

Review: Attachment and attachment-related outcomes in preschool children – a review of recent evidence

Barlow, J. , Schrader-McMillan, A. , Axford, N. , Wrigley, Z. , Sonthalia, S. , Wilkinson, T. , Rawsthorn, M. , Toft, A. and Coad, J.

Author post-print (accepted) deposited by Coventry University's Repository

Original citation & hyperlink:

Barlow, J. , Schrader-McMillan, A. , Axford, N. , Wrigley, Z. , Sonthalia, S. , Wilkinson, T. , Rawsthorn, M. , Toft, A. and Coad, J. (2016) Review: Attachment and attachment-related outcomes in preschool children – a review of recent evidence. *Child and Adolescent Mental Health*, volume 21 (1): 11-20

<http://dx.doi.org/10.1111/camh.12138>

DOI 10.1111/camh.12138

ISSN 1475-357X

ESSN 1475-3588

Publisher: Wiley

This is an Accepted Manuscript of an article published by Taylor & Francis in *Child and Adolescent Mental Health* on 25th November 2015, available online:

<http://www.tandfonline.com/10.1111/camh.12138>

Copyright © and Moral Rights are retained by the author(s) and/ or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This item cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.

This document is the author's post-print version, incorporating any revisions agreed during the peer-review process. Some differences between the published version and this version may remain and you are advised to consult the published version if you wish to cite from it.

**Interventions to Improve Attachment in Preschool Children:
A review of recent evidence**

Jane Barlow (1), Nick Axford (2), Anita Schrader-McMillan (1), Zoe Wrigley (2), Shreya Sonthalia (2), Tom Wilkinson (2) and Michaela Rawsthorne (2), Alex Toft (3) Jane Coad (3).

(1) Warwick Medical School, University of Warwick

(2) Dartington Social Research Unit

(3) Coventry University

Abstract

Background: Secure attachment is associated with better outcomes across all domains in childhood, with insecure and disorganised attachment being associated with a range of later psychopathologies. This is of concern because insecure and disorganised attachment is common, particularly in disadvantaged populations.

Aims: This paper presents the findings of a review of secondary and primary studies evaluating the effectiveness of interventions aimed at improving attachment-related outcomes on a targeted or indicated basis, which was undertaken as part of an update of the evidence base for the Healthy Child Programme 0-5 Years.

Method: A systematic search of key electronic databases was undertaken to identify secondary and primary sources of data addressing the research question, and that had been published between 2008 and 2014.

Findings: Six systematic reviews and 10 RCTs were identified that had evaluated the effectiveness of selective or indicated interventions aimed at improving attachment-related outcomes in children aged 0-5 years. Effective methods of working include video feedback, home visiting programmes, and parent-infant

psychotherapy. Promising methods of working include mentalisation-based programmes and group-based parenting programmes such as Mellow Babies.

Conclusions: A number of methods of working to promote attachment-related outcomes are now being recommended as part of the Healthy Child Programme to improve attachment related outcomes in preschool children. The implications in terms of the role and contribution of CAMHS practitioners are discussed.

Key Practitioner messages

- This review has identified a range of innovative methods of working that have been found to improve outcomes that are associated with attachment, including parental sensitivity;
- The identified interventions are not yet routinely available in the UK;
- Although the methods of working and the underpinning theories of change are diverse, the review has identified some potentially core skills required by practitioners working with preschool children including mentalisation-based techniques and videofeedback.
- Some of the more specialist interventions should be offered by CAMHS practitioners.

Key words: Healthy Child Programme; 0 – 5 years; targeted intervention; attachment; parental sensitivity; early years

Background

Attachment security has been identified as being significantly associated with a range of improved outcomes for children across all domains of functioning including emotional, social and behavioural adjustment, scholastic achievement and peer-rated social status (Sroufe, 2005), while both insecure and disorganised attachment are associated with a range of later problems (van der Voort et al., 2014), including externalising disorders (Fearon et al., 2010), dissociation (Lyons-Ruth et al., 2006), PTSD (MacDonald et al., 2008) and personality disorder (Steele & Siever, 2010). For example, one longitudinal follow-up study of children disorganised at 1-year of age found that by six years of age the children were showing signs of controlling behaviours toward the parent, avoidance of the parent, dissociative symptoms, behavioural/oppositional problems, emotional disconnection, aggression toward peers and low social competence in preschool (Lieberman & Amaya-Jackson, 2005).

These issues are of concern because current data suggests that only two thirds of children are securely attached, and that disorganised attachment has a prevalence of 15-19% in population samples (De Wolff & Van Ijzendoorn, 1997); up to 40% in disadvantaged populations (e.g. Weinfield, 2004; Carlson, 1998); and as many as 80% in maltreated populations (Cyr et al., 2010; Carlson et al., 1989).

