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Approximately 30% of children in foster care have severe emotional, behavioral, or developmental problems. A systematic research synthesis of empirical studies was conducted in an attempt to identify and classify therapeutic interventions for foster children. Utilizing a treatment protocol classification system, empirical studies were classified according to their theoretical, clinical, and empirical support. A total of 18 studies were reviewed, including a compare and contrast of methodological strengths and shortcomings. In all, 6 out of the 18 interventions may be considered well-supported and efficacious, 3 interventions were determined to be supported and probably efficacious, and 9 were supported and acceptable. Interventions recognizing the unique experience of foster children and foster family dynamics were found to be lacking in the current literature.

Keywords: *foster children; care; family; interventions; research; attachment*

Foster care is a service under siege (National Commission on Family Foster Care, 1991). Currently, more than 500,000 children are in foster care (U.S. Department of Health and Human Services, National Clearinghouse on Child Abuse and Neglect Information, 2001). Because of factors such as AIDS, drug abuse, homelessness, and child maltreatment (Barbell & Freundlich, 2001), children are placed in foster care more often than any time in history. The contexts that result in out-of-home placement for many children are associated with negative life experiences and manifold challenges. Foster care, especially multiple placements, can exacerbate these challenges (e.g., Rosenfeld et al., 1997; Stone & Stone, 1983; Sumner-Mayer, in press). Children in foster care are known to exhibit posttraumatic stress symptoms (Perry, Pollard, Blakely, & Vigilante, 1995) and a wide range of other mental and emotional disorders (Clausen, Laudsverk, Ganger, Chadwick, & Litronwnik, 1998; dosReis, Zito, & Safer, 2001; McIntyre & Keesler, 1998; Perry, Conrad, Dobson, Schick, & Ryan, 2000; Pilowski, 1995), behavioral problems (e.g., Chernoff, Combs-Orme, Risley-Curiss, & Heisler, 1994), and developmental problems such as cognitive deficits (Rosenfeld et al., 1997), learning disabilities (Naastrom & Koch, 1996; Stein, 1997), and adaptive behavior deficits (Horowitz, Simms, & Farrington, 1994). Moreover, extended stays in foster care are also known to be associated with short- and long-term bio-psychosocial problems (see reviews by Garwood & Close, 2001; Haury, 2000; Lee & Lynch, 1998; Lee & Stacks, 2004; Lee & Whiting, in press). Because of all these circumstances, children in foster can be expected to demonstrate emotional, behavioral, and developmental disorders 2.5 times the rate in the general population (Garwood & Close, 2001). Effective, multitargeted treatments for challenged foster children are needed.

Despite the need for empirically validated psychotherapeutic interventions, the literature is largely anecdotal. Therefore, our purpose has been to cull the foster care literature to find psychotherapeutic treatments that recognized the unique experiences of foster children, including promising interventions that are currently being applied to at-risk children. The overall number of therapeutic interventions found for children with behavioral problems was beyond the scope of this research. Inclusion of interventions to be utilized in this systematic research synthesis (SRS) focused on the following criteria: (a) treatment utilized specifically with foster children, (b) interventions that mentioned utilization with foster children, and (c) interventions that targeted children with numerous risk factors. Because the amount of interventions specifically for foster children was sparse,

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articles that targeted at-risk children were included to provide possible therapeutic interventions that may be applied to foster children. Other inclusion criteria included empirical articles that described an intervention and a report of an empirical study of a treatment.

Because of the outpouring of new scientific knowledge and innovative interventions, a SRS was conducted utilizing the four features described by Rothman and Thomas (1994). The four features of a SRS include (a) planful structuring, (b) conceptual rather than statistical data integration (pertinent to a given area of study), (c) a very broad range of evidence on any given issue, and (d) seeking to aid in practice and policy development and accumulate new knowledge. The result is one or more hypotheses or "promising hunches" about means to solve a given behavioral or social problem. Because foster care is well documented as a cause of a plethora of problems for children, this SRS was an attempt to offer new insight and suggest future directions for therapeutic interventions targeted for foster children (Rothman & Thomas, 1994).

A total of 18 interventions and related empirical studies were reviewed in terms of their aims, outcomes, and methodological strengths and shortcomings. In addition, the intervention and empirical studies were categorized according to their theoretical, clinical, and empirical support utilizing a treatment protocol classification system (see Table 1; Saunders, Berliner, & Hanson, 2004). Although foster care is well documented as a difficult and challenging time for our youth, a gap in the literature relating to an insignificant amount of empirically validated interventions specifically for foster children that address the unique experience and culture of the foster child and the challenging dynamics of the foster family was found.

REVIEW OF LITERATURE

Developmental Theory and Foster Family Dynamics

Childhood is characterized by change, transition, and reorganization and involves rapid growth and development (Hoagwood & Olin, 2002). This period of rapid change can contribute to increased vulnerability at this significant time in a child's life. Simultaneously, families also go through developmental transitions. According to Carter and McGoldrick (1999), stress is often greatest at transition points from one stage to another in the developmental process as families rebalance, redefine, and realign their relationships. Although children and families vary greatly in this developmental process, individual human development goes through an expected trajectory of stages depending on the availability of resources, cultural influences, and the period in history in which children grow up. Typical developmental transitions that family members experience during their lifespan involve changes in family structure, normative tasks of family members at each stage of development, emotional climate within the family, boundaries, patterns of interaction, and communication patterns. The foster child is faced with the task of adjusting to these normative tasks while transitioning to a new home environment.

Foster families provide a temporary substitute family structure ultimately driven by a contract with the state. Well-meaning foster parents are oftentimes faced with unrealistic tasks. The foster child is unsure of his or her future and lives in a world of uncertainty. A normal child's development trajectory would include the stability of what will occur from day to day based on the structure of his or her home life and stability of the family. On being placed in a foster home, a child is unsure of his or her future. The foster child is usually under the impression that he or she will eventually return home, regardless of what circumstances have removed him or her from his or her biological family. Adults cope with impermanence by building on an accrued sense of self-reliance and by anticipating and planning for a time of greater constancy. Young children have limited life experiences on which to establish themselves. Their sense of time focuses exclusively on the present, and this precludes any meaningful understanding of temporariness versus permanence. For very young children, periods of weeks or months are not comprehensible (American Academy of Pediatrics, Committee on Early Childhood, Adoption, and Dependent Care, 2001).

Foster Children Experiencing Multiple Placements

Children are remaining in foster care longer than in the past, averaging 30.0 months in the District of Columbia, 35.6 months in Illinois, and 32.1 months in New York (Barbell & Freundlich, 2001). It is estimated that the longer the child stays in foster care, the more likely the child will have multiple placements (Barbell & Freundlich, 2001). In 1998, 21% of all foster children had three or more placements (U.S. House of Representatives, 2000). The number of placements a child experiences has been found to be directly related to the level of hostility he or she displays (Fanshel, Finch, & Grundy, 1989). In California, New York, and Pennsylvania, the number of infants younger than 36 months in foster care doubled from 1986 to 1991, twice the rate of increase in

TABLE 1: ***Treatment Classification Criteria***

Category 1: Well-supported, efficacious treatment

1. The treatment has a sound theoretical basis in generally accepted psychological principles.
2. A substantial clinical, anecdotal literature exists indicating the treatment's efficacy with at-risk children and foster children.
3. The treatment is generally accepted in clinical practice for at-risk children and foster children.
4. There is no clinical or empirical evidence or theoretical basis indicating that the treatment constitutes a substantial risk of harm to those receiving it, compared to its likely benefits.
5. The treatment has a manual that clearly specifies the components and administration characteristics of the treatment that allows for replication.
6. At least two randomized, controlled outcome studies have demonstrated the treatment's efficacy with at-risk children and foster children. This means the treatment was demonstrated to be better than placebo or no different or better than an already established treatment.
7. If multiple outcome studies have been conducted, the large majority of outcome studies support the efficacy of the treatment.

Category 2: Supported and probably efficacious

1. The treatment has a sound theoretical basis in generally accepted psychological principles.
2. A substantial clinical, anecdotal literature exists indicating the treatment's efficacy with at-risk children and foster children.
3. The treatment is generally accepted in clinical practice for at risk children and foster children.
4. There is no clinical or empirical evidence or theoretical basis indicating that the treatment constitutes a substantial risk of harm to those receiving it, compared to its likely benefits.
5. The treatment has a manual that clearly specifies the components and administration characteristics of the treatment that allows for implementation.
6. At least two studies utilizing some form of control without randomization (e.g., wait list, untreated group, placebo group) have established the treatment's efficacy over the passage of time, efficacy over placebo, or found it to be comparable to or better than already established treatment.
7. If multiple treatment outcome studies have been conducted, the overall weight of evidence supported the efficacy of the treatment.

Category 3: Supported and acceptable treatment

1. The treatment has a sound theoretical basis in generally accepted psychological principles.
2. A substantial clinical, anecdotal literature exists indicating the treatment's efficacy with at-risk children and foster children.
3. The treatment is generally accepted in clinical practice for at-risk children and foster children.
4. There is no clinical or empirical evidence or theoretical basis indicating that the treatment constitutes a substantial risk of harm to those receiving it, compared to its likely benefits.
5. The treatment has a manual that clearly specifies the components and administration characteristics of the treatment that allows for replication.

6a. At least one group study (controlled or uncontrolled), or a series of single subject studies have demonstrated the efficacy of the treatment with at-risk children and foster children;

or

6b. A treatment that has demonstrated efficacy with other populations has a sound theoretical basis for use with at-risk children and foster children, but has not been tested or used extensively with these populations.

7. If multiple treatment outcome studies have been conducted, the overall weight of evidence supported the efficacy of the treatment.

Category 4: Promising and acceptable treatments

1. The treatment has a sound theoretical basis in generally accepted psychological principles.
2. A substantial clinical, anecdotal literature exists indicating the treatments efficacy with at-risk children and foster children.
3. The treatment is generally accepted in clinical practice for at-risk children and foster children.
4. There is no clinical or empirical evidence or theoretical basis indicating that the treatment constitutes a substantial risk of harm to those receiving it, compared to its likely benefits.
5. The treatment has a manual that clearly specifies the components and administration characteristics of the treatment that allows for implementation.

Category 5: Novel and experimental treatments

1. The theoretical basis for the treatment is novel and unique, but with reasonable application of accepted psychological principles.
2. A small and limited clinical literature exists to suggest the efficacy of the treatment.
3. The treatment is not widely used or generally accepted by practitioners working with at-risk children and foster children.
4. There is no clinical or empirical evidence or theoretical basis suggesting that the treatment constitutes a substantial risk of harm to those receiving it, compared to its likely benefits.

Category 6: Concerning treatment

1. The theoretical basis for the treatment is unknown, a misapplication of psychological principles, or a novel, unique, and concerning application of psychological principles.
2. Only a small and limited clinical literature exists suggesting the efficacy of the treatment.
3. There is a reasonable theoretical, clinical, or empirical basis suggesting that, compared to its likely benefits, the treatment constitutes a risk to those receiving it.
4. The treatment has a manual or other writings that specify the components and administration characteristics of the treatment that allows for implementation.

SOURCE: Saunders, Berliner, and Hanson, 2004.

youth of all ages in foster care (U.S. General Accounting Office, 1994).

Foster children may become vulnerable when they are removed from their homes and placed in different environments. When a child enters foster care, he or she may experience a variety of emotions including shame because his or her parents were unable to care for him or her (Williams, Fanolis, & Schamess, 2002). The effects of foster care may also exacerbate the existing problems or life experiences prior to placement. Rosenfeld and

colleagues (1997) believe that most foster children carry permanent emotional scars from repeated multiple separations from parents, neighbors, and friends and remain reluctant to attach to substitute caregivers. When a foster child experiences multiple foster home placements, it can be traumatic and may interfere with the child's later formation of intimate relationships (Rosenfeld et al., 1997; Stone & Stone, 1983).

Emotional and Behavioral Problems in Foster Children

The high prevalence of mental health problems among children in foster care is well documented (Clausen et al., 1998; McIntyre & Keesler, 1998; Pilowsky, 1995). Environmental, social, biological, and psychological risk factors have been used to explain foster children's vulnerability of the development of emotional or behavior disorders. Most foster children come from impoverished environments and were vulnerable to a myriad of risk factors associated with poverty, such as inadequate access to prenatal care, homelessness, and limited educational opportunities (McIntyre & Keesler, 1998).

Academic, Peer, and Social Problems of Foster Children

Because of a focus on emotional and behavior issues, the essential educational, speech, and language acquisition of foster children may be neglected. The emotional trauma of transitioning to foster care can interfere with cognitive abilities (Rosenfeld et al., 1997). Because of multiple foster home placements and transferring to different schools, the emotional drain can affect the quality of foster children's schoolwork. Studies of maltreated children in foster care have shown higher rates of learning disabilities (10%—Nasstrom & Koch, 1996; 40%—Stein, 1997), achievement problems (41%—Chamberlain, Moreland, & Reid, 1992), and adaptive behavior deficits (73%—Horowitz et al., 1994). Common problems in school are falling behind academically, failing classes, failing to do homework, cheating, and disrupting class. Because of stigmatization, foster children may be picked on by classmates, develop school phobia, or engage in truancy (Noble, 1997).

Many foster youth end up homeless as adults, without acquiring the social and work skills needed to survive independently. Parents, who grew up in foster care as children and who experienced homelessness as adults, are almost twice as likely to have their own children placed in foster care as are parents who were homeless but were never in foster care (Roman & Wolfe, 1997).

Foster Children and Trauma

In all, 22% of foster children of all ages were reported to suffer severe posttraumatic stress symptoms (Perry et al., 1995). Children exposed to trauma may have a wide range of symptoms such as post-traumatic stress disorder (PTSD), behavior disorders, anxieties, phobias, and depressive disorders (Perry et al., 2000). Maltreatment involving abuse and neglect poses grave risks for foster children. To complicate investigations of effects of foster care on children, the majority of these children have been abused or neglected prior to entering foster care (Stein, 1997). Dale, Kendall, and Sheehan (1999) screened 152 foster children between the ages of 6 and 8 for PTSD, and one third met the criteria. This includes children who have witnessed violent crime or experienced abuse, separation from caregiver, or other traumatic experiences. The majority of foster children have at least one psychiatric disorder, and approximately 33% have three or more diagnosed psychiatric problems (dosReis et al., 2001). Trauma unacknowledged in foster children may express itself in the development of internalizing (e.g., depression, anxiety) or externalizing (e.g., aggression, hyperactivity) disorders (Perry et al., 1995).

Attachment Issues With Foster Children

A healthy attachment style can play a crucial role in the psychological effects of foster children (Haury, 2000). Attachment theory holds that attachment styles are developed in childhood and continue to affect the ability to form intimate and healthy relationships as adults (Ainsworth, 1982, 1989). Bowlby (1969) believed that the infant-caregiver relationship forms an internal working model that later influences interpersonal perceptions, attitudes, and expectations. This invokes trust and a secure base for the child to develop. Repeated experiences become encoded in our implicit memory as expectations and then as schemas of attachment to create a haven of safety (LeDoux, 1996).

Infants constitute a large and increasing proportion of children in out-of-home placement. Young children from birth to 3 account for 44% of all youth entering foster care (George & Wulczyn, 1999). Experiences in the first years of life have been defined as crucial to later personality development (Lieberman & Zeanah, 1995). Dozier, Higley, Albus, and Nutter (2002) have identified three critical challenges that infants and young children in foster care face. The three primary areas of concern are that (a) as a result of previous relationship failures, children often behave in alienating ways toward their caregivers (Stovall & Dozier, 2000; Tyrell & Dozier, 1999); (b)

some caregivers are not nurturing even when infants signal their needs for reassurance clearly (Stovall & Dozier); and (c) even when previous caregivers have not provided adequate care, separations from these caregivers cause children to become deregulated behaviorally and physiologically (Fisher, Gunnar, Chamberlain, & Reid, 2000).

The foster care system may be problematic to assess attachment relationships by its own nature of complexity. Foster care facilitates the act of disrupted attachments, and professionals need to thoroughly understand the consequences of this interruption. James (1994) states that foster parents are in a unique position to deal with a child's specific needs when a child displays hostility, resentment, and ingratitude. Parent-child separation and the making and breaking of attachments are issues central in the life of a foster child and affect his or her emotional well-being. Foster children experience ambiguous loss as a result of the removal of significant family members from their internal family structure. Drawing on family systems theory, this ambiguous loss may leave them confused about who is in or out of their internal family system (Gardner, 1996). To develop into a psychologically healthy human being, a child needs a relationship with an adult who is nurturing and protective and who fosters trust and security (Werner & Smith, 1982).

Foster parents' understanding of the attachment cycle and the subsequent development of disordered attachment are imperative if the foster family is going to welcome a challenging child into their home (Wilson, 2001).

Although the purpose of this review was to gather current interventions used with foster children, reviewing conceptual literature was necessary to discover if the intervention research addressed these important issues that challenge foster children. Considering the current state of foster children, developmental and foster family dynamics, risk factors, emotional and behavioral problems, academic problems, trauma, and attachment issues, clinical implications indicate a need for adequate therapeutic interventions to address the multiple problems that result from foster care placement.

METHOD

Search Parameters

A comprehensive electronic search on First Search, PsychLit, Lexus-Nexus, ERIC, and Medline was conducted. These search engines were chosen based on the wide range of disciplines addressed, such as psychology, sociology, social work, education, and medicine. The following keywords were searched: *foster care*, *foster children*, *foster families*, *children*, *family*, *surrogate family*, *out-of-home care*, *counseling*, *therapy*, *family therapy*, and *interventions*. Also *foster care* was linked to other terms, such as *attachment*, *trauma*, *emotional and behavioral disorders*, and *homelessness*. Specific boundaries were placed on the literature search including those keywords that would relate to foster care and current interventions. Included in the search were investigations of interventions with children at risk for removal to out-of-home care. Boundaries were initially broad, focusing on literature published the past 10 years. Because of the dynamic nature of contemporary society, only intervention studies conducted in the past decade (1994-2004) were reviewed. Historical and conceptual literature was also reviewed to integrate the current state of foster care with current available interventions.

Evaluation Criteria

In the process of evaluating the interventions, two distinct categories emerged: Category 1 included interventions that focus on a specific treatment protocol that addresses a problem behavior or behaviors that exist for foster children, and Category 2 included interventions that focus on the prevention of future problem behaviors. Each study referencing the intervention is described in Table 2 (interventions that focus on treatment) and in Table 3 (interventions that focus primarily on prevention).

Empirical articles were evaluated based on the following criteria: literature review or theory; sample characteristics; design or sampling method; measures, data analysis, or effect size; focus of treatment or prevention; treatment integrity; and results or follow-up. Empirical articles with their related interventions were also evaluated using the treatment protocol classification system. The treatment protocol classification system (see Table 1) is to help establish a clear, criteria-based system for classifying interventions and treatments according to theoretical, clinical, and empirical support. The guidelines reflect the knowledge at the time of writing. As additional studies of testing the effectiveness of existing protocols will be conducted, classifications will change over time as more research is completed (Saunders et al., 2004).

RESULTS

Overview of Interventions

As a result of the search, many articles focused on the numerous problems that foster children experience.

(text continued on p. 296)

TABLE 2: ***Characteristics of Studies of Interventions Focusing on Treatment***

Intervention and Referenced Study	*Literature Review Yes or No, Theory or Model*	*Sample Size Age or Gender*	*Design or Sampling Method*	*Measures or Data Analysis, Effect Size*	*Focus of Treatment*	*Treatment Fidelity*	*Results and Follow-up*
Dyadic Developmental Psychotherapy; Becker-Weidman (2004)	Yes; attachment theory	*n* = 113, ages 10-17, M/F	NR; 1 group	RADQ; CBCL; DDP; *t* tests; effect size not mentioned	Affective attunement, PLACE, cognitive restructuring, psychodramatic enactments	Not mentioned	RADQ; T =12.822, $p < .0001$; CBCL; *t* test, subscales range (4.897-10.57); *p* value range (< .0001-.006); no follow-up
Hand in Hand; Whitemore, Ford, and Sack (2003)	Yes; family preservation	*n* = 129, ages 2-6, M/F	NR; 1 group; HH	TRF, CBCL, PPVT EOW; MANOVA frequency tables; graphs; effect size not mentioned	Special education, intensive case management, academic and developmental skill building, individual and family therapy, proctor care	Extensive screening of proctor patients	TRF: $F(9, 113) = 7.031$, $p < .01$; CBCL: $F = 10.746$, $p < .001$; BDI: $F = 25.64$, $p < .01$; PPVT: $t(59) = 5.66$, $p < .001$; EOW: $t(84) = 11.725$, $p < .001$; follow-up: intake, discharge, and 4 years
Dina Dinosaur; Webster-Stratton, (2003)	Yes; Developmental theory	*n* = 97; ages 4-8; M/F	R; 4 groups	CSPS, NCM, CBCL, CT, PT, PT+CT, WLC; *t* tests, frequency tables	Emotional literacy, empathy, friendship, communication skills, anger problem solving, school success	Treatment manuals, session protocols, checklists, video tapes	CSPC; CT vs. WLC, $d = .79$, $p < .05$; PT+CT vs. WLC, $d = .69$, $p < .05$, PT vs. WLC, $d = .25$, $p < .05$, NCM; CT vs. WLC, $d = .58$, $p < .05$; PT + CT vs. WLC, $d = .54$, $p < .05$; PT vs. WLC, $d = .46$, $p < .05$, CBCL; CT vs. WLC, $d = .38$; PT = CT vs. WLC, $d = .73$, $p < .05$; PT vs. WLC, $d = .89$, $p < .05$; follow-up: baseline, 2 months, 1 year, and 2 years
Foster Care Clinic; Horowitz, Owens, and Simms (2000)	Yes; multidisciplinary program	*n* = 120, ages 11-74, M/F	NR; 2 groups; FCC, CG	CBCL, C-GAS, PPVT, ESP, VABS; multifactor stratified logistic regression polycotomous; effect size not mentioned	Medical exam, developmental, psychological speech or language and motor assessments	Not mentioned	CBCL, C-GAS, PPVT, ESP, VABS; no significant differences; FCC were more likely to be identified with developmental and mental problems vs. CG; (56.5% vs. 8.6%; 37.1% vs. 13.8%); follow-up: baseline, 6 months, and 12 months
Parent-Child Interaction Therapy; Borrego, Urquiza, Rasmussen, and Zebell (1999)	Yes; social learning theory	n = 1, mother 35, male 3	Single case study	DPICS, ECBI, CBCL, PSI, CAPI; *t* test, frequency tables; effect size not mentioned	Social reinforcement, operant model, increase positive interactions between mother and child	Training in PICT, treatment checklists	DPICS; increased positive interactions, ECBI; pre-152 vs. post-65, CBCL-ED; pre-74 vs. post-53, CBCL-ID; pre-76 vs. post-46, PSI; pre-96 vs. post-15, CAPI; pre-74 vs. post-56; follow-up: pre, mid, and post; 5 and 16 months

Multisystemic Therapy; Henggeler et al. (1999)	Yes; social ecological model	n = 113, ages 10-17, M/F	R; 2 groups; MST; CG	GSI-BSI, PEI, CBCL, FACES III, school attendance, FFS; ANOVA post hoc comparisons; frequency tables; effect size not mentioned	Daily support, crisis plan, focus family strengths and community resources	Structured supervision, coded tapes, treatment manual	GSI-BSI, PEI, CBCL-ED; $F = 3.99$, $p < .021$, CBCL-ID; $F = 4.13$, $p < .017$; FACES III $F = 3.28$, $p < .039$, School attendance = 5.72, $p < .018$, FFS; $F = 7.72$, $p < .006$; follow-up: baseline, 1 week, 2 weeks, and 4 months
Multidimensional Treatment Foster Care; Chamberlain and Reid (1998)	Yes; developmental model	n = 79, ages 10-17, males	R; 2 groups; MTFC; CG	OYA, EBC; ANOVA hierarchal multiple regression; effect size not mentioned	FP trained in CBT, individual or family therapy, problem solving, social perspective, nonaggressive methods of self-expression FP participated	Supervision, daily contact with parents; videotaped treatment manual	OYA; fewer runaways (MTFC, 30.5% vs. CG, 57.8%) EBC; criminal referral rates decreased in MTFC group, $F(1, 77) = 3.93$, $p = .003$; follow-up: 1 year preplacement and postplacement
Holding Therapy; Myeroff, Mertlich, and Gross (1999)	Yes; attachment theory	n = 23, ages 4-14, M/F	NR, 2 groups, HT, CG	CBCL; two-tailed t tests; effect size not mentioned	Cognitive restructuring, psychodramatic reenactments, inner child metaphor, therapeutic holding	Procedure manual	CBCL; Aggression scores: pre and post HT; $t = 4.26$, $df = 10$, $p < .002$, CG, $t = .58$, $df = 8$, $p = .5$, CBCL; delinquency scores: pre, post, HT; $t = 2.37$, $df = 10$, $p < .04$, CG, $t = 20$, $df = 8$, $p = .85$; no follow-up
Fostering Individualized Assistance Program; Clark and Prange (1994)	Yes; family preservation, wraparound	n = 132, ages 7-12, M/F	R, 2 groups, FIAP, SP	CBCL, YSR; MANOVA, ANOVA, chi-square; effect size not mentioned	Support, life-domain planning, strength assessment, stabilize placement, improve EBD	Supervision, independent reliability checks on 20% of data collected	Lower pathology CBCL-ID; $p < .05$; CBCL-ED; $p < .05$, YSR; $F(8, 98) = 14.75$, $p < .01$; follow-up: 4 and 18 months

NOTE: BDI = Battelle Developmental Inventory; CAPI = Child Abuse Potential Inventory; CBCL = Child Behavior Checklist; CBT = Cognitive Behavioral Therapy ; C-GAS = Children's Global Assessment Scale; CSPS = Cognitive Social Problem-Solving; CG = control group; CT = child training; DPICS = Dyadic Parent-Child Interaction Coding System; EBC = Elliot Behavior Checklist; EBD = emotional and behavior disorders; ECBI = Eyeberg Child Behavior Inventory ; ED = externalizing disorders; EOW = Expressive One-Word Picture Vocabulary Test; ESP = Early Screening Profile; FFS = Family Friends and Self, FACES III = Family Adaptability and Cohesion Scale-III; FCC = Foster Care Clinic; FIAP = Fostering Individualized Assistance Program; FP = foster parents; GSI-BSI = The Global Severity Index of the Brief Symptom Inventory; HH = Hand in Hand; HT = Holding Therapy; ID = internalizing disorders; M/F = male and female; MTFC = Multidimensional Treatment Foster Care; MST-Multisystemic Therapy; n = sample size; NCM = Negative Conflict Management; NR = nonrandom assignment; OYA = Oregon Youth Authority; PCIT = Parent-Child Interaction Therapy; PLACE = playfulness, love, acceptance, curiosity, and empathy; PMT = Parent Management Training; PPVT = Peabody Picture Vocabulary Test; PSI = Parenting Stress Index; PT = parent training; R = random assignment; RADQ = Reactive Attachment Disorder Questionnaire; SP = Standard Practice; TRF = Teacher Rating Form; VABS = Vineland Adaptive Behavior Scales; WLC = wait list control; YSR = Youth Self Report.

TABLE 3: ***Characteristics of Studies Focusing on Preventive Interventions***

Intervention and Referenced Study	*Literature Review Yes or No, Theory or Model*	*Sample Size Age or Gender*	*Design or Sampling Method*	*Measures or Data Analysis, Effect Size*	*Focus of Treatment*	*Treatment Fidelity*	*Results and Follow-up*
Enhanced Home Based Crisis Intervention (HBLC+); Evans et al. (2003)	Yes; family preservation model	$n = 238$, ages 5-18, M/F	R, 3 groups, HBCL, HBLC+, CCM	CDF, SAF, PHCSC, FACES II, BESR, CBCL; ANOVA frequency checks; effect size reported	Family centered, parent support group, counselor respite, maintain crisis in natural environment vs. hospitalization, bicultural advocate	Training by consultants	PHCS; $F(1, 144) = 16.98$, $p < .01$, $d = .25$, FACES II; HBLC vs. CCM, $F(1, 450) = 4.17$, $p < .05$, $d = .43$, HBLC+ vs. CCM, $F(1, 450) = 8.32$, $p < .01$, $d = .43$, BESR; no report, HBCL vs. CCM; $F(1, 458) = 7.11$, $p < .01$, $d = .48$; HBCL+ vs. CCM, $F(1, 458) = 8.79$, $p < .01$, $d = .43$; follow-up: baseline, discharge, and 6 months
Respite Care; Cowen and Reed (2002)	Yes, ecological theory	$n = 148$, ages 1 week, M/F	NR, 1 group, RC	PIF, PSI, descriptive statistics, *t* tests, logistic regression, effect size not mentioned	Developmental stimulation, social activities to improve self-esteem, self-confidence, and coping with stress	Not mentioned	PIF; parent domain scales, $t = 3.55$, $df = 86$, $p = .000$, child domain scales, $t = 2.2$, $df = 86$, $p = .02$, PSI (total stress); $t = 3.27$, $df = 86$, $p = .00016$; no follow-up
Empowerment Zone; Nabors, Proescher, and DeSilva (2001)	Yes, prevention model	$n = 53$, ages 5-11, M/F	NR, 1 group, EZ	TPCF, EZSS, HMCDS, *t* tests repeated measures, effect size not mentioned	Conflict resolution problem solving, parent training, anger management, healthy eating, physical and dental hygiene	Not mentioned	TPCF; $F = 4.12$, $p < .05$, EZSS; 87% liked activities, HMCDS; $F = 5.65$, $p < .024$; no follow-up
Intensive Intervention; Zeanah, Larrieu, Heller, and Scott (2001)	Yes, multidisciplinary approach	$n = 331$, ages birth to 4, M/F	NR, 2 groups, IG, CG	Length of time in care; permanent plan outcomes; maltreatment recidivism; MANOVA frequency tables; effect size not mentioned	Assessment of caregivers, court-ordered case plan, therapy, attachment issues, medication	Not mentioned	No significant differences in length of time in FCE, termination of parental rights increased, return of children to birth family decreased
Early Intervention Foster Care; Fisher, Gunnar, Chamberlain, and Reid (2000)	Yes, developmental theory, medical model	$n = 30$, ages 3-5, M/F	NR, 3 groups, EIFC, RFC, CC	ECI, salivary cortisol, PDR, CCIIF, ANOVA, MANOVA, post hoc analysis, effect size not mentioned	FP training with consistent nonabusive discipline parenting, close monitoring, therapeutic relationship between FP and FC, biological indicators of stress	FP training daily phone contact; home visits; 24-hour, on-call crisis intervention	ECI; $F = 21.7$, $p < .001$ salivary cortisol; overall decrease in EFIC group, PDR; $F = 3.24$, $p < .08$, CCIIF; $F = 18.01$, $p < .001$; follow-up: 2 weeks after placement and 12 weeks

ENHANCE; O'Hara, Church, and Blatt (1998)	Yes, developmental theory	*n* = 52, ages birth to 18, M/F	NR, 1 group	DDST-II, ELM-2, HOME, INFANIB; descriptive statistics; effect size not mentioned	Developmental screening and treatment by home visiting by CNS, parent education, early intervention	Not mentioned	DDST-II; 65% passed, 35% failed, ELM; 92% passed, 8% failed HOME; 100% FCE adequate, INFANIB; 88% of FC less than 6 months had abnormalities, 33% of FC longer than 6 months had abnormalities
Partner's Intervention; Webster-Stratton (1998)	Yes, developmental theory	*n* = 394, HeadStart mothers and 4-year-olds, M/F	R, 2 groups, partners control	OSCL, DDI, DPICS, CSCCPH-SC, ECBI, TRF; MANOVA; effect size not mentioned	Parent training strengthen parent competence, teacher training	Training, treatment manual, videotaped session checklists	OSCL; $F(6, 377) = 3.94$, $p < .01$; DDI; $F(12, 271) = 3.98$, $p < .001$; DPICS; $F(14, 249) = 2.86$, $p < .01$; CSCCPH; $F(6, 357) = 4.46$, $p < .001$, CSCCPC; $F(2, 369) = 4.08$, $p < .05$, ECBI; $F(12, 244) = 1.98$, $p < .05$, TRF; $F(2, 373) = 5.38$, $p < .01$; follow-up: 12 and 18 months
Intensive Preservation Service; Gillespie, Byrne, and Workman (1995)	Yes, family preservation, crisis intervention theory	*n* = 42, ages birth to 17, M/F	NR, 1 group, FPS	Reunification with birth parents, service provision, family characteristics and foster care; chi-square frequency tables; effect size not mentioned	Problems related to separation	Not mentioned	Overall, 79% children were reunited, most critical problem solved by IFPS; $p < .0070$, teen parent predicted remaining in FH; $p < .0155$, social worker contact with foster family prior to project; $p < .0058$; no follow-up
Prenatal and Childhood Nurse Visitation; Olds, Henderson, and Tatelbaum (1995)	Yes; family preservation, systems of care	*n* = 400, pregnant women	R, 4 groups, TX 1, TX 2, TX 3, TX 4	CBHI, SBLFM, hospital records, CPS records; logistic linear model; effect size not mentioned	Improve outcomes of pregnancy qualities of parental care giving, maternal life course development	Not mentioned	CBHI; $p = .03$, SBLFM; no significant differences, hospital records; 84% fewer visits by PECNHV group, CPS; no significant differences; follow-up: CBHI; baseline, 34 months, 36 months, 46 months, and 48 months; 25 and 50 months of age; CPS records; birth to 4 SBLFM; 36 and 48 months

NOTE: BESR = Bureau of Evaluation and Services Research; CBCL = Child Behavior Checklist; CBHI = Caldwell and Bradley Home Inventory; CC = community control; CCIIF = Child Caregiver Interview Impressions Form; CCM = Crisis Case Management; CDF = Client Description Form; CG = control group; CNS = Clinical Nurse Specialist; CPS = Child Protective Service; CSCCPH-PC = Child Social Competence and Conduct Problems at Home, and at School; ECI = Early Childhood Inventory; DDI = Daily Discipline Interview; DDST-II = Denver Developmental Screening Test; DPICS = Dyadic Parent-Child Interaction Coding System; ECBI = Eyeberg Child Behavior Inventory; EZ = Empowerment Zone; EZSS = Empowerment Zone Survey for Students; FACES II = Family Adaptability and Cohesion Scales II; FC = Foster child; FACES II = Family Adaptability and Cohesion Scales II; FH = foster home ; FP = foster parent; HBCI = Home Based Crisis Intervention; HBCI+ = Enhanced Home Based Crisis Intervention; HMCD = How My Child Is Doing Survey; HOME = Home Observation for Measurement of the Environment; IFPS = Intensive Family Preservation Service; IG = intervention group; INFANIB = Infant Neurological International Battery; M/F = male and female; *n* = sample size; NR = nonrandom assignment; OSCL = Oregon Social Learning Center; PDR = Parent Daily Report; PECNHV = Prenatal and Early Childhood Nurse Home Visitation; PIF = Parent Information Form; PHCSCS = Piers-Harris Children's Self-Concept Scale; PSI = Parenting Stress Inventory; R = random assignment; RC = Respite care; RFC = regular foster care; SAF = Supplemental Assessment Form; SBLFM = Stanford-Binet Form L-M; TPCF = Teacher Perception of Children's Functioning; TRF = Teacher Report Form; TX = treatment group.

Many interventions that were specific to foster children were limited to technological explanatory literature describing interventions that have not been tested for their overall effectiveness. A total of 18 studies were included in this review to critique. Each intervention described and outlined in Tables 2 and 3 is a study that investigates the effectiveness and utilization of that intervention. The studies in this review include 2 studies in 1994, 1 in 1995, 4 in 1998, 2 in 1999, 2 in 2000, 2 in 2001, 1 in 2002, 3 in 2003, and 1 in 2004. Although 7 qualitative studies were found, only quantitative studies were evaluated using the criteria described above. Although the importance of qualitative studies was acknowledged, primarily only empirical articles were reviewed, and an inclusion of qualitative studies was beyond the scope of this research.

Only those studies that were found in peer-reviewed journals were included in this review. Interventions that included children who faced various risk factors (e.g., abuse, neglect, minority, poverty, no prenatal care, behavior problems) were also included in the search for effective interventions. Empirical articles containing the terms *foster care* or *foster children* were also included in the review if one of the terms was mentioned in the article as a part of the sample population but was not the main focus of the intervention.

Because foster children are at risk for developing a myriad of developmental, physical, and psychological problems, many therapeutic interventions involved multiple systems of care, and the programs were multifaceted. The wraparound process was found to be used by communities to prevent ineffective and out-of-home placements. The term *wraparound* is a term to describe a philosophy and general approach that tailors the services to the specific individual needs of children and families (Myaard, Crawford, Jackson, & Alessi, 2000). Many studies involved the use of multiple community-based services.

Empirical Literature of Interventions Focusing on Treatment

The following nine interventions were found to be specific to treatment and focused on specific problem behaviors: Multisystemic Therapy (Henggeler et al., 1999), Parent-Child Interaction Therapy (Borrego, Urquiza, Rasmussen, & Zebell, 1999), Dina Dinosaur (Webster-Stratton & Reid, 2003), Dyadic Developmental Psychotherapy (Becker-Weidman, 2004), Fostering Individualized Assistance Program (Clark & Prange, 1994), Hand in Hand (Whitemore, Ford, & Sack, 2003), Multidimensional Foster Care (Chamberlain & Reid, 1998), Holding Therapy (Myeroff, Mertlich, & Gross, 1999), and Foster Care Clinic (Horowitz, Owens, & Simms, 2000). Although aspects of some of these interventions were preventive, the intervention focused more on treating specific problem behaviors. The interventions and referenced studies are described in Table 2.

Empirical Literature of Interventions Focusing on Prevention

Preventive interventions aim to counteract risk factors and reinforce protective factors to disrupt processes that contribute to human dysfunction (Coie et al., 1993). The goal is to prevent problem behaviors from developing. Several of the preventive interventions examined provide strategies by designing multiple intervention components to address multiple risk factors. The following interventions were found to address the needs of children with risk factors: Empowerment Zone (Nabors, Proescher, & DeSilva, 2001), Intensive Family Preservation Services (Gillespie, Byrne, & Workman, 1995), Early Intervention Foster Care (Fisher et al., 2000), Respite Care (Cowen & Reed, 2002), Partner's Intervention (Webster-Stratton, 1998), Excellence in Health Care to Abused and Neglected Children (ENHANCE; O'Hara, Church, & Blatt, 1998), Enhanced Home-Based Crisis Intervention (Evans et al., 2003), Prenatal and Early Childhood Home Visitation (Olds, Henderson, & Tatelbaum, 1995), and Preventive Intervention (Zeanah, Larrieu, Heller, & Scott, 2001). The interventions that focus on prevention are outlined in Table 3.

SYNTHESIS OF EMPIRICAL LITERATURE OF INTERVENTIONS IN TABLES 2 AND 3

Referenced Studies

Of the 18 studies reviewed, 9 were found to focus on treatment of specific behaviors that at-risk or foster children experience (see Table 3). Preventive intervention studies consisted of the remaining 9 (see Table 2). Interventions and their corresponding studies that targeted only foster children only consisted of 6 studies. The remainder mentioned foster care in the article but were not specific to foster children. Several of the interventions were community- and family-based programs involving comprehensive, multidisciplinary approaches. This may be an attempt to address all the multiple components necessary for treating the at-risk child in the context of home,

school, and peer relations. Many studies involved parent training, child training, case management, individual and family therapy, and developmental and medical screenings. A focus on family strengths was a repetitive theme throughout the evaluation of the interventions.

Five of the 18 referenced studies treated one or two specific problems such as Holding Therapy (Myeroff et al., 1999) and Dyadic Developmental Psychotherapy (Becker-Weidman, 2004) treating attachment disorders, Dina Dinosaur (Webster-Stratton & Reid, 2003) focusing on school success and peer interactions, Prenatal and Early Childhood Nurse Home Visitation (Olds et al., 1995) focusing on prenatal care for pregnant mothers until their children reach the age of 2, and a home-based intervention titled ENHANCE (O'Hara et al., 1998) that addresses the utility of developmental screening.

Three of the interventions used treatment foster care as an overall milieu that involves engaging the foster parent as the therapeutic agent (Chamberlain & Reid, 1998; Fisher et al., 2000; Whitemore et al., 2003). The Foster Care Clinic (Horowitz et al., 2000), Prenatal and Early Childhood Nurse Home Visitation (Olds et al., 1995), and ENHANCE (O'Hara et al., 1998) are three interventions that involved developmental screening along with medical and mental health screening. Four interventions focused on the prevention of out-of-home placement (Borrego et al., 1999; Evans et al., 2003; Gillespie et al., 1995; Olds et al., 1995). Three interventions involved home visits by nurses (Evans et al., 2003; O'Hara et al., 1998; Olds et al., 1995). Three interventions included the biological parents of the foster children as a part of the intervention (Fisher et al., 2000; Gillespie et al., 1995; Zeanah et al., 2001). Home visits were used by many of the intensive interventions that involved 8 of the 18 interventions (Chamberlain & Reid, 1998; Clark & Prange, 1994; Evans et al., 2003; Fisher et al., 2000; Gillespie et al., 1995; Henggeler et al., 1999; O'Hara, 1998; Olds et al., 1995).

Literature Review or Theory

All the referenced studies included a literature review in the article and linked the review to the problem prior to describing the interventions. Theories of orientation varied by each article but centered on family preservation (Clark & Prange, 1994; Evans et al., 2003; Gillespie et al., 1995; Olds et al., 1995; Whitemore et al., 2003), developmental theory (Chamberlain & Reid, 1998; Fischer et al., 2000; O'Hara et al., 1998; Webster-Stratton, 1998; Webster-Stratton & Reid, 2003), and ecological theory (Cowen & Reed, 2002; Henggeler et al., 1999). Two intervention studies identified using a multidisciplinary approach (Horowitz et al., 2000; Zeanah et al., 2001). Two intervention studies focused primarily on attachment theory as the basic orientation of the intervention (Becker-Weidman, 2004; Myeroff et al., 1999). Social learning theory was described in one study as guiding the orientation of the intervention (Borrego et al., 1999). The Empowerment Zone (Nabors et al., 2001) did not mention a theoretical base but emphasized prevention as an important element of their intervention.

Sample, Age, and Gender

The number of participants in the samples varied widely (range = 1-400, M = 134.4). Of the 18 studies reported (i.e., 9 interventions focusing on treatment, 9 focusing on prevention), 50% of the sample sizes can be categorized as relatively large (range = 100-400). The remaining 9 studies had sample sizes of fewer than 100 (range = 1-97). For the most part, convenience samples of children's families or foster children were obtained from local agencies.

One study involved pregnant, at-risk mothers, and another study included HeadStart mothers and their 3-year-old children (Borrego et al., 1999; Olds et al., 1995). The age of all participants in the 18 studies varied from birth to 17 years, which provided a wide variety of therapeutic interventions at different developmental stages.

Six of the 18 studies involved a combination of young children and adolescents (Becker-Weidman, 2004; Chamberlain & Reid, 1998; Evans et al., 2003; Gillespie et al., 1995; Henggeler et al., 1999; Myeroff et al., 1998). Two studies focused only on infants (Horowitz et al., 2000; O'Hara et al., 1998) and 1 on pregnant women at risk (Olds et al., 1994), and 4 used only preschool children (Fisher et al., 2000; Webster-Stratton & Reid, 2003; Whitemore et al., 2003; Zeanah et al., 2001). One study focused on children from 1 week to 7 years old (Cowen & Reed, 2002). Parent-Child Interaction Therapy was a single case study with a mother and her 3-year-old child (Borrego et al., 1999). Gender for the most part was evenly dispersed for most studies, with the exception of Multidimensional Treatment Foster Care (Chamberlain & Reid, 1998) and Parent-Child Interaction Therapy (Borrego et al., 1999), which used samples of only males.

All the studies were conducted in the United States. This contributed to a diverse sample including differing ethnic groups depending on the agency, geographical location, and nature of the intervention. Because of attrition and other factors, sample size decreased with the progression of time.

Design or Sampling Method

Seven out of the 18 studies employed experimental designs with random assignment to treatment condition (Chamberlain & Reid, 1998; Clark & Prange, 1994; Evans et al., 2003; Henggeler et al., 1999; Olds et al., 1995; Webster-Stratton, 1998; Webster-Stratton & Reid, 2003). Six studies used treatment only designs (Becker-Weidman, 2004; Cowen & Reed, 2002; Gillespie et al., 1995; Nabors et al., 2001; O'Hara et al., 1998; Whitemore et al., 2003). The remainder did not randomly assign study participants into treatment and control groups (Fisher et al., 2000; Horowitz et al., 2000; Myeroff et al., 1999; Zeanah et al., 2001). One single case study involving a mother and her 3-year-old son was included in the review (Borrego et al., 1999).

Measures, Data Analysis, and Effect Size

Measures. In all, 83% of the investigated studies used standardized measures to evaluate the effectiveness of their intervention. Standardized measures may take the form of traditional question and answer scales and checklists. Standardized instruments have procedures for administration and objective scoring criteria and guides for the interpretation of scores. The Child Behavior Checklist (CBCL) was used in nine studies and has been well standardized and has excellent reliability (test-retest correlation = .93, interparent correlation = .76, Cronbach's α = .96 (Wamboldt, Wamboldt, & Gavin, 2001). Family instruments, such as Home Observation of Measurement of Environment (O'Hara et al., 1998), Family Adaptability and Cohesion Scales (FACES II; Henggeler et al., 1999), and the Caldwell Bradley Home Inventory (Olds et al., 1995), were also utilized.

The prevention intervention (Zeanah et al., 2001) focus of treatment was preventive and used naturalistic observation with structured and unstructured interviews. Length of time in care, permanent plan outcomes, and maltreatment recidivism were the variables measured (Zeanah et al., 2001). The Intensive Family Preservation Service (Gillespie et al., 1995), in which the focus was reunification of foster children with their birth family, used measures that included family characteristics, service provision variables, and foster care variables to measure the effectiveness of their intervention.

The outcome measures varied because of the complexity of the interventions. Developmental screening instruments, social measures, hospital records, state agency records, teacher reports, and neurological measures were also used. Dyadic Developmental Therapy (Becker-Weidman, 2004) used the Reactive Attachment Disorder Questionnaire, which measures the symptoms of reactive attachment disorder.

Seven out of the 18 studies reported psychometric properties (e.g., validity and reliability) of the instruments in their description of measures in their studies (Cowen & Reed, 2002; Evans et al., 2003; Fisher et al., 2000; Horowitz et al., 2000; Myeroff et al., 1999; O'Hara et al., 1998; Webster-Stratton, 1998).

Data analysis. All but one of the studies used inferential statistics, testing differences in a dependent variable associated with various conditions of an experiment. ENHANCE (O'Hara et al., 1998) used descriptive statistics based on results of developmental screening of children in foster care. The data analysis used in each study varied to a degree depending on sample size, hypothesis, and problem. Eight out of 18 studies utilized analysis of variance to analyze data (Chamberlain & Reid, 1998; Clark & Prange, 1994; Evans et al., 2003; Fisher et al., 2000; Henggeler et al., 1999; Webster-Stratton, 1998; Webster-Stratton & Reid, 2003; Whitemore et al., 2003).

Effect size. Two recent studies mentioned effect size in their results (Evans et al., 2003; Webster-Stratton & Reid, 2003). Cohen (1992) contends that this statistical measure of power should be included in all method sections of data analysis, and there are ample accessible resources for estimating sample size in research planning using power analysis. The Webster-Stratton and Reid (2003) study reported in the form of effect size results for an overall analysis of statistical power (see Table 3). It also included Cohen's indexes and conventional values for operationally defining small, medium, and large effects. Their average results indicated moderate to large effect sizes (range d = .25-.89, M = .79). The other study was a home-based crisis intervention (Evans et al., 2003) and also reported the results of the effect size for each variable measured. They reported the effect size to be small to moderate (range d = .25-.48, M = .40).

Focus on Treatment

The focus of treatment is designed to treat children, foster children, or families regarding specific behaviors or problems. The focus of the treatment is outlined in Table 2. The treatment foci were on specific problem behaviors such as attachment, abuse or neglect, and emotional and behavioral problems. Parent training, support, case management, therapy, cognitive restructuring, social reinforcements, and community resources are mentioned

in several studies. In attachment disordered foster children, affective attunement and psychodramatic enactments are the focus of both treatments (Becker-Weidman, 2004; Myeroff et al., 1999). Dyadic Developmental Psychotherapy utilized PLACE, which is an acronym for playfulness, love, acceptance, curiosity, and empathy. The focus of school-based interventions was on emotional literacy, problem solving, school rules and success, friendship, and communication (Nabors et al., 2001; Webster-Stratton & Reid, 2003). Medical, developmental, and psychological screenings involved the treatment utilized by the Foster Care Clinic (Horowitz et al., 2000).

Focus of Prevention

Nine of the 18 studies were preventive interventions. Their overall purpose is to prevent emotional, behavioral, and developmental problems in foster children and also to prevent out-of-home placement. These interventions target risk factors in children and families. The Partner's Intervention goal is to strengthen protective factors for children (Webster-Stratton, 1998). Intensive caregiver assessment is a focus of prevention in 3 studies (O'Hara et al., 1998; Olds et al., 1995; Zeanah et al., 2001). Other preventive procedures included improving the qualities of parenting (Fisher et al., 2000; Nabors et al., 2001; O'Hara et al., 1998; Olds et al., 1995; Webster-Stratton, 1998). Psychoeducation of health issues were addressed by Empowerment Zone (Nabors et al., 2001), which addressed healthy eating and physical and dental hygiene, and by Prenatal and Early Childhood Nurse Home Visitation (Olds et al., 1995), which focused on improving outcomes of pregnancy.

Many of the components of the preventive interventions involved education, training, socializing, and support. One study utilized teacher training (Webster-Stratton, 1998). Enhanced Home-Based Intervention (HBCL+) included a bicultural advocate who established a parent support group and provided individualized parent support and advocacy (Evans et al., 2003).

Treatment Integrity

According to Waltz, Addis, Koerner, and Jacobson (1993), manipulation checks are a part of good scientific research. They should be used in psychotherapy trials to confirm that therapists followed the treatment manuals and performed therapy competently. Adherence to these manuals and explicating treatment modalities depend on a number of measures. Techniques are unique to each intervention and require specific training, including documentation of adherence to manuals and protocol of treatment (Waltz et al., 1993).

Only 6 of the 18 studies included treatment integrity in their article (Borrego et al., 1999; Chamberlain & Reid, 1998; Clark & Prange, 1994; Henggeler et al., 1999; Webster-Stratton, 1998; Webster-Stratton & Reid, 2003). In all, 66% used a treatment manual to explicate treatment. Treatment integrity was maintained in the form of coded audio or videotapes, standardized adherence measures, treatment checklists, session protocols, reliability checks, and structured supervision. Although training was mentioned in several studies, it was not included in the overall evaluation as treatment integrity if training was not routinely checked for consistent delivery of services.

Results and Follow-Up

Effectiveness of intervention treatment resulted in all but two interventions reporting significance of treatments effects (Horowitz et al., 2000; Zeanah et al., 2001). In the preventive intervention (Zeanah et al., 2001) outcomes for children in foster care were measured (see Table 3). Results indicated more children were freed for adoption and fewer were returned to their abusive birth families. This preventive intervention led to changes in the permanency plan outcomes made by judicial and child welfare systems. Termination of parental rights increased, and the return of children decreased. As a result of children not returning home, maternal maltreatment decreased in the intervention group (Zeanah et al., 2001).

Findings in the Foster Care Clinic (Horowitz et al., 2000) indicated that there were no significant differences between the two groups existing in medical, educational, developmental, or mental health problems identified by foster mothers. However, children in the intervention group were more likely to be identified with developmental (56.5% vs. 8.6%) and mental health problems (37.1% vs. 13.8%) by providers than were children in the comparison group. The authors concluded that community providers identify medical and educational needs of young children entering foster care but fail to recognize their developmental or mental health needs (Horowitz et al., 2000). Parent-Child Interaction Therapy (Borrego et al., 1999) revealed promising results with a decrease in externalizing and internalizing disorders, along with parenting stress (see Table 3). Enhanced Home-Based Crisis Intervention (Evans et al., 2003) had a large sample size, effective effect sizes, and random assignment to three groups but no control group. Results indicated significant differences in HBCL+ versus other treatment groups, with a moderate effect size ($d = .43$, $p < .01$) in both

FACES II and CBCL. Respite Care (Cowen & Reed, 2002) indicated significant differences in treatment effects and had a large sample size but did not have a control group. Partner's Intervention (Webster-Stratton, 1998) had a large sample size, random sampling to treatment, and control groups and reported significant results in all domains. The authors also included treatment protocol, along with comprehensive training, in their article. Prenatal and Home Visitation by Nurