-0.55	-1.26 to 0.15	1.00
Mixed	-0.01	-0.29 to 0.27	1.00
Video-feedback	-0.52	-1.62 to 0.60	1.00
tau	0.14	0.01 to 0.44	1.00

STable 18. NMA for externalising outcome at first timepoint available.

Intervention group	**SMD**	**95% CrI**	**Rhat**
Coparenting	-0.08	-0.29 to 0.12	1.00
Dummy	0.04	-0.07 to 0.14	1.00
Dyad	-0.26	-0.46 to -0.07	1.00
ETAU	0.06	-0.05 to 0.18	1.00
Home visits	-0.01	-0.11 to 0.09	1.00
Mixed	-0.09	-0.19 to -0.01	1.00
Parent course	-0.01	-0.11 to 0.09	1.00
Video-feedback	-0.06	-0.15 to 0.03	1.00
Waitlist	0.46	0.25 to 0.66	1.00
tau	0.06	0.00 to 0.13	1.00

STable 19. NMA for externalising problems at long-term follow-up.

Intervention group	**SMD**	**95% CrI**	**Rhat**
Coparenting	0.04	-5.84 to 5.92	1.00
Dummy	-0.44	-5.11 to 5.19	1.00
ETAU	1.89	-0.86 to 6.41	1.00
Home visits	1.22	-1.64 to 5.43	1.00
Mixed	2.53	-0.81 to 8.32	1.00
Video-feedback	1.50	-1.85 to 6.14	1.00
tau	2.40	0.15 to 5.56	1.00

1.13.5 Network meta-analyses on parent secondary outcomes

STable 20. NMA for parent self-efficacy outcome at first available time-point.

Intervention group	**SMD**	**95% CrI**	**Rhat**
Coparenting	0.14	-0.29 to 0.56	1.00
Dummy	0.08	-0.28 to 0.44	1.00
ETAU	0.04	-0.24 to 0.34	1.00
Home visits	0.12	-0.13 to 0.36	1.00
Mixed	0.17	-0.05 to 0.37	1.00
Parent course	0.05	-0.28 to 0.39	1.00
Video-feedback	0.20	-0.40 to 0.79	1.00
Waitlist	-0.36	-0.86 to 0.17	1.00
tau	0.11	0.01 to 0.29	1.00

Positive effect estimates indicate an increase in self-esteem (favours the intervention), whilst a negative estimate suggests a negative effect of the intervention on parental self-efficacy (favours comparator).

STable 21. NMA for parent depression outcome at first available time-point.

Intervention group	**Mean**	**95% CrI**	**Rhat**
Dummy	0.01	-0.20 to 0.21	1.00
Dyad	-0.12	-0.51 to 0.29	1.00
ETAU	0.05	-0.14 to 0.24	1.00
Home visits	-0.13	-0.28 to 0.02	1.00
Mixed	0.06	-0.11 to 0.22	1.00
Parent course	0.04	-0.15 to 0.21	1.00

Video-feedback	-0.02	-0.36 to 0.32	1.00
tau	0.08	0.01 to 0.21	1.00

Positive effect estimates indicate an increase in depressive symptoms, whilst a negative estimate suggests a favourable effect of the intervention on parental depressive symptoms.

1. Costantini I, Paul E, Caldwell DM, López-López JA, Pearson RM. Protocol for a systematic review and network meta-analysis of randomised controlled trials examining the effectiveness of early parenting interventions in preventing internalising problems in children and adolescents. Syst Rev [Internet]. 2020;9(1):244. Available from: https://doi.org/10.1186/s13643-020-01500-9

2. Phillippo DM. multinma: Bayesian Network Meta-Analysis of Individual and Aggregate Data. 2020;

3. Stan Development Team. Stan Modeling Language Users Guide and Reference Manual, VERSION. YEAR.

4. Leung C, Tsang S, Kwan HW. Efficacy of a Universal Parent Training Program (HOPE-20). Res Soc Work Pract [Internet]. 2017 Sep 17;27(5):523–37. Available from: http://journals.sagepub.com/doi/10.1177/1049731515593810

5. Leung C, Tsang S, Chan LY. 18-month follow-up of randomized controlled trial of parent and child enhancement program. J Evidence-Informed Soc Work [Internet]. 2018 Nov 2;15(6):676–94. Available from: https://www.tandfonline.com/doi/full/10.1080/23761407.2018.1528195

6. Higgins JPT, Eldridge S, Li T. Including variants on randomized trials. Cochrane Handb Syst Rev Interv. 2019;569–93.

7. López-López JA, Page MJ, Lipsey MW, Higgins JPT. Dealing with effect size multiplicity in systematic reviews and meta-analyses. Res Synth Methods [Internet]. 2018 Sep 1;9(3):336–51. Available from: https://doi.org/10.1002/jrsm.1310

8. López-López JA, Page MJ, Lipsey MW, Higgins JPT. Dealing with effect size multiplicity in systematic reviews and meta-analyses. Res Synth Methods. 2018;9(3):336–51.

9. Britto PR, Ponguta LA, Reyes C, Karnati R. A systematic review of parenting programmes for young children in low-and middle-income countries. New York, NY United Nations Child

Fund. 2015;363–94.

10. Shaw DS, Dishion TJ, Supplee L, Gardner F, Arnds K. Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the family check-up in early childhood. J Consult Clin Psychol. 2006;74(1):1.

11. Minkovitz CS, Strobino D, Mistry KB, Scharfstein DO, Grason H, Hou W, et al. Healthy Steps for Young Children: sustained results at 5.5 years. Pediatrics. 2007;120(3):e658–68.

12. Leung C, Hui ANN, Wong RS, Rao N, Karnilowicz W, Chung K, et al. Effectiveness of a Multicomponent Parenting Intervention for Promoting Social-Emotional School Readiness Among Children From Low-Income Families in Hong Kong: A Cluster Randomized Clinical Trial. JAMA Pediatr. 2022;

13. Constantino JN, Hashemi N, Solis E, Alon T, Haley S, McClure S, et al. Supplementation of urban home visitation with a series of group meetings for parents and infants: results of a "real-world" randomized, controlled trial. Child Abuse Negl. 2001;25(12):1571–81.