It has been suggested that many of the family correlates of aggressive child behaviour are present in infancy before the onset of the type of coercive cycles of interaction that have formed the basis of many behavioural models of working (Lyons-Ruth, 1996), and an early systematic review of 12 studies found that parental sensitivity was a significant predictor of such security (De Wolff, 1997). However, such sensitivity only explained around a third of the total variance, and recent research has identified the importance of the specific nature or quality of the attunement or contingency between parent and infant (Beebe et al., 2010), the parent's capacity for what has been termed 'maternal mind-mindedness' (Meins et al., 2001) or 'reflective function' (Slade et al., 2001), and a range of anomalous forms of parent-infant interaction (Lyons-Ruth, 2005).

A range of policy documents have now explicitly highlighted the importance of promoting children's wellbeing during the first two years of life (e.g. Field, 2010; Allen, 2011; Munro, 2011; Tickell, 2011), and recent key documents include *Conception to Age 2: The Age of Opportunity* (Wave Trust, 2013) and *The 1001 Days: the Importance of Conception to Age 2 period* (Cross Party Manifesto, 2014). *Fair Society, Healthy Lives* (Marmot, 2010) highlighted the importance of both pregnancy and the first two years of life in terms of equalising the life-chances of children, and *Our Health and Wellbeing Today* (DH, 2010) similarly pointed to the importance of 'starting well', focusing in particular on the health of mothers during pregnancy, and parenting during the early years.

The promotion of parenting and emotional and behavioural wellbeing in children is one of the explicit goals of the Healthy Child Programme (HCP), which is the

key universal public health service for improving the health and wellbeing of children, through health and development reviews, health promotion, parenting support, and screening and immunisation programmes. Its goals are to identify and treat problems early, help parents to care well for their children, change health behaviours and protect against preventable diseases. The programme is evidence-based and aims to prevent problems in child health and development, and contribute to a reduction in health inequalities. The HCP is published in two volumes – ‘Pregnancy and the First Five Years of Life’, and ‘From 5 to 19 Years Old’. The evidence underpinning the current programme for 0-5 year-olds was recently updated (Axford et al., 2015), and this paper presents the findings of that review in terms of interventions that are aimed at improving attachment.

Method

A rapid review was undertaken of a range of electronic databases to identify systematic reviews of interventions that met the agreed inclusion criteria. The review also involved a search for randomised controlled trials (RCTs) published during the relevant period that met the inclusion criteria and that had not been included in one of the existing reviews. The search was undertaken as part of an update of the Healthy Child Programme (DH, 2009), and therefore focuses explicitly on evidence published since the previous update of the evidence (Barlow et al., 2008). An advisory group of specialists across the UK was also established to identify gaps in the evidence.

Inclusion criteria

Only studies that met the following inclusion criteria were included:

- Study design – systematic reviews, reviews of reviews and RCTs;
- Intervention – any interventions provided on an individual or group basis, and aimed at improving the attachment-related outcomes listed below;
- Population – parents of preschool children;
- Outcomes – parental sensitivity; parent-infant/toddler interaction; attachment status etc.);
- Years – a search was undertaken for systematic review studies during the period January 2008 to July 2014 and for RCTs during the period January 2009 to November 2014.

Search terms and method

In order to identify studies meeting the inclusion criteria, relevant databases were searched, including those of key organisations (e.g. Cochrane Collaboration, NICE, EPPI Centre, Campbell Collaboration) and key electronic health, social science and education databases (e.g. PubMed, PsychInfo, CINAHL). A full list of search terms that were used can be found in the original report (see below for address).

Experts in the respective fields covered were consulted and asked to identify any systematic reviews or primary studies that were not identified by the search of electronic databases.

Data synthesis

Data from each of the included reviews and primary studies are presented using a narrative that both describes the intervention and summarises the results from

the individual studies. This paper presents only the results focusing on attachment, and a copy of the full report, including an assessment of the quality of the included studies, is available online at:

<https://www.gov.uk/government/publications/healthy-child-programme-rapid-review-to-update-evidence>.

Results

A total of 6 systematic reviews and 10 RCTs were identified. It should be noted that because the findings presented represent an update of an existing review, studies published prior to 2008 are not described below. We are not, however, aware of any inconsistencies in terms of the findings of the current review and those that were published prior to 2008. (Studies of sensitivity-based parenting interventions for preterm infants are not presented here – see reviews by Benzies et al. (2013) and Evans et al. (2014).

Infant massage

One systematic review was identified (Bennett et al., 2013), comprising 34 RCTs involving healthy parent-infant dyads in which the infant was under the age of six months. No significant differences were found for a range of aspects of infant temperament, parent-infant interaction and mental development. The authors concluded that the findings do not currently support the use of infant massage with low-risk groups of parents and infants. They argue that there may be more potential for change with demographically and socially deprived parent-infant dyads, and that future research should focus on this.

Video-feedback

Video-feedback involves a professional videotaping up to ten minutes of interaction between carer and baby, returning subsequently to examine the tape with the parent, and using the videotape to examine with the parent examples of positive parent-infant interaction.

