Searching for effective interventions for children under stress
a meta-analysis

Based on:
ABSTRACT

Foster children experience a lot of stress because of their life histories and changes in their family circumstances, such as foster care placement. It is important that foster parents recognize the early signs of stress in foster children and learn how to act in a non-threatening and understanding manner. Family-based interventions may help in this. In this article, we report on a meta-analysis of studies (n=19) of the effectiveness of such interventions. All studies used a pre-test/post-test design. Both problem behaviour in foster children and the parenting skills of foster parents improved by 30%; however, none of the interventions were specifically intended to help young children (<4 years) to cope with stress. The importance of interventions for young foster children is discussed, as well as the necessary elements these interventions should include.

Key words
foster care, pre-school children, stress, problem behaviours, intervention, meta-analysis
2.1 INTRODUCTION

Children growing up in a hostile environment with a caregiver who neglects or abuses them are at risk of developing deviant attachment patterns and of being traumatized (Frame, 2002; Juffer, Bakermans-Kranenburg & Van IJzendoorn, 2005). Neglect and abuse can lead to a child being removed from its primary rearing environment, which in itself is stressful (Frame, 2002).

In most countries, family foster care is preferred to residential placement, and for this reason the number of children in foster care is relatively high (Clyman, Harden & Little, 2002). In the Netherlands, for instance, more than 24,000 children are living in family foster care for shorter or longer periods, and the number of young children being placed in foster care is increasing (Pleegzorg [Foster Care] Nederland, 2011). Many children in foster care do suffer from severe behavioural problems, and these problems are often a reason for ending the placement (mentioned by 36% of foster parents) (Rhodes, Orme & Buehler, 2001). Moreover, 32% to 50% of foster parents are unwilling to accept a foster child with serious destructive behaviour (Cox, Orme & Rhodes, 2003). However, many foster parents are willing to accept children with serious problem behaviour if additional guidance and support are offered by foster care services, such as a family-based intervention that helps them cope with the child’s behavioural problems.

2.1.1 Increasing risk of problem behaviour

Foster children are at increased risk of developing long-term problems related to the regulation of behaviour, including externalizing behaviour, substance abuse, and criminal behaviour (Clausen, Landsverk, Ganger, Chadwick & Litrownik, 1998; Pottick, Warner & Yoder, 2005). Foster parents are often unaware of the child’s stress, as they do not know the child well enough, and they also may be unprepared or inadequately trained to react to signs of stress. This has a negative impact on the relationship with the child, increasing the risk that the foster child will be stressed for a very long time, which in turn increases the risk of early breakdown and the development of social, emotional, and behavioural problems (Fisher, Ellis & Chamberlain, 1999).

Furthermore, removal from home is a risk factor in itself (Van Andel, Strijker, Van der Gaag, Grietens & Knorth, 2010). The loss of a parent represents the loss of an attachment figure to the child, even though this attachment may be unsafe. Removal from the home and placement in foster care are major life events for children (Frame, 2002; SmykeWajda-Johnston & Zeanah, 2007). In some cases, this can lead to ‘dyadic adjustment disorder’, in which the child ultimately rejects its parents (Hinshaw-Fuselier, Heller, Parton, Robinson & Boris, 2007).

Several interventions have been developed to help foster parents manage foster children’s behaviour. Some have a preventive aim and focus on the preparation of the
placement. (New) foster parents follow a training course, including training sessions on managing behavioural problems and reinforcing positive behaviours of foster children, in order to be well-prepared when the child enters the family. Other interventions are used after placement. A great number of these interventions are focusing on the parenting of foster children with externalizing problems (Dorsey, Farmer, Barth, Greene, Reid & Landsverk, 2008). This is not surprising, as the estimated prevalence of externalizing problems in foster children is high, with rates varying from 33 to 60% (Heflinger, Simpkins & Combs-Orme, 2000; Sawyer, Carbone, Searle & Robinson, 2007). These interventions are not ‘foster care’ specific, they have been developed for all parents of children showing externalizing problems (e.g., Parent Management Training; see Patterson, Reid, Jones & Conger, 1975). Interventions that are more ‘foster care’ specific have been developed as well. They are mainly based on attachment theory and focus on foster parents’ sensitivity and responsiveness towards the needs of the foster child. Little is known, however, about the evidence of these interventions (Barth, Crea, John, Thoburn & Quinton, 2005). Knowledge on the evidence of general and specific interventions for foster parents is of great importance to practice. It may help foster parents ‘do the right things’, for instance, using positive discipline practices and becoming more supportive towards their foster child (Vanderfaeillie, Van Holen, Trogh & Andries, 2012). Further, the willingness of parents to become foster parents, among others, depends on the quality of support they can count on when difficulties arise (Cox, Orme & Rhodes, 2003).

In summary, abuse and neglect in the family of origin and removal from the home are stressful to foster children. Some children react to the situation by developing externalizing behaviours, while other children, especially young children (0–4 years), develop avoidance behaviour. It is important to know what the evidence base is of interventions for foster parents caring for these children, in order to optimize foster care and to prevent placement breakdowns.

2.1.2 Research question
We searched the literature for studies reporting interventions to help foster parents and foster children cope with stress and behavioural problems. In a meta-analysis, we investigated whether these interventions are effective in improving the child’s behaviour or parental competence.
2.2 METHODS

2.2.1 Selection of studies

We used the OvidSP search engine to search the databases of EMBASE, MEDLINE, and PsycINFO, and found studies on the effectiveness of interventions for foster parents to help them cope with the problem behaviours of foster children. We used the following combinations of search terms: ‘behavioural problems in (young) children/preschool children + foster care’, ‘problems in (young) children + foster care’, ‘foster care + stress’, ‘adjustment to foster care + children’, ‘foster care + attachment’, ‘foster care + intervention’, and ‘infant mental health’. We also searched the database of effective youth interventions compiled and maintained by the Dutch Youth Institute (Databank ‘Effectieve Jeugdinterventies’; www.nji.nl). After completing the search process, we identified 15 studies using a pre-test/post-test design. One study (Webster-Stratton & Reid, 2003) comprised two sub-studies, and another (Evans, Boothroyd, Armstrong, Greenbaum, Brown & Kuppinger, 2003) comprised three sub-studies. The article by Moretti and Obsuth (2009) included two sub-studies, bringing the total number of studies with pre-test/post-test results to 19 (see Table 1).

2.2.2 Plan of analysis

The formulas developed by Lipsey and Wilson (2001) were used to transform the reported average T1-T2 differences into effect sizes (ES). The programme developed by Field and Gillett (2009) was used to calculate the average weighted correlation-based effect sizes with 95% confidence interval. The Q statistic of the test for homogeneity indicates whether differences in individual effect sizes are due to sampling error. Significant Q values indicate that variations in individual effect sizes are not due to chance but are influenced by factors such as the characteristics of the research group or the type of research. The reported values are derived from the random effect model, with ‘studies’ (rather than ‘cases’) as the unit of analysis. Because the random effect model allows generalization to studies that are not included in the study, it is an attractive method for investigating our research question (Rosenthal & DiMatteo, 2001; Rosenthal, Rosnow & Rubin, 2000).

2.3 RESULTS

Table 1 presents the results of the literature search for interventions that have been studied.
Table 1: Effect sizes ($r$) of interventions to help foster parents and foster children reported in 19 studies (with a pre-test/post-test design) (in bold: studies including young children, <4yrs.)