14. Dowdall N, Murray L, Skeen S, Marlow M, De Pascalis L, Gardner F, et al. Book-Sharing for Parenting and Child Development in South Africa: A Randomized Controlled Trial. Child Dev. 2021;92(6):2252–67.

15. Murray L, Jennings S, Mortimer A, Prout A, Melhuish E, Hughes C, et al. The impact of early-years provision in Children's Centres (EPICC) on child cognitive and socio-emotional development: study protocol for a randomised controlled trial. Trials. 2018;19(1):1–11.

16. Pontoppidan M, Sandoy TM, Klest SK. One-year follow-up of The Incredible Years Parents and Babies Program: A pilot randomized controlled trial. Scand J Child Adolesc Psychiatry Psychol [Internet]. 2020 Jan 1;8(1):123–34. Available from: https://www.sciendo.com/article/10.21307/sjcapp-2020-012

17. Booth-LaForce C, Oxford ML, O'Leary R, Buchwald DS. Promoting First Relationships® for primary caregivers and toddlers in a Native community: A randomized controlled trial. Prev

Sci. 2023;24(1):39–49.

18. Achenbach TM, Rescorla LA. The Achenbach system of empirically based assessment (ASEBA) for ages 1.5 to 18 years. In: The use of psychological testing for treatment planning and outcomes assessment. Routledge; 2014. p. 179–214.

19. Goodman R, Ford T, Simmons H, Gatward R, Meltzer H. Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. Br J psychiatry. 2000;177(6):534–9.

20. Carter AS, Briggs-Gowan MJ, Jones SM, Little TD. The infant–toddler social and emotional assessment (ITSEA): Factor structure, reliability, and validity. J Abnorm Child Psychol. 2003;31(5):495–514.

21. Merenda PF. BASC: Behavior Assessment System for Children. Meas Eval Couns Dev. 1996;

22. Block J, Block JH. California child Q-set. Dev Psychol. 1980;

23. Daley D. Preschool-Parent account of child symptoms (Pre-Pacs). Unpubl Man. 2010;

24. LaFreniere PJ, Dumas JE. Social competence and behavior evaluation in children ages 3 to 6 years: The short form (SCBE-30). Psychol Assess. 1996;8(4):369.

25. Bagner DM, Coxe S, Hungerford GM, Garcia D, Barroso NE, Hernandez J, et al. Behavioral Parent Training in Infancy: A Window of Opportunity for High-Risk Families. J Abnorm Child Psychol [Internet]. 2016 Jul 8;44(5):901–12. Available from: http://link.springer.com/10.1007/s10802-015-0089-5

26. Briggs-Gowan MJ, Carter AS, Irwin JR, Wachtel K, Cicchetti D V. Brief Infant-Toddler Social and Emotional Assessment (BITSEA) mannual, version 2.0. 2002;

27. Patterson GR. Coercive family process. Vol. 3. Castalia publishing company; 1982.

28. Walkup JT, Barlow A, Mullany BC, Pan W, Goklish N, Hasting R, et al. Randomized controlled trial of a paraprofessional-delivered in-home intervention for young reservation-

based American Indian mothers. J Am Acad Child Adolesc Psychiatry [Internet]. 2009 Jun;48(6):591–601. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19454915

29. Hiscock H, Bayer JK, Price A, Ukoumunne OC, Rogers S, Wake M. Universal parenting programme to prevent early childhood behavioural problems: cluster randomised trial. BMJ [Internet]. 2008 Feb 9;336(7639):318–21. Available from: http://www.ncbi.nlm.nih.gov/pubmed/18244958

30. Bowlby J. Attachment and loss: volume I: attachment. In: Attachment and Loss: Volume I: Attachment. London: The Hogarth Press and the Institute of Psycho-Analysis; 1969. p. 1–401.

31. Bandura A. Social learning theory. Social learning theory. Oxford, England: Prentice-Hall; 1977. p. viii, 247–viii, 247.

32. Bayer JK, Hiscock H, Ukoumunne OC, Scalzo K, Wake M. Three-year-old outcomes of a brief universal parenting intervention to prevent behaviour problems: randomised controlled trial. Arch Dis Child [Internet]. 2010 Mar;95(3):187–92. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19847011

33. Feinberg ME, Kan ML. Establishing family foundations: Intervention effects on coparenting, parent/infant well-being, and parent-child relations. J Fam Psychol [Internet]. 2008;22(2):253–63. Available from: http://doi.apa.org/getdoi.cfm?doi=10.1037/0893-3200.22.2.253

34. Feinberg ME, Kan ML, Goslin MC. Enhancing coparenting, parenting, and child self-regulation: effects of family foundations 1 year after birth. Prev Sci [Internet]. 2009 Sep;10(3):276–85. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19381809

35. Feinberg ME, Jones DE, Roettger ME, Solmeyer A, Hostetler ML. Long-term follow-up of a randomized trial of family foundations: effects on children's emotional, behavioral, and school adjustment. J Fam Psychol [Internet]. 2014 Dec;28(6):821–31. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25485672

36. Feinberg ME, Jones DE, Kan ML, Goslin MC. Effects of family foundations on parents and

children: 3.5 years after baseline. J Fam Psychol [Internet]. 2010 Oct;24(5):532–42. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20954763

37. Barlow A, Mullany B, Neault N, Compton S, Carter A, Hastings R, et al. Effect of a Paraprofessional Home-Visiting Intervention on American Indian Teen Mothers' and Infants' Behavioral Risks: A Randomized Controlled Trial. Am J Psychiatry [Internet]. 2013 Jan;170(1):83–93. Available from: http://psychiatryonline.org/doi/abs/10.1176/appi.ajp.2012.12010121

38. Barlow A, Mullany B, Neault N, Goklish N, Billy T, Hastings R, et al. Paraprofessional-delivered home-visiting intervention for American Indian teen mothers and children: 3-year outcomes from a randomized controlled trial. Am J Psychiatry [Internet]. 2015 Feb 1;172(2):154–62. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25321149

39. Cheng S, Kondo N, Aoki Y, Kitamura Y, Takeda Y, Yamagata Z. The effectiveness of early intervention and the factors related to child behavioural problems at age 2: A randomized controlled trial. Early Hum Dev [Internet]. 2007 Oct;83(10):683–91. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0378378207000230

40. Salomonsson B, Sandell R. A randomized controlled trial of mother-infant psychoanalytic treatment: I. Outcomes on self-report questionnaires and external ratings. Infant Ment Health J [Internet]. 2011 Mar;32(2):207–31. Available from: https://onlinelibrary.wiley.com/doi/10.1002/imhj.20291

41. DC Z to T (Organization)., Force 0-3R Revision Task. DC: 0-3R: Diagnostic classification of mental health and developmental disorders of infancy and early childhood. Zero to Three; 2005.

42. Östberg M, Hagekull B, Wettergren S. A measure of parental stress in mothers with small children: dimensionality, stability and validity. Scand J Psychol. 1997;38(3):199–208.

43. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th

ed., T. Washington DA, editor. 2000.

44. Bion WR. Learning from experience (1962). London: Karnac. 1991;

45. WINNICOTT DW. Transitional objects and transitional phenomena; a study of the first not-me possession. Int J Psychoanal. 1953;34(2):89–97.

46. Salomonsson MW, Sorjonen K, Salomonsson B. A Long-term follow-up of a randomized controlled trial of mother-infant psychoanalytic treatment: Outcomes on the children. Infant Ment Health J [Internet]. 2015;36(1):12–29. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25451617

47. Salomonsson MW, Sorjonen K, Salomonsson B. A LONG-TERM FOLLOW-UP OF A RANDOMIZED CONTROLLED TRIAL OF MOTHER-INFANT PSYCHOANALYTIC TREATMENT: OUTCOMES ON THE CHILDREN. Infant Ment Health J [Internet]. 2015 Jan;36(1):12–29. Available from: https://onlinelibrary.wiley.com/doi/10.1002/imhj.21478

48. Kitzman H, Olds DL, Henderson CR, Hanks C, Cole R, Tatelbaum R, et al. Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: a randomized controlled trial. Jama. 1997;278(8):644–52.

49. Bronfenbrenner U. The ecology of human development: Experiments by nature and design. Harvard university press; 1979.

50. Bronfenbrenner U. Developmental ecology through space and time: A future perspective [w:] Examining lives in context: Perspectives on the ecology of human development. P. Moen, GH Elder, JR., & K. Lüscher (red.), American Psychological …; 1995.

51. Olds DL, Kitzman H, Cole R, Robinson J, Sidora K, Luckey DW, et al. Effects of nurse home-visiting on maternal life course and child development: age 6 follow-up results of a randomized trial. Pediatrics. 2004;114(6):1550–9.

52. Olds DL, Kitzman H, Hanks C, Cole R, Anson E, Sidora-Arcoleo K, et al. Effects of Nurse Home Visiting on Maternal and Child Functioning: Age-9 Follow-up of a Randomized Trial.

Pediatrics [Internet]. 2007 Oct 1;120(4):e832–45. Available from: https://publications.aap.org/pediatrics/article/120/4/e832/71224/Effects-of-Nurse-Home-Visiting-on-Maternal-and

53. Kitzman HJ, Olds DL, Cole RE, Hanks CA, Anson EA, Arcoleo KJ, et al. Enduring effects of prenatal and infancy home visiting by nurses on children: follow-up of a randomized trial among children at age 12 years. Arch Pediatr Adolesc Med. 2010;164(5):412–8.

54. Olds DL, Kitzman HJ, Cole RE, Hanks CA, Arcoleo KJ, Anson EA, et al. Enduring Effects of Prenatal and Infancy Home Visiting by Nurses on Maternal Life Course and Government Spending. Arch Pediatr Adolesc Med [Internet]. 2010 May 1;164(5). Available from: http://archpedi.jamanetwork.com/article.aspx?doi=10.1001/archpediatrics.2010.49

55. Olds DL, Kitzman H, Anson E, Smith JA, Knudtson MD, Miller T, et al. Prenatal and infancy nurse home visiting effects on mothers: 18-year follow-up of a randomized trial. Pediatrics. 2019;144(6).

56. Kitzman H, Olds DL, Knudtson MD, Cole R, Anson E, Smith JA, et al. Prenatal and infancy nurse home visiting and 18-year outcomes of a randomized trial. Pediatrics. 2019;144(6).

57. Olds DL, Robinson J, O'Brien R, Luckey DW, Pettitt LM, Henderson CR, et al. Home Visiting by Paraprofessionals and by Nurses: A Randomized, Controlled Trial. Pediatrics [Internet]. 2002 Sep 1;110(3):486–96. Available from: https://publications.aap.org/pediatrics/article/110/3/486/64211/Home-Visiting-by-Paraprofessionals-and-by-Nurses-A

58. Olds DL, Robinson J, Pettitt L, Luckey DW, Holmberg J, Ng RK, et al. Effects of Home Visits by Paraprofessionals and by Nurses: Age 4 Follow-Up Results of a Randomized Trial. Pediatrics [Internet]. 2004 Dec 1;114(6):1560–8. Available from: https://publications.aap.org/pediatrics/article/114/6/1560/67883/Effects-of-Home-Visits-by-Paraprofessionals-and-by

59. Olds DL, Holmberg JR, Donelan-McCall N, Luckey DW, Knudtson MD, Robinson J. Effects of home visits by paraprofessionals and by nurses on children: follow-up of a randomized trial at ages 6 and 9 years. JAMA Pediatr. 2014;168(2):114–21.

60. Berlin LJ, Martoccio TL, Appleyard Carmody K, Goodman WB, O'Donnell K, Williams J, et al. Can typical US home visits affect infant attachment? Preliminary findings from a randomized trial of Healthy Families Durham. Attach Hum Dev. 2017;19(6):559–79.

61. Bronfenbrenner U. Ecology of the family as a context for human development: Research perspectives. Dev Psychol. 1986;22(6):723.

62. Treatment C for SA. Trauma-informed care in behavioral health services. 2014;

63. Boivin MJ, Bangirana P, Nakasujja N, Page CF, Shohet C, Givon D, et al. A year-long caregiver training program to improve neurocognition in preschool Ugandan HIV-exposed children. J Dev Behav Pediatr JDBP. 2013;34(4):269.

64. Feuersvin T. The theory of structural cognitive modifiability. Rep NO PUB DATE NOTE AVAILABLE FROM. 1990;68:109–24.

65. Breitenstein SM, Gross D, Fogg L, Ridge A, Garvey C, Julion W, et al. The Chicago Parent Program: Comparing 1-year outcomes for African American and Latino parents of young children. Res Nurs Health. 2012;35(5):475–89.

66. van Doesum KTM, Riksen-Walraven JM, Hosman CMH, Hoefnagels C. A Randomized Controlled Trial of a Home-Visiting Intervention Aimed at Preventing Relationship Problems in Depressed Mothers and Their Infants. Child Dev [Internet]. 2008 May;79(3):547–61. Available from: https://onlinelibrary.wiley.com/doi/10.1111/j.1467-8624.2008.01142.x

67. Beck AT, Ward C, Mendelson M. Beck depression inventory (BDI). Arch Gen Psychiatry. 1961;4(6):561–71.

68. Kersten-Alvarez LE, Hosman CMH, Riksen-Walraven JM, Van Doesum KTM, Hoefnagels C. Long-term effects of a home-visiting intervention for depressed mothers and their infants. J

Child Psychol Psychiatry. 2010;51(10):1160–70.

69. Eddy JM, Shortt JW, Martinez CR, Holmes A, Wheeler A, Gau J, et al. Outcomes from a randomized controlled trial of the relief nursery program. Prev Sci. 2020;21(1):36–46.

70. Lowell DI, Carter AS, Godoy L, Paulicin B, Briggs-Gowan MJ. A randomized controlled trial of Child FIRST: A comprehensive home-based intervention translating research into early childhood practice. Child Dev. 2011;82(1):193–208.

71. Fraiberg L. Clinical studies in infant mental health: The first year of life. Tavistock; 1980.

72. Van Horn P, Lieberman AF. Using dyadic therapies to treat traumatized young children. In: Treating traumatized children. Routledge; 2008. p. 228–42.

73. Fergusson DM, Grant H, Horwood LJ, Ridder EM. Randomized Trial of the Early Start Program of Home Visitation. Pediatrics [Internet]. 2005 Dec 1;116(6):e803–9. Available from: https://publications.aap.org/pediatrics/article/116/6/e803/63000/Randomized-Trial-of-the-Early-Start-Program-of

74. Fergusson DM, Boden JM, Horwood LJ. Nine-year follow-up of a home-visitation program: a randomized trial. Pediatrics. 2013;131(2):297–303.

75. Wake M, Tobin S, Girolametto L, Ukoumunne OC, Gold L, Levickis P, et al. Outcomes of population based language promotion for slow to talk toddlers at ages 2 and 3 years: Let's Learn Language cluster randomised controlled trial. Bmj. 2011;343.

76. Stolk MN, Mesman J, van Zeijl J, Alink LRA, Bakermans-Kranenburg MJ, van IJzendoorn MH, et al. Early parenting intervention: Family risk and first-time parenting related to intervention effectiveness. J Child Fam Stud. 2008;17(1):55.

77. Mendelsohn AL, Valdez PT, Flynn V, Foley GM, Berkule SB, Tomopoulos S, et al. Use of videotaped interactions during pediatric well-child care: impact at 33 months on parenting and on child development. J Dev Behav Pediatr JDBP. 2007;28(3):206.

78. Morpeth L, Blower S, Tobin K, Taylor RS, Bywater T, Edwards RT, et al. The effectiveness of the Incredible Years pre-school parenting programme in the United Kingdom: a pragmatic randomised controlled trial. Child Care Pract. 2017;23(2):141–61.

79. Duggan A, McFarlane E, Fuddy L, Burrell L, Higman SM, Windham A, et al. Randomized trial of a statewide home visiting program: impact in preventing child abuse and neglect. Child Abuse Negl [Internet]. 2004;28(6):597–622. Available from: http://www.sciencedirect.com/science/article/pii/S0145213404001061

80. Korfmacher J. The Kempe family stress inventory: A review. Child Abuse Negl. 2000;24(1):129–40.

81. Caldera D, Burrell L, Rodriguez K, Crowne SS, Rohde C, Duggan A. Impact of a statewide home visiting program on parenting and on child health and development. Child Abuse Negl. 2007;31(8):829–52.

82. Minkovitz CS, Hughart N, Strobino D, Scharfstein D, Grason H, Hou W, et al. A practice-based intervention to enhance quality of care in the first 3 years of life: the Healthy Steps for Young Children Program. Jama. 2003;290(23):3081–91.

83. Caughy MO, Huang K-Y, Miller T, Genevro JL. The effects of the Healthy Steps for Young Children Program: results from observations of parenting and child development. Early Child Res Q. 2004;19(4):611–30.

84. Dishion TJ, Shaw D, Connell A, Gardner F, Weaver C, Wilson M. The family check-up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. Child Dev. 2008;79(5):1395–414.

85. Sitnick SL, Shaw DS, Gill A, Dishion T, Winter C, Waller R, et al. Parenting and the Family Check-Up: Changes in observed parent-child interaction following early childhood intervention. J Clin Child Adolesc Psychol. 2015;44(6):970–84.

86. Reuben JD, Shaw DS, Brennan LM, Dishion TJ, Wilson MN. A family-based intervention for

improving children's emotional problems through effects on maternal depressive symptoms. J Consult Clin Psychol. 2015;83(6):1142.

87. Smith JD, Berkel C, Hails KA, Dishion TJ, Shaw DS, Wilson MN. Predictors of participation in the Family Check-Up program: A randomized trial of yearly services from age 2 to 10 years. Prev Sci. 2018;19(5):652–62.

88. Stams GJM, Juffer F, Van Ijzendoorn MH, Hoksbergen RC. Attachment-based intervention in adoptive families in infancy and children's development at age 7: Two follow-up studies. Br J Dev Psychol. 2001;19(2):159–80.

89. Johnston BD, Huebner CE, Tyll LT, Barlow WE, Thompson RS. Expanding developmental and behavioral services for newborns in primary care: effects on parental well-being, practice, and satisfaction. Am J Prev Med. 2004;26(4):356–66.

90. Johnston BD, Huebner CE, Anderson ML, Tyll LT, Thompson RS. Healthy steps in an integrated delivery system: child and parent outcomes at 30 months. Arch Pediatr Adolesc Med. 2006;160(8):793–800.

91. Schaub S, Ramseier E, Neuhauser A, Burkhardt SCA, Lanfranchi A. Effects of home-based early intervention on child outcomes: A randomized controlled trial of Parents as Teachers in Switzerland. Early Child Res Q. 2019;48:173–85.

92. Sheridan SM, Knoche LL, Edwards CP, Bovaird JA, Kupzyk KA. Parent engagement and school readiness: Effects of the Getting Ready intervention on preschool children's social–emotional competencies. Early Educ Dev. 2010;21(1):125–56.

93. Sierau S, Dähne V, Brand T, Kurtz V, von Klitzing K, Jungmann T. Effects of home visitation on maternal competencies, family environment, and child development: a randomized controlled trial. Prev Sci. 2016;17(1):40–51.

94. Kliem S, Sandner M. Prenatal and Infancy Home Visiting in Germany: 7-Year Outcomes of a Randomized Trial. Pediatrics [Internet]. 2021 Aug 1;148(2). Available from:

https://publications.aap.org/pediatrics/article/148/2/e2020049610/179790/Prenatal-and-Infancy-Home-Visiting-in-Germany-7

95. Oxford ML, Hash JB, Lohr MJ, Bleil ME, Fleming CB, Unützer J, et al. Randomized trial of promoting first relationships for new mothers who received community mental health services in pregnancy. Dev Psychol. 2021;57(8):1228.

96. Spieker SJ, Oxford ML, Kelly JF, Nelson EM, Fleming CB. Promoting first relationships: Randomized trial of a relationship-based intervention for toddlers in child welfare. Child Maltreat. 2012;17(4):271–86.

97. Breitenstein SM, Fehrenbacher C, Holod AF, Schoeny ME. A randomized trial of digitally delivered, self-administered parent training in primary care: effects on parenting and child behavior. J Pediatr. 2021;231:207–14.

98. Yagmur S, Mesman J, Malda M, Bakermans-Kranenburg MJ, Ekmekci H. Video-feedback intervention increases sensitive parenting in ethnic minority mothers: a randomized control trial. Attach Hum Dev. 2014;16(4):371–86.

99. O'Farrelly C, Watt H, Babalis D, Bakermans-Kranenburg MJ, Barker B, Byford S, et al. A Brief Home-Based Parenting Intervention to Reduce Behavior Problems in Young Children. JAMA Pediatr [Internet]. 2021 Jun 1;175(6):567. Available from: https://jamanetwork.com/journals/jamapediatrics/fullarticle/2777306

100. O'Farrelly C, Barker B, Watt H, Babalis D, Bakermans-Kranenburg M, Byford S, et al. A video-feedback parenting intervention to prevent enduring behaviour problems in at-risk children aged 12-36 months: the Healthy Start, Happy Start RCT. Health Technol Assess. 2021;25(29):1.

101. Chang SM, Grantham-McGregor SM, Powell CA, Vera-Hernández M, Lopez-Boo F, Baker-Henningham H, et al. Integrating a Parenting Intervention With Routine Primary Health Care: A Cluster Randomized Trial. Pediatrics [Internet]. 2015 Aug 1;136(2):272–80. Available

from: https://publications.aap.org/pediatrics/article/136/2/272/33814/Integrating-a-Parenting-Intervention-With-Routine

102. Smith JA, Chang SM, Lopez Boo F, Ferro M de la P, Walker SP. Are Benefits From a Parenting Intervention Delivered Through the Health Services Sustainable? Follow-Up of a Randomized Evaluation in Jamaica. Acad Pediatr [Internet]. 2021 May;21(4):638–45. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1876285921000048

103. Simkiss DE, Snooks HA, Stallard N, Kimani PK, Sewell B, Fitzsimmons D, et al. Effectiveness and cost-effectiveness of a universal parenting skills programme in deprived communities: multicentre randomised controlled trial. BMJ Open [Internet]. 2013 Jul 1;3(8):e002851. Available from: https://bmjopen.bmj.com/lookup/doi/10.1136/bmjopen-2013-002851

104. Kohlhoff J, Morgan S, Briggs N, Egan R, Niec L. Parent–Child Interaction Therapy with Toddlers: A Community-based Randomized Controlled Trial with Children Aged 14-24 Months. J Clin Child Adolesc Psychol [Internet]. 2021 May 4;50(3):411–26. Available from: https://www.tandfonline.com/doi/full/10.1080/15374416.2020.1723599

105. Kohlhoff J, Morgan S, Briggs N, Egan R, Niec L. Parent–Child Interaction Therapy with Toddlers in a community-based setting: Improvements in parenting behavior, emotional availability, child behavior, and attachment. Infant Ment Health J [Internet]. 2020 Jul 26;41(4):543–62. Available from: https://onlinelibrary.wiley.com/doi/10.1002/imhj.21864

106. Weitlauf AS, Broderick N, Stainbrook JA, Taylor JL, Herrington CG, Nicholson AG, et al. Mindfulness-Based Stress Reduction for Parents Implementing Early Intervention for Autism: An RCT. Pediatrics [Internet]. 2020 Apr 1;145(Supplement_1):S81–92. Available from: https://publications.aap.org/pediatrics/article/145/Supplement_1/S81/11567/Mindfulness-Based-Stress-Reduction-for-Parents

107. Rogers SJ, Estes A, Vismara L, Munson J, Zierhut C, Greenson J, et al. Enhancing Low-Intensity Coaching in Parent Implemented Early Start Denver Model Intervention for Early

Autism: A Randomized Comparison Treatment Trial. J Autism Dev Disord [Internet]. 2019 Feb 10;49(2):632–46. Available from: http://link.springer.com/10.1007/s10803-018-3740-5

108. Lord C, Luyster RJ, Gotham K, Guthrie W. Autism Diagnostic Observation Schedule-Toddler Module (ADOST). Torrance, CA West Psychol Serv. 2009;

109. Lenze SN, Potts MA, Rodgers J, Luby J. Lessons learned from a pilot randomized controlled trial of dyadic interpersonal psychotherapy for perinatal depression in a low-income population. J Affect Disord [Internet]. 2020 Jun;271:286–92. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0165032719322104

110. Goodson BD, Layzer JI, St.Pierre RG, Bernstein LS, Lopez M. Effectiveness of a comprehensive, five-year family support program for low-income children and their families: findings from the comprehensive child development program. Early Child Res Q [Internet]. 2000 Jan;15(1):5–39. Available from: https://linkinghub.elsevier.com/retrieve/pii/S088520069900040X

111. Booth-LaForce C, Oxford ML, Barbosa-Leiker C, Burduli E, Buchwald DS. Randomized Controlled Trial of the Promoting First Relationships® Preventive Intervention for Primary Caregivers and Toddlers in an American Indian Community. Prev Sci [Internet]. 2020 Jan 21;21(1):98–108. Available from: http://link.springer.com/10.1007/s11121-019-01053-x

112. Tomfohr-Madsen LM, Giesbrecht GF, Madsen JW, MacKinnon A, Le Y, Doss B. Improved Child Mental Health Following Brief Relationship Enhancement and Co-Parenting Interventions During the Transition to Parenthood. Int J Environ Res Public Health [Internet]. 2020 Jan 25;17(3):766. Available from: https://www.mdpi.com/1660-4601/17/3/766

113. Belsky J, Putnam S, Crnic K. Coparenting, parenting, and early emotional development. New Dir Child Adolesc Dev. 1996;1996(74):45–55.

114. Cowan CP, Cowan PA. When partners become parents: The big life change for couples. basic books; 1992.

115. Christensen A, Jacobson NS, Babcock JC. Integrative behavioral couple therapy. In: Clinical handbook of couple therapy. New York, NY, US: The Guilford Press; 1995. p. 31–64.

116. Doyle O, McNamara K, Cheevers C, Finnegan S, Logue C, McEntee L. Preparing for Life early childhood intervention : impact evaluation report 1 : recruitment and baseline characteristics. 2010.

117. Doyle, Orla UGIPET. Preparing for Life Early Childhood Intervention Assessing the Early Impact of Preparing for Life at Six Months. 2012.

118. Doyle, Orla UGIPET. Preparing for Life Early Childhood Intervention Assessing the Early Impact of Preparing for Life at Twelve Months. 2013.

119. Doyle, Orla UGIPET. Preparing for Life Early Childhood Intervention Assessing the Early Impact of Preparing for Life at Eighteen Months. 2013.

120. Doyle, Orla UGIPET. Preparing For Life: Early Childhood Intervention Assessing the Impact of Preparing For Life at Twenty-four Months. 2013.

121. Doyle, Orla UGIPET. Preparing For Life: Early Childhood Intervention Assessing the Impact of Preparing For Life at Thirty-six Months. 2014.

122. Doyle, Orla UGIPET, Team. Preparing for Life Early Childhood Intervention Assessing the Early Impact of Preparing for Life at Forty-Eight Months. 2015.

123. Mejdoubi J, van den Heijkant SCCM, van Leerdam FJM, Heymans MW, Crijnen A, Hirasing RA. The Effect of VoorZorg, the Dutch Nurse-Family Partnership, on Child Maltreatment and Development: A Randomized Controlled Trial. Carlo WA, editor. PLoS One [Internet]. 2015 Apr 1;10(4):e0120182. Available from: https://dx.plos.org/10.1371/journal.pone.0120182

124. Klein Velderman M, Bakermans-Kranenburg MJ, Juffer F, Van IJzendoorn MH, Mangelsdorf SC, Zevalkink J. Preventing preschool externalizing behavior problems through video-feedback intervention in infancy [Internet]. Vol. 27, Infant Mental Health Journal. 2006. p. 466–93. Available from: https://onlinelibrary.wiley.com/doi/10.1002/imhj.20104

125. Klein Velderman M, Bakermans-Kranenburg MJ, Juffer F, van IJzendoorn MH. Effects of attachment-based interventions on maternal sensitivity and infant attachment: Differential susceptibility of highly reactive infants. J Fam Psychol [Internet]. 2006 Jun;20(2):266–74. Available from: http://doi.apa.org/getdoi.cfm?doi=10.1037/0893-3200.20.2.266

126. Longhi E, Murray L, Wellsted D, Hunter R, MacKenzie K, Taylor-Colls S, et al. Minding the baby® home-visiting programme for vulnerable young mothers. NSPCC; 2020.

127. Fonagy P, Gergely G, Jurist EL, Target M. Affect Regulation, Mentalization, and the Development of the Self [Internet]. Fonagy P, Gergely G, Jurist EL, editors. Routledge; 2018. Available from: https://www.taylorfrancis.com/books/9780429896415

128. Kalinauskienė L, Čekuolienė D, Kusakovskaja I, Kiltanavičiūtė V. Effects of Video-Feedback Correction of Infant–Mother Interaction on Two-Years-Olds' Behaviour. Psichologija (Vilniaus Univ). 2009;40:53–65.

129. Sadler LS, Slade A, Close N, Webb DL, Simpson T, Fennie K, et al. Minding the Baby: Enhancing Reflectiveness to Improve Early Health and Relationship Outcomes in an Interdisciplinary Home-Visiting Program. Infant Ment Health J. 2013 Sep;34(5):391–405.

130. Allen JG, Fonagy P. The handbook of mentalization-based treatment. John Wiley & Sons; 2006.

131. Ordway MR, Sadler LS, Dixon J, Close N, Mayes L, Slade A. Lasting Effects of an Interdisciplinary Home Visiting Program on Child Behavior: Preliminary Follow-Up Results of a Randomized Trial. J Pediatr Nurs [Internet]. 2014 Jan;29(1):3–13. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0882596313001577

132. Slade A, Holland ML, Ordway MR, Carlson EA, Jeon S, Close N, et al. Minding the Baby ®: Enhancing parental reflective functioning and infant attachment in an attachment-based, interdisciplinary home visiting program. Dev Psychopathol [Internet]. 2020 Feb 14;32(1):123–37. Available from:

https://www.cambridge.org/core/product/identifier/S0954579418001463/type/journal_article

133. Hiscock H, Gulenc A, Ukoumunne OC, Gold L, Bayer J, Shaw D, et al. Preventing Preschool Mental Health Problems: Population-Based Cluster Randomized Controlled Trial. J Dev Behav Pediatr [Internet]. 2018 Jan;39(1):55–65. Available from: https://journals.lww.com/00004703-201801000-00007

134. Maselko J, Sikander S, Turner EL, Bates LM, Ahmad I, Atif N, et al. Effectiveness of a peer-delivered, psychosocial intervention on maternal depression and child development at 3 years postnatal: a cluster randomised trial in Pakistan. The Lancet Psychiatry [Internet]. 2020 Sep;7(9):775–87. Available from: https://linkinghub.elsevier.com/retrieve/pii/S2215036620302583

135. Feinberg ME, Jones DE, Hostetler ML, Roettger ME, Paul IM, Ehrenthal DB. Couple-Focused Prevention at the Transition to Parenthood, a Randomized Trial: Effects on Coparenting, Parenting, Family Violence, and Parent and Child Adjustment. Prev Sci [Internet]. 2016 Aug 22;17(6):751–64. Available from: http://link.springer.com/10.1007/s11121-016-0674-z

136. Feinberg ME. The internal structure and ecological context of coparenting: A framework for research and intervention. Parent Sci Pract. 2003;3(2):95–131.

137. Jones DE, Feinberg ME, Hostetler ML, Roettger ME, Paul IM, Ehrenthal DB. Family and Child Outcomes 2 Years After a Transition to Parenthood Intervention. Fam Relat [Internet]. 2018 Apr;67(2):270–86. Available from: https://onlinelibrary.wiley.com/doi/10.1111/fare.12309

138. Grantham-McGregor S, Adya A, Attanasio O, Augsburg B, Behrman J, Caeyers B, et al. Group Sessions or Home Visits for Early Childhood Development in India: A Cluster RCT. Pediatrics [Internet]. 2020 Dec 1;146(6). Available from: https://publications.aap.org/pediatrics/article/146/6/e2020002725/77094/Group-Sessions-or-Home-Visits-for-Early-Childhood

139. Liu S, Phu T, Dominguez A, Hurwich-Reiss E, McGee D, Watamura S, et al. Improving Caregiver Self-Efficacy and Children's Behavioral Outcomes via a Brief Strength-Based Video Coaching Intervention: Results from a Randomized Controlled Trial. Prev Sci [Internet]. 2021 May 7; Available from: https://link.springer.com/10.1007/s11121-021-01251-6

140. Kaminski JW, Perou R, Visser SN, Scott KG, Beckwith L, Howard J, et al. Behavioral and Socioemotional Outcomes Through Age 5 Years of the Legacy for Children Public Health Approach to Improving Developmental Outcomes Among Children Born Into Poverty. Am J Public Health [Internet]. 2013 Jun;103(6):1058–66. Available from: http://ajph.aphapublications.org/doi/10.2105/AJPH.2012.300996

141. Perou R, Robinson LR, Danielson ML, Claussen AH, Visser SN, Scott KG, et al. The Legacy for Children™ Randomized Control Trial: Effects on Cognition Through Third Grade for Young Children Experiencing Poverty. J Dev Behav Pediatr [Internet]. 2019 May;40(4):275–84. Available from: https://journals.lww.com/00004703-201905000-00006

142. Barry CM, Robinson LR, Kaminski JW, Danielson ML, Jones CL, Lang DL. Behavioral and Socioemotional Outcomes of the Legacy for Children Randomized Control Trial to Promote Healthy Development of Children Living in Poverty, 2 to 6 Years Postintervention. J Dev Behav Pediatr [Internet]. 2021 May 3;Publish Ah. Available from: https://journals.lww.com/10.1097/DBP.0000000000000962

143. Attanasio OP, Fernandez C, Fitzsimons EOA, Grantham-McGregor SM, Meghir C, Rubio-Codina M. Using the infrastructure of a conditional cash transfer program to deliver a scalable integrated early child development program in Colombia: cluster randomized controlled trial. BMJ [Internet]. 2014 Sep 29;349(sep29 5):g5785–g5785. Available from: https://www.bmj.com/lookup/doi/10.1136/bmj.g5785

144. Andrew A, Attanasio O, Fitzsimons E, Grantham-McGregor S, Meghir C, Rubio-Codina M. Impacts 2 years after a scalable early childhood development intervention to increase

psychosocial stimulation in the home: A follow-up of a cluster randomised controlled trial in Colombia. Bhutta ZA, editor. PLOS Med [Internet]. 2018 Apr 24;15(4):e1002556. Available from: https://dx.plos.org/10.1371/journal.pmed.1002556

145. Leung C, Tsang S, Lo C. Evaluation of Parent and Child Enhancement (PACE) Program. Res Soc Work Pract [Internet]. 2017 Jan 3;27(1):19–35. Available from: http://journals.sagepub.com/doi/10.1177/1049731515578882

146. Sanders MR. Triple P-Positive Parenting Program: Towards an empirically validated multilevel parenting and family support strategy for the prevention of behavior and emotional problems in children. Clin Child Fam Psychol Rev. 1999;2(2):71–90.

147. Eyberg SM, Funderburk B. Parent-child interaction therapy protocol. Gainesville, FL PCIT Int. 2011;

148. Baker AJL, Piotrkowski CS, Brooks-Gunn J. The home instruction program for preschool youngsters (HIPPY). Futur Child. 1999;116–33.

149. Leung C, Tsang S, Dean S. Outcome evaluation of the hands-on parent empowerment (HOPE) program. Res Soc Work Pract. 2011;21(5):549–61.

150. Bywater T, Berry V, Blower S, Bursnall M, Cox E, Mason-Jones A, et al. A randomized controlled trial of a proportionate universal parenting program delivery model (E-SEE Steps) to enhance child social-emotional wellbeing. PLoS One. 2022;17(4):e0265200.

151. MacKinnon AL, Simpson KM, Salisbury MR, Bobula J, Penner-Goeke L, Berard L, et al. Building Emotional Awareness and Mental Health (BEAM): A pilot randomized controlled trial of an App-based program for mothers of toddlers. Front Psychiatry. 2022;1330.

152. Blower SL, Berry VL, Bursnall MC, Cohen J, Gridley N, Loban A, et al. Enhancing Social-Emotional Outcomes in Early Years (E-SEE): Randomized Pilot Study of Incredible Years Infant and Toddler Programs. J Child Fam Stud. 2021;30(8):1933–49.

153. Davies SR, Caldwell DM, Lopez-Lopez JA, Dawson S, Wiles N, Kessler D, et al. The process

and delivery of cognitive behavioural therapy (CBT) for depression in adults: a network meta-analysis. Cochrane Database Syst Rev. 2018;(10).

154. Jacobson NS, Christensen A, Prince SE, Cordova J, Eldridge K. Integrative behavioral couple therapy: an acceptance-based, promising new treatment for couple discord. J Consult Clin Psychol. 2000;68(2):351.

155. Bandura A. Social foundations of thought and action. Englewood Cliffs, NJ. 1986;1986(23–28).

156. McCollum JA, Yates TJ. Dyad as focus, triad as means: A family-centered approach to supporting parent-child interactions. Infants Young Child. 1994;6(4):54–63.

157. Sheridan SM, Kratochwill TR. Conjoint behavioral consultation: Promoting family-school connections and interventions. Springer Science & Business Media; 2007.

158. Grote NK, Swartz HA, Zuckoff A. Enhancing Interpersonal Psychotherapy for Mothers and Expectant Mothers on Low Incomes: Adaptations and Additions. J Contemp Psychother [Internet]. 2008;38(1):23–33. Available from: https://doi.org/10.1007/s10879-007-9065-x

159. Bagner DM, Coxe S, Hungerford GM, Garcia D, Barroso NE, Hernandez J, et al. Behavioral Parent Training in Infancy: A Window of Opportunity for High-Risk Families. J Abnorm Child Psychol [Internet]. 2016;44(5):901–12. Available from: http://www.ncbi.nlm.nih.gov/pubmed/26446726

160. Hiscock H, Bayer JK, Price A, Ukoumunne OC, Rogers S, Wake M. Universal parenting programme to prevent early childhood behavioural problems: cluster randomised trial. Bmj. 2008;336(7639):318–21.

161. Bayer JK, Hiscock H, Ukoumunne OC, Scalzo K, Wake M. Three-year-old outcomes of a brief universal parenting intervention to prevent behaviour problems: randomised controlled trial. Arch Dis Child. 2010;95(3):187–92.

162. Barlow A, Mullany B, Neault N, Goklish N, Billy T, Hastings R, et al. Paraprofessional-

delivered home-visiting intervention for American Indian teen mothers and children: 3-year outcomes from a randomized controlled trial. Am J Psychiatry. 2015;172(2):154–62.

163. Cheng S, Kondo N, Aoki Y, Kitamura Y, Takeda Y, Yamagata Z. The effectiveness of early intervention and the factors related to child behavioural problems at age 2: a randomized controlled trial. Early Hum Dev. 2007;83(10):683–91.

164. Salomonsson MW, Sorjonen K, Salomonsson B. A long-term follow-up study of a randomized controlled trial of mother–infant psychoanalytic treatment: Outcomes on mothers and interactions. Infant Ment Health J. 2015;36(6):542–55.

165. Olds DL, Kitzman HJ, Cole RE, Hanks CA, Arcoleo KJ, Anson EA, et al. Enduring effects of prenatal and infancy home visiting by nurses on maternal life course and government spending: follow-up of a randomized trial among children at age 12 years. Arch Pediatr Adolesc Med. 2010;164(5):419–24.

166. Olds DL, Robinson J, Pettitt L, Luckey DW, Holmberg J, Ng RK, et al. Effects of home visits by paraprofessionals and by nurses: age 4 follow-up results of a randomized trial. Pediatrics. 2004;114(6):1560–8.

167. Fergusson DM, Grant H, Horwood LJ, Ridder EM. Randomized trial of the Early Start program of home visitation. Pediatrics. 2005;116(6):e803–9.

168. Duggan A, Caldera D, Rodriguez K, Burrell L, Rohde C, Crowne SS. Impact of a statewide home visiting program to prevent child abuse. Child Abuse Negl. 2007;31(8):801–27.

169. Daly C, Downing BC, Welton NJ. A Practical Guide to Inconsistency Checks in Bayesian Network Meta-Analysis. 2022;

170. Dias S, Welton NJ, Sutton AJ, Caldwell DM, Lu G, Ades AE. Evidence Synthesis for Decision Making 4. Med Decis Mak [Internet]. 2013 Jul 26;33(5):641–56. Available from: http://journals.sagepub.com/doi/10.1177/0272989X12455847

171. Nikolakopoulou A, Higgins JPT, Papakonstantinou T, Chaimani A, Del Giovane C, Egger M,

et al. CINeMA: An approach for assessing confidence in the results of a network meta-analysis. PLOS Med [Internet]. 2020 Apr 3;17(4):e1003082. Available from: https://dx.plos.org/10.1371/journal.pmed.1003082

172. Higgins JPT, Jackson D, Barrett JK, Lu G, Ades AE, White IR. Consistency and inconsistency in network meta-analysis: concepts and models for multi-arm studies. Res Synth Methods. 2012 Jun;3(2):98–110.

173. Dias S, Welton NJ, Caldwell DM, Ades AE. Checking consistency in mixed treatment comparison meta-analysis. Stat Med [Internet]. 2010 Mar 30;29(7–8):932–44. Available from: https://doi.org/10.1002/sim.3767

174. Leckie G, Charlton C. Runmlwin: a program to run the MLwiN multilevel modeling software from within Stata. J Stat Softw. 2013;52:1–40.

175. Spiegelhalter DJ, Best NG, Carlin BP, Van Der Linde A. Bayesian measures of model complexity and fit. J R Stat Soc Ser B (Statistical Methodol [Internet]. 2002 Oct 1;64(4):583–639. Available from: https://doi.org/10.1111/1467-9868.00353