One review of 29 studies (13 RCTs, 8 QEDs, 8 pre-post design) examined the effectiveness of video feedback on parental behaviours, sensitivity, responsiveness, verbal and non-verbal communication, and child problem behaviours (Fukkink, 2008). Of these, 23 included children aged under five years. A meta-analysis showed a positive, statistically significant effect for video feedback intervention on parenting behaviours. Brief video-feedback interventions with parents in high-risk groups were the most effective. The aggregate effect on child behaviour was described as being between 'small' and 'average'. The authors concluded that family programmes that include video feedback achieve the intended dual level effect: parents improve their interaction skills, which in turn help in the development of their children. Parents become more skilled in interacting with their young child and experience fewer problems and gain more pleasure from their role as parent.

We identified five further recent RCTs that had evaluated the effectiveness of video feedback with a range of high-risk parent-child dyads involving children under the age of 5 years, including Canadian maltreating parents (Moss et al., 2011), Portuguese parents living in poverty (Negrão et al., 2014), Turkish

minority parents living in the Netherlands (Yagmur et al., 2014), mothers of irritable infants (Cassidy et al., 2011) and Lithuanian mothers who were identified as insensitive when their child was five months old (Kalinauskiene et al., 2009).

Moss et al (2011) evaluated the effectiveness of a home delivered programme using video interaction with maltreating parents. The programme consisted of eight weekly home visits of approximately 90 minutes structured in four sequences, including discussion on a parent-chosen theme, videotaped interactive session, video feedback session and wrap-up session. The results of an RCT involving 67 maltreating caregiver-child dyads found significant improvements for the intervention group in parental sensitivity; more intervention children became secure and fewer remained insecure and more intervention children moved from being disorganised to organised. Older children in the intervention group showed lower levels of internalising and externalising problems (Moss et al., 2011).

Kalinauskiene et al. (2009) conducted an RCT of the video-feedback intervention to promote positive parenting (VIPP) developed at Leiden University (Juffer et al. 2008) with 54 Lithuanian mothers rated low in sensitive responsiveness. The intervention comprised five 90-minute sessions at home (the last one with fathers) and was delivered by two clinical psychologists. Infants were aged 6 months and 12 days on average at the first visit. The intervention had a statistically significant and large effect ($d=0.78$) on mothers' sensitive responsiveness. However, there was no effect on attachment security. The

authors concluded that a relatively brief and low-cost programme can effectively support mothers who lack sensitivity in the interactions with their infants.

Negrão et al. (2014) examined the use of VIPP-SD (Video-feedback Intervention to promote Positive Parenting and Sensitive Discipline) with Portuguese mothers of children between 1-4 years of age about whom there were concerns in terms of their caregiving, and who were living in poverty. The work involved three standard stages. The first two sessions focused primarily on building a relationship with the mother, focusing on child behaviour and emphasising positive interactions in the video feedback. The third and fourth sessions then focused actively on improving parenting behaviours by showing the mother when her parenting strategies work and to what other situations she could apply these strategies. The final two sessions provided feedback and information from the previous sessions in order to strengthen intervention effectiveness. In each session, mother and child interaction was videotaped followed by feedback of videos recorded in the previous session. Sessions 1-4 were scheduled at two-week intervals. The last two “booster” sessions (5-6) were scheduled one-month apart.

The results of a small RCT involving 55 families found significant improvements favouring the intervention group in overall measures of maternal emotional availability, child behaviour and family environment, with post hoc results showing significant improvements in a number of domains: maternal non-intrusiveness, child responsiveness and involvement. The domains of maternal sensitivity, structuring and non-hostility also improved but failed to achieve

significance. The results also showed a significant improvement in family cohesion but not expressiveness or conflict.

Yagmur et al. (2014) evaluated the effectiveness of a culturally sensitive adaptation of VIPP-SD for Turkish minority parents in the Netherlands (VIPP-TM). The intervention involved six home visits lasting 2.5-3 hours over four months. Visits were recorded, and used to illustrate themes. The results of an RCT involving 86 mother-infant dyads found significant improvements favouring the intervention groups for sensitive parenting and non-intrusiveness. There was no effect on maternal discipline overall or on the subscales for laxness, physical discipline, or supportive presence.

One study examined the effectiveness of an individually delivered version of the group-based Circle of Security programme, which involves the use of videotaped feedback to help the mother enhance her observation skills and to recognise infant signals related to these needs (Cassidy et al., 2011). The programme also helps parents to understand and manage psychological factors that may interfere with their responses. This programme involved three one-hour home visits every 3 weeks between 6.5 and 9 months. Approximately 2 weeks later, a final visit is delivered during which the home visitor gives the mother a copy of videotapes used in the intervention and discusses any ongoing parenting concerns.

An RCT involving 220 parents and irritable infants found evidence of improved attachment security for the highly (89% cf. 62%) but not moderately irritable

infants (63% cf. 58%). Maternal security was also an important moderating factor, with irritable infants of securely attached mothers being more likely to be securely attached compared with no effect for moderately irritable infants of securely attached mothers. For fearful mothers highly irritable infants were equally likely to be secure in the intervention group (69% probability) and in the control group (69% probability); similarly, for moderately irritable infants, no effect of intervention emerged. For more dismissing mothers, the intervention was efficacious for highly irritable infants but not for moderately irritable infants of more dismissing mothers. In contrast, when mothers were classified as preoccupied, there was evidence of an intervention effect for moderately irritable infants, but not highly irritable infants.

Home visiting

We identified one systematic review evaluating the effectiveness of home visiting on attachment-related outcomes (Nievar et al., 2010). Home visiting programmes are manualised interventions that involve an intensive series of home visits beginning prenatally (in some models only), and continuing during the child's first two years of life by specially trained personnel who provide information, support and training regarding child health, development and care. The programmes are multifaceted as regards the issues they address, but this is driven largely by the theoretical underpinnings of the programme. Common themes include early infant care, infant health and development and parenting skills, but they may also include maternal health and well-being, diet, smoking, drug/alcohol use, exercise, transition to parenthood and the parent's relationship with their partner.

Nievar et al. (2010) included 35 controlled studies evaluating the effectiveness of home visiting programmes and found that interventions were moderately successful ($d = .37$) at improving maternal behaviours, as measured by a combination of survey and observational measures that assessed the home learning environment and maternal sensitivity.

Parent-infant/toddler psychotherapy

Parent-infant/child psychotherapy involves a therapist working with the parent and infant/toddler together, establishing a therapeutic alliance with the parent in order to identify unconscious patterns of relating in terms of the parents' own experiences of being parented and their internal working models. The aim of the therapy is to help the parent to recognise the way in which their current interactions are shaped by past experiences, in order to enable them to respond more freely and sensitively to their infant.

One systematic review has evaluated the effectiveness of parent-infant/toddler psychotherapy (Barlow et al., 2015). It included eight RCTs comparing the effectiveness of parent-infant/toddler psychotherapy (PIP) with a no-treatment control group (4 studies) or comparing PIP with other kinds of treatment (including an infant led model of parent-infant psychotherapy, counselling/CBT and interaction guidance). Meta-analyses indicated that parents who received PIP were more likely to have an infant who was rated as being securely attached to the parent after the intervention; however, there were no significant differences in studies comparing outcomes of PIP with one of the other models of

treatment (e.g. video interaction guidance, counselling, CBT). The authors concluded that PIP is a promising model in terms of improving infant attachment in high-risk families but that further research is needed into its impact on potentially important mediating factors, such as mental health, reflective functioning, and parent-infant interaction.

We identified one further RCT not included in the existing reviews evaluating the effectiveness of parent child psychotherapy that was published within the relevant time period. Ghosh Ippen et al. (2011) examined the effectiveness of a standard parent-child psychotherapy intervention that was delivered by a psychotherapist and involved a mean number of 32 weekly sessions of 60 minutes duration with both the parent and child aimed at enhancing the parent's capacity to provide safe and developmentally appropriate caregiving to the child. The results of an RCT with 75 parent-child dyads involving preschool age children (3-5 years) who had experienced multiple traumatic and stressful life events found significant improvements favouring the intervention group for PTSD (5% cf. 53%), child depression, co-occurring diagnoses, child behaviour, maternal PTSD, and maternal depression.

Sensitivity and relationship-focused interventions

Two reviews were identified that examined a range of sensitivity- and relationship-focused interventions in specific populations, including depressed mothers (Kersten-Alvarez et al., 2011) and low-income mother-infant dyads (Mortensen and MasterGeorge, 2014).

Kersten-Alvarez et al (2011) included 10 controlled studies evaluating 13 preventive interventions (including interpersonal psychotherapy, non-directive counseling, CBT, infant massage, home-based interaction coaching, parent training, support group, and mother-infant therapy), aimed at improving sensitivity in depressed mothers, and found a small-to-medium effect overall ($g=.32$). Interventions providing infant massage were found to be highly effective in improving maternal sensitivity.

Mortensen and MasterGeorge (2014) included 18 studies (15 of which were RCTs) of 18 interventions (including home visiting, VIPP, Parent-Infant Programme, Family Check-Up, and pregnancy programmes focusing on alcohol use), all targeting low-income mother-child dyads. A meta-analysis found limited evidence of effectiveness across all 18 relationship-based interventions. However, the results were most effective for programmes that were shorter in duration, provided direct services to the parent-child dyad used intervenors with professional qualifications, and assessed parent-child interactions with free-play tasks.

We identified one further RCT published within the review period that examined the effectiveness of a group-based programme spanning the perinatal period known as Mellow Babies in improving parent-infant interaction (Puckering et al., 2010). Mellow Babies is a group-based day programme targeting women experiencing depression and is underpinned by cognitive behavioural theory. The intervention was delivered over 14 weeks, during which time mothers and infants attended the group for a whole day (i.e. 10am – 3pm) on a weekly basis.