<table>
<thead>
<tr>
<th>Study</th>
<th>Age range</th>
<th>N</th>
<th>$r_{\text{problem behaviour in child}}$</th>
<th>$r_{\text{positive discipline}}$</th>
<th>Method intervention</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5-11</td>
<td>53</td>
<td>.21</td>
<td>-</td>
<td>School-based mental health prevention programme</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>2</td>
<td>4-8</td>
<td>97</td>
<td>.34</td>
<td>-</td>
<td>Developmental teaching programme</td>
<td>randomized trial</td>
</tr>
<tr>
<td>3</td>
<td>4-8</td>
<td>159</td>
<td>.27</td>
<td>.26</td>
<td>Developmental teaching programme</td>
<td>randomized trial</td>
</tr>
<tr>
<td>4</td>
<td>3-7</td>
<td>426</td>
<td>.21</td>
<td>.25</td>
<td>Parent management training</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>5</td>
<td>2-6</td>
<td>129</td>
<td>.26</td>
<td>.21</td>
<td>Day care programme</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>6</td>
<td>10-17</td>
<td>34</td>
<td>.80</td>
<td>-</td>
<td>Dyadic developmental psychotherapy</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>7</td>
<td>7-15</td>
<td>47</td>
<td>.28</td>
<td>-</td>
<td>Fostering individualized teaching programme</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>8</td>
<td>7-15</td>
<td>148</td>
<td>.09</td>
<td>.58</td>
<td>Respite care</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>9</td>
<td>5-17</td>
<td>63</td>
<td>-.14</td>
<td>.13</td>
<td>Intensive in-home crisis service</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>10</td>
<td>5-17</td>
<td>90</td>
<td>-.11</td>
<td>.08</td>
<td>Intensive in home crisis service</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>11</td>
<td>5-17</td>
<td>85</td>
<td>.07</td>
<td>.05</td>
<td>Intensive in home crisis service</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>12</td>
<td>10-17</td>
<td>57</td>
<td>.36</td>
<td>-</td>
<td>Home-based systemic treatment</td>
<td>clinical outcomes</td>
</tr>
<tr>
<td>13</td>
<td>4-14</td>
<td>11</td>
<td>.51</td>
<td>-</td>
<td>Holding therapy</td>
<td>prospective, quasi-experimental controlled study</td>
</tr>
<tr>
<td>14</td>
<td>12-16</td>
<td>20</td>
<td>.30</td>
<td>-</td>
<td>Attachment-focused intervention</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>15</td>
<td>12-16</td>
<td>309</td>
<td>.28</td>
<td>.40</td>
<td>Attachment-focused intervention</td>
<td>pre-test/post-test</td>
</tr>
<tr>
<td>16</td>
<td>1-4</td>
<td>65</td>
<td>.31</td>
<td>.33</td>
<td>Circle of security</td>
<td>assessment</td>
</tr>
<tr>
<td>17</td>
<td>13-17</td>
<td>37</td>
<td>.58</td>
<td>-</td>
<td>Multidimensional treatment</td>
<td>randomized controlled trial</td>
</tr>
<tr>
<td>18</td>
<td>4-12</td>
<td>59</td>
<td>.30</td>
<td>.04</td>
<td>Parent management training</td>
<td>randomized controlled trial</td>
</tr>
<tr>
<td>19</td>
<td>0-3</td>
<td>237</td>
<td>.20</td>
<td>-</td>
<td>Video interaction positive parenting</td>
<td>randomized case control intervention study</td>
</tr>
</tbody>
</table>

1 Nabors, Proeschel, & DeSilva (2001); 2, 3 Webster-Stratton & Reid (2003); 4 Webster-Stratton (1998); 5 Whitemore, Ford, & Sack (2003); 6 Becker-Weidman & Hughes (2008); 7 Clark & Prange (1994); 8 Cowen & Reed (2002); 9, 10, 11 Evans, Boothroyd, Armstrong, Greenbaum, Brown, & Kuppinger (2003); 12 Henggeler et al. (1999); 13 Myeroff, Mertlich, & Gross (1999); 14, 15 Moretti & Obsuth (2009); 16 Marvin, Cooper, Hoffman, & Powell (2002); 17 Chamberlain, Leve, DeGarmo, & David (2007); 18 Ogden & Hagen (2008); 19 Mesman et al. (2007).
The methods used in these studies were diverse, as were the intensity, the duration, the setting (school, day-care centre), and focus (parent or foster parent, child) of the interventions. Problem behaviours in children and positive parental discipline were the main outcome variables, but they were measured in different ways. Nabors et al., (2001), for instance, used self-developed instruments to evaluate the effect of their intervention on child problem behaviour. In the other studies, CBCLs and TRFs (Achenbach & Rescorla, 2000; Achenbach & Rescorla, 2001) were used to measure behaviour problems. Parental competence was measured in different ways, for instance by the Parental Stress Index (PSI; Cowen & Reed, 2002; Loyd & Abidin, 1985), the Parent Self Efficacy Scale (PSES; Evans et al., 2003; Hoover-Dempsey et al., 1992) or the Family Adaptability and Cohesion Scale (FACS; Dundas, 1994; Evans et al., 2003). Child development was measured, among others, by the Batelle Developmental Inventory (BDI; Berls & McEwen, 1999; Whitemore, Ford & Sack, 2003) or the Peabody Picture Vocabulary Test (PPVT; Stockman, 2000; Whitemore et al., 2003).

Only two studies focused on the effectiveness of an intervention for young children (<4 yrs.; studies 16 and 19); two other studies included young children (studies 4 and 5). Many interventions focused on externalizing behavioural problems and only a few used a randomized control design. Studies 1 to 13 were included in the overview by Craven and Lee (2006). Effect sizes were calculated for two variables: (1) the severity of child problem behaviour according to the parent (rproblem behaviour in child) and (2) the extent of positive discipline on the part of the parent (rpositive discipline). The term ‘positive discipline’ comprises concepts such as ‘self-efficacy’ and ‘positive empowerment’, which refer to feelings of competence in the foster parent. To interpret the effect sizes, we adopted the standards specified by Lipsey and Wilson (2001) in which r ≤ .10 represents a small effect, r = .25 represents a medium effect, and r ≥ .40 represents a large effect.

The average correlation-based effect size of the interventions on ‘problem behaviour’ was .27 (a medium effect) (95% CI = .20 – .33, z = 7.46, p <.01). The set of weighted effect sizes was homogeneous (Q[18] = 25.72, p =.11), which means that the variation in the individual effect sizes could be interpreted as being purely the result of sampling error. The average effect size of the interventions with regard to parental discipline was .29 (a medium effect) (95% CI = .24 - .33, z = 11.40, p < .01). In this case, the set of weighted effect sizes was not homogeneous (Q[9] = 39.45, p < .01), which means that characteristics of the studies affected the individual effect sizes.

The four studies on interventions for (foster) parents with young children (<4yrs.) were: Study 4, called ‘PARTNERS; a parent-training programme combined with teacher training; Study 5, called ‘HAND IN HAND’ Day Treatment, combined with Proctor Care; Study 16, called ‘CIRCLE OF SECURITY; a group-based parent psychoeducation and psychotherapy intervention; and Study 19 focused on ‘VIPP’, the Video-feedback
Intervention to promote Positive Parenting. It is interesting to note that three of these interventions (Studies 4, 16, and 19) used video-observation of parent-child interactions, and two studies (Studies 4 and 16) focused on the functioning of the child in more than one domain, in the living situation at home and at school, which implies that the interventions involve professionals from multiple disciplines (e.g., teacher, video-interaction trainer, psychologist, foster care worker). The effect size of these four interventions was medium and varied between .20 and .31 with regard to ‘severity of problem behaviour in child’ and between .21 and .33 with regard to ‘positive parental discipline’.

### 2.4 DISCUSSION

In this study, we performed a meta-analysis of empirically tested interventions for foster parents and foster children. All studies included in the analysis focused on coping with the problem behaviours of foster children.

The interventions, which aimed to improve externalizing problem behaviours in the foster child and had been evaluated in a pre-test/post-test design, varied in terms of duration, intensity, and focus. On average, the interventions diminished child problem behaviour (average correlation-based effect size, AES .27) and improved positive parental discipline (AES .29). Using the Binomial Effect Size Display (Rosenthal et al., 2000), these correlations can be interpreted as an improvement in child problem behaviour from 36.5% (control condition) to 63.5% (intervention condition) and an improvement in positive parenting behaviour from 35.5% (control condition) to 64.5% (intervention condition). This means that, on average, the interventions improved these outcomes by more than 30% – a clinically significant effect. None of the interventions were specifically focusing on avoidance behaviour of the foster child, nor on foster children aged 0–4 years. It is likely that the interventions can be applied to this young age group, but in an adapted form, for example with a focus on avoidance behaviour as an expression of the stress the child experiences and how foster parents deal with this phenomenon. The interventions we found mainly focused on behavioural problems and/or prevention of the behavioural problems. They did not focus on the relationship between foster child, biological parent, and foster parent, even though this relationship is often a source of tension in practice (Van den Bergh & Weterings, 2010). We think it is very important that the (young) foster child feels welcome, secure and is well understood in its new foster home. Interventions aimed to facilitate the new and vulnerable relation between foster parent and foster child, helping to get them to know each other and helping to define the way they have to relate to each other, are necessary in this regard. Foster parents need to be sensitive to the young child, they need to be flexible to the biological parent and they also need to come to terms with their own expectations regarding the placement
of the child and the insecurity about the duration of placement. For these reasons, we recommend the development of specific interventions for the foster parents of young foster children that focus on the relationship between the foster parent and the foster child, and that also take into consideration the relation with the biological parents.

The relationship between a foster parent and a foster child is a special one with unique challenges. Policies in the United States and the United Kingdom focus on providing ‘permanence’ for foster children. The child is either returned to the home or ‘released’ for adoption (Frey, Cushing, Freundlich & Brenner, 2008). Foster parents are sometimes advised to avoid becoming attached to their foster children, as they will inevitably leave the foster family at some point. By not ‘falling in love’ with the foster child, foster parents can protect themselves from the pain that they would otherwise experience when the relationship is ended. For young children, however, attachment relationships are of vital importance (Bowlby, 1988; Spitz & Wolf, 1946). The young child’s developmental task of establishing a network of attachment relationships can be at odds with the advice to foster parents to avoid developing a relationship with their foster child. Short placements are particularly challenging to both foster parents (they may think they must not become deeply and emotionally attached to the child) and foster child (little permanence and a lot of uncertainty about the future). An intervention should help foster parents learn to deal with this dilemma and help the child cope with uncertainty.

Children aged 0–4 years are in the phase of developing attachment relationships with adults (Van IJzendoorn, 2008). While young children are able to develop these relationships with foster parents relatively quickly, older children require more time (Dozier, Stovall, Albus & Bates, 2001).

It is important to monitor this relationship and facilitate its development. Externalizing problem behaviour, symptoms of stress (i.e., avoidance), or both, can put a strain on the foster child–foster parent relationship, and if this relationship does not develop adequately, an intervention is needed to facilitate this process. All children need a secure environment for their optimal development, and this is perhaps even more true for foster children, who are often insecure and have traumatic life histories (Oosterman, De Schipper, Fisher, Dozier & Schuengel, 2010). Interventions that focus primarily on providing an environment in which a child feels secure and understood should be effective, because this helps to create a healthy attachment between foster parent and foster child. Such interventions are particularly appropriate for children who have experienced multiple placements and those who have been abused or neglected, as the life histories of these children make it more difficult for them to form attachments (Van Andel et al., 2010).
2.4.1 Implications

In some cases, foster children fail to develop an emotional bond with their foster parents, which might make foster parents feel frustrated and powerless. It is important that foster parents are able to understand these ‘emergency signals’ in the context of the child’s life history and to respond to these signals with appropriate behaviour. Many foster parents probably do not have the necessary knowledge and insight to recognize these specific signs of stress in young foster children, or the skills needed to address this stress adequately. Foster parents do need help in this regard and for these reasons a short selective-preventive intervention (Medecine, 1994) that focuses on the development of the interaction between foster parent and foster child (with the result that the child feels secure and well understood), might be appropriate (Oosterman et al., 2010). Interventions supporting the newly formed relationship between foster parent and foster child can be helpful in addition to interventions focussing on the management of foster children’s behavioural problems.
REFERENCES


Chapter 2