Babies were cared for in the crèche in the morning, providing the mothers with an opportunity to reflect on their own lives, draw links between past and present feelings and relationships, and consider ways of managing depression using broadly cognitive behavioural approaches. In the afternoon, participants engaged in play-time involving interaction coaching, baby massage, looking at picture books, lap games and nursery rhymes to promote sensitive interaction and attunement. The babies were then returned to the crèche and the afternoon sessions involved the use of videos of mothers interacting with their baby to demonstrate sensitive interaction.

The results of a small RCT involving 20 mothers found significant improvements in maternal depression and in parent-infant interaction in terms of positive anticipation, positive responsiveness, negative autonomy and negative control. There were also trends favouring the intervention group for negative distress, positive control, positive co-operation and positive autonomy. There were no significant differences between groups for positive distress, negative anticipation, negative responsiveness or negative co-operation. No effect sizes were provided.

Mentalisation-based programmes

We identified no reviews of mentalisation-based programmes, and two RCTs published within the review period (Sadler et al 2013; Suchman et al 2011). Sadler et al (2013) examined the effectiveness of a mentalisation-based home visiting intervention focused on improving the reflective functioning of first-time mothers aged 14-25 experiencing a range of problems – including child

protection issues, depression, homelessness, poverty or violent relationships – during the perinatal period. Minding the Baby (MTB) is a manualised mentalisation-based interdisciplinary home visiting programme delivered by two specially trained practitioners (nurse and social worker) in the home setting over an extended period of time. (Mentalisation refers to envisioning mental states in oneself and others and understanding behaviour in terms of mental states.) Mothers are visited for an hour weekly beginning in the third trimester of pregnancy through the child's first birthday, at which point visits take place biweekly through the child's second birthday. Session length can vary based on the client's need. Clinicians (a qualified nurse and social worker alternate) provide developmental guidance, crisis intervention, parenting support and practical support in order to support reflective parenting, promote the mother-infant attachment relationship, and model and foster a range of parenting skills.

The intervention was evaluated as part of an RCT (Sadler et al., 2013) involving 139 mothers of mostly Latina or African-American or Caribbean descent with low education and income, some of whom (11%) had child protection concerns.

The results show that the intervention group mothers had fewer instances of rapid subsequent childbearing and a trend toward fewer open cases with child protection services than mothers in the control group (0% compared to 5%).

There were no significant differences between groups in maternal depression or psychological distress but a trend toward improved communication for teenage mothers – 67% of the intervention group teenage mothers versus 94% of the control group had scores in the disrupted range. There were no group differences in the reflective functioning of mothers, which improved in both

groups. The study also found a significantly higher percentage of secure infants in the MTB group (n=41, 64%) compared with the control group (n=30, 48%). In addition, a significantly lower percentage of intervention group dyads (27%) were classified as having disorganised attachment, compared with the control group dyads (43%).

The second RCT evaluated the effectiveness of the Mothers and Toddlers Programme (MTP), which comprises 12 weeks of individual therapy as an adjunct to standard outpatient substance abuse treatment programmes. The aim of MTP is to improve maternal capacity for reflective functioning and for sensitivity and responsiveness to toddler emotional cues. The early sessions focus on building a strong therapeutic alliance with the therapist and on assisting the mother to address whatever challenging circumstances she is facing, including both concrete (e.g. financial problems) and relational issues. The next stage involves 'ensuring that the mother has adequate support and skills for tolerating and regulating strong affect (both positive and negative)', and the aim of this part of the therapy is 'clarification of the mother's representational world' with a view to identifying 'areas of distortion, harshness, incoherence, and insensitivity' that can be explored with a view to developing a more 'coherent and integrated understanding of herself and her toddler'. Attempts are made to link these representations with the way in which the mother is interacting with others, including her baby, the ultimate objective being to enable her to engage in a 'mentalising process about the mother-child relationship'. The therapy also involves exploring what emotions are elicited

when she focuses on her toddler playing through the observation of videotaped play sessions.

The results of this small RCT involving 47 women and their children found moderately higher mean reflective functioning scores for the MTP group, and slightly higher scores for coherence, sensitivity, and quality of representation subscales for the MTP group, when compared with the comparison intervention (Suchman et al., 2010). The results also showed an intervention effect of improved caregiving behaviour for MTP mothers, and improved depression, and global distress, but not for control group mothers. At six-week follow-up the combined data for women receiving the 12- and 24-week programmes showed that the higher mean reflective functioning score was maintained but reduced. At follow-up there was also a slightly higher quality of maternal representation for the MTP group, and moderately higher mean NCAST (Nursing Child Assessment Satellite Training) scores for child communication with the mother for the MTP group. However, effects for depression were not sustained at six-week follow-up (Suchman et al., 2011).

Attachment and Biobehavioural Catchup (ABC)

We found no reviews but two studies published within the review period that examined the effectiveness of the Attachment and Biobehavioural Catchup (ABC) intervention with vulnerable parents of children under five years of age at risk of maltreatment (Bernard et al., 2012; Lind et al., 2014).

ABC is a manualised intervention that typically involves around 10 one-hour sessions that focus primarily on providing parents with “in the moment” feedback about their interactions with their child using video feedback to highlight parents’ strengths, challenge weaknesses, and celebrate changes in behaviours. Sessions 1 and 2 focused on providing nurturance when children are distressed. Sessions 3 and 4 focused on behaving in synchronous ways (or following the child’s lead with delight), and sessions 5 and 6 focused on avoiding intrusive and frightening behaviour. Sessions 7 and 8 see the parent coach discuss how the parent’s own attachment experiences may influence the parent’s current interactions with their children. Sessions 9 and 10 help consolidate gains made through the prior sessions and celebrate change (Lind et al., 2014).

Lind et al. (2014) examined the effectiveness of ABC with 260 US parents of children under two years of age following allegations of maltreatment. The results showed significant differences favouring the ABC group in terms of lower levels of negative affect expression. Children in the ABC group displayed lower overall levels of anger, lower levels of anger toward parent, and lower levels of global anger/sadness.

Bernard et al. (2012) evaluated the effectiveness of ABC using an RCT involving 113 parents and young children (aged 1.7 to 21.4 months) at risk of maltreatment, as indicated by recent contact with Child Protection Services. The study found that a lower proportion of children in the ABC group (32%) were classified as having a disorganised attachment compared with children in the control group (57%) (this effect was sustained after excluding children over 24

months old at the time of assessment). Further, a higher proportion of children in the ABC group were classified as securely attached (52%) compared with children in the control group (33%), although this effect was not sustained after children over 24 months old at the time of assessment were excluded.

Discussion

The results of this review of systematic reviews, and RCTs studies not included in the reviews, show evidence of small to medium improvements in a range of outcomes related to infant/child attachment security, including parental sensitivity and reflective functioning. Although we have only included evidence published since 2008, these results confirm the findings of earlier systematic reviews (e.g. Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003; Barnes & Freude-Lagevardi, 2003).

The theories of change underpinning the different programmes are diverse and range from psychoanalytic models (e.g. parent-infant psychotherapy) that focus primarily on changing the parents' internal working models, through programmes that focus explicitly on improving parents' capacity for reflective functioning (e.g. Minding the Baby, Mother and Toddler Programme), to those that focus more explicitly on the interaction between the parent and infant/toddler and on sensitive parenting, based on attachment theory (video feedback and VIPP). There is, however, an increasing eclecticism, with programmes drawing on different theoretical traditions, and almost all (apart from the home visiting programmes) building in the use of video feedback.

There is also considerable divergence in terms of the frequency and duration of interventions, with home visiting programmes such as Minding the Baby involving intensive visits over a prolonged period of time and most other types of programme involving intensive work over brief periods of time (e.g. a few months) (e.g. Video-feedback and parent-infant psychotherapy). The limited evidence available regarding the comparative effectiveness of these interventions shows that there is little difference between them (Barlow et al., 2015), and increasing evidence supporting the use of brief, sensitivity focused interventions (cf. Bakermans-Kranenburg et al., 2003).

A number of implementation issues were identified. The Mortensen and MasterGeorge (2014) review of interventions (including home visiting, VIPP, parent-infant programme, Family Check-Up and pregnancy programmes focusing on alcohol use) that targeted low-income mother-child dyads found that the most effective programmes were shorter in duration, provided direct services to the parent-child dyad, used intervenors with professional qualifications, and assessed parent-child interactions with free-play tasks.

Of concern, however, is the fact that many of the identified interventions are not currently routinely available to children, despite the high prevalence of disorganised attachment in disadvantaged populations, and the strong association between such attachment patterns and later problems.

Although some of these interventions require to be delivered by specialist practitioners (e.g. psychologists and parent-child psychotherapists), many of the

remaining interventions are manualised (e.g. ABC, VIPP), and some can be delivered effectively by health visitors as part of the Healthy Child Programme (HCP) following appropriate training (e.g. video-feedback). It seems likely that specialist CAMHS practitioners should have the necessary skills to deliver some of these methods of working given the many preschool children presenting to CAMHS services with severe emotional and behavioural problems.

Conclusion

This review has identified a number of innovative methods of working to improve a range of attachment-related outcomes in preschool children, many of whom could be defined as high risk. Despite the fact that both insecure and disorganised attachment have a high prevalence in disadvantaged populations in particular, and that both are strongly associated with a range of later problems, including externalising and personality disorders, many of the methods of working identified by this review are not yet routinely available to preschool children in the UK. Practitioners working within a range of CAMHS settings should have the skills to deliver some of the identified methods of working with parent-child dyads, including video feedback and mentalisation-based techniques.

References

- Allen, G. (2011). *Early Intervention: The Next Steps*. London: Cabinet Office.
- Axford, N., Barlow, J., Coad, J., Schrader-McMillan, A., Bjornstad, G., Berry, V., Wrigley, Z., Goodwin, A., Ohlson, C., Sonthalia, S., Toft, A., Whybra, L. &

Wilkinson, T. (2015) *Rapid Review to Update Evidence for the Healthy Child Programme 0-5*. London: Public Health England.

Bakermans-Kranenburg, M. J., Juffer, F., & Van Ijzendoorn, M. H. (1998).

Interventions with video feedback and attachment discussions: Does type of maternal insecurity make a difference? *Infant Mental Health Journal*, 19(2), 202-219.

Bakermans-Kranenburg, M. J., van Ijzendoorn, M. H., & Juffer, F. (2003). Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin*, 129(2), 195-215.

Barlow, J., Schrader-McMillan, A., Kirkpatrick, S., Ghate, D., Smith, M., & Barnes, J. (2008). *Health-led Parenting Interventions in Pregnancy and Early Years*. Research Report DCSF-RW070. London: Department for Children, Schools and Families.

Barlow, J., Bennett, C., Midgley, N., Larkin, S.K., Wei, Y. (2015). *Parent-infant psychotherapy for improving parental and infant mental health*. Cochrane Database of Systematic Reviews, Issue 1. Art. No.: CD010534. DOI: 10.1002/14651858.CD010534.pub2.

Barnes, J., & Freude-Lagevardi, A. (2003). *From pregnancy to early childhood: Early interventions to enhance the mental health of children and families*. London: Mental Health Foundation.

Beebe, B., Jaffe, J., Markese, S., Buck, K., Chen, H., Cohen, P., & Feldstein, S. (2010). The origins of 12-month attachment: A microanalysis of 4-month mother-infant interaction. *Attachment & Human Development*, 12(1), 3 - 141.

- Bennett, C., Underdown, A., & Barlow, J. (2013). Massage for promoting mental and physical health in typically developing infants under the age of six months. *Cochrane Database of Systematic Review, 2013 (4)*.
- Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. (2012). Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. *Child Development, 83(2)*, 623-636.
- Cassidy, J., Woodhouse, S. S., Sherman, L. J., Stupica, B., & Lejuez, C. W. (2011). Enhancing infant attachment security: An examination of treatment efficacy and differential susceptibility. *Development and Psychopathology, 23(1)*, 131-148.
- Carlson, V., Cicchetti, D., Barnett, D., * Braunwald, K. (1989). Disorganized/disoriented attachment relationships in maltreated infants. *Developmental Psychology, 25*, 525-31.
- Carlson, V., Cicchetti, D., Barnett, D., & Braunwald, K.G. (1989). Finding order in disorganization: Lessons from research on maltreated infants' attachments to their caregivers. In: Cicchetti D, Carlson V, editors. *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect*. New York: Cambridge University Press; pp. 494-528.
- Cyr, C., Euser, E.M., Bakermans-Kranenburg, M.J & Van Ijzendoorn, M.H. (2010) 'Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses.' *Development and Psychopathology, 22, 1*, 87-108.
- De Wolff, M.S., & van Ijzendoorn, M.H. (1997). Sensitivity and attachment: A meta-analysis of parental antecedents of infant attachment. *Child Development, 68(4)*, 571-91.

- Department of Health (2010). *Our Health and Wellbeing Today*. London: DH.
- Department of Health (2009). *Healthy Child Programme: Pregnancy and the First Five Years of Life*. London: HMSO.
- Field, F. (2010). *The Foundation Years: Preventing Poor Children Becoming Poor Adults*. London: Cabinet Office.
- Ghosh Ippen, C., Harris, W. W., Van Horn, P., & Lieberman, A. F. (2011). Traumatic and stressful events in early childhood: Can treatment help those at highest risk? *Child Abuse & Neglect*, 35(7), 504-513.
- Goyal, N.K., Teeters, A. & Ammerman, R.T. (2013). Home visiting and outcomes of preterm infants: a systematic review. *Pediatrics*, 132 (3), 502-516.
- Fearon, R.P., Bakermans-Kranenburg, M.J., van Ijzendoorn, M.H., et al. (2010). The significance of insecure attachment and disorganization in the development of children's externalizing behavior: a meta-analytic study. *Child Development*, 81(2), 435-56.
- Fukkink, R.G. (2008). Video feedback in widescreen: A meta-analysis of family programs. *Clinical Psychology Review*, 28(6), 904-16.
- Kalinauskiene, L., Cekuoliene, D., VanIjzendoorn, M. H., Bakermans-Kranenburg, M. J., Juffer, F., & Kusakovskaja, I. (2009). Supporting insensitive mothers: the Vilnius randomized control trial of video-feedback intervention to promote maternal sensitivity and infant attachment security. *Child: Care, Health and Development*, 35 (5), 613-623.
- Kersten-Alvarez, L. E., Hosman, C. M. H., Riksen-Walraven, J. M., Van Doesum, K. T. M. & Hoefnagels, C. (2011) Which preventive interventions effectively enhance depressed mothers' sensitivity? A meta-analysis. *Infant Mental Health Journal*, 32 (3), 362-376

- Lind, T., Bernard, K., Ross, E., & Dozier, M. (2014). Intervention effects on negative affect of CPS-referred children: Results of a randomized clinical trial. *Child Abuse & Neglect, 38*(9), 1459-1467.
- Lyons-Ruth, K., Yellin, C., Melnick, S., & Atwood, G. (2005). Expanding the concept of unresolved mental states: Hostile-Helpless states of mind on the Adult Attachment Interview are associated with disrupted mother-infant communication and infant disorganization. *Development and Psychopathology, 17*(1), 1-23.
- Lieberman, A. F. & Amaya-Jackson, L. (2005). Reciprocal influences of attachment and trauma: Using a dual lens in the assessment and treatment in infants, toddlers, and preschoolers. In L. Berlin, Y. Ziv, L. Amaya-Jackson and M.T. Greenberg (Eds.), *Enhancing early attachments: Theory, re-search, intervention, and policy*, pp. 120-126. New York: Guilford Press.
- MacDonald, H.Z., Beeghly, M., Grant-Knight, W., Augustyn, M., Woods, R.W. et al (2008). Longitudinal association between infant disorganized attachment and childhood posttraumatic stress symptoms. *Dev Psychopathol, 20*(2), 493-508.
- Marmot M (2010). *Fair Society: Healthy Lives*. London: The Marmot Review.
- Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking Maternal Sensitivity: Mothers' Comments on Infants' Mental Processes Predict Security of Attachment at 12 Months. *Journal of Child Psychology and Psychiatry, 42*(5), 637-648.
- Munro M (2011). *The Munro Review of Child Protection – Final Report: A Child Centred System*. London: TSO.

- Moss, E., Dubois-Comtois, K., Cyr, C., Tarabulsky, G. M., St-Laurent, D., & Bernier, A. (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: A randomized control trial. *Development and Psychopathology*, 23(01), 195-210.
- Mortensen, J. A., & Mastergeorge, A. M. (2014). A Meta-Analytic Review of Relationship-Based Interventions for Low-Income Families with Infants and Toddlers: Facilitating Supportive Parent–Child Interactions. *Infant Mental Health Journal*, 35(4), 336-353.
- Nievar, M. A., Van Egeren, L. A., & Pollard, S. (2010). A meta-analysis of home visiting programs: Moderators of improvements in maternal behavior. *Infant Mental Health Journal*, 31(5), 499-520.
- Negrão, M., Pereira, M., Soares, I., & Mesman, J. (2014). Enhancing positive parent–child interactions and family functioning in a poverty sample: a randomized control trial. *Attachment & Human Development*, 16(4), 315-328.
- Puckering, C., McIntosh, E., Hickey, A., & Longford, J. (2010). Mellow Babies: A group intervention for infants and mothers experiencing postnatal depression. *Counselling Psychology Review*, 25(1), 28-40.
- Sadler, L. S., Slade, A., Close, N., Webb, D. L., Simpson, T., Fennie, K., & Mayes, L. C. (2013). Minding the Baby: Enhancing Reflectiveness to Improve Early Health and Relationship Outcomes in an Interdisciplinary Home-Visiting Program. *Infant Mental Health Journal*, 34(5), 391-405.
- Slade, A., Grienenberger, J., Bernbach, E., Levy, D., & Locker, A. (2005). Maternal reflective functioning, attachment, and the transmission gap: A preliminary study. *Attachment & Human Development*, 7(3), 283-298.

- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349-367.
- Steele, H., & Siever, L. (2010). An Attachment Perspective on Borderline Personality Disorder: Advances in Gene–Environment Considerations. *Current Psychiatry Reports*, 12(1), 61-67.
- Suchman, N. E., Decoste, C., McMahan, T. J., Rounsaville, B., & Mayes, L. (2011). The mothers and toddlers program, an attachment-based parenting intervention for substance-using women: Results at 6-week follow-up in a randomized clinical pilot. *Infant mental health journal*, 32(4), 427-449.
- Tickell, C. (2011). *The Early Years: Foundations for Life, Health and Learning*. London: Department for Education.
- van der Voort, A., Juffer, F. & Bakermans-Kranenburg, M. J. (2014). Sensitive parenting is the foundation for secure attachment relationships and positive social-emotional development of children. *Journal of Children's Services*, 9(2), 165 – 176.
- Yagmur, S., Mesman, J., Malda, M., Bakermans-Kranenburg, M. J., & Ekmekci, H. (2014). Video-feedback intervention increases sensitive parenting in ethnic minority mothers: a randomized control trial. *Attachment & Human Development*, 16(4), 371-386.
- van IJzendoorn, M., & Kroonenberg, P. (1988). Cross-cultural patterns of attachment: A meta-analysis of the Strange Situation. *Child Development*, 59, 147–156.

Weinfield, N., Whaley, G., & Egeland, B. (2004). Continuity, discontinuity, and coherence in attachment from infancy to late adolescence: sequelae of organization and disorganization. *Attachment & Human Development*, 6, 7.

WAVE Trust (2013). *Conception to Age 2: The Age of Opportunity*. Wavetrust.org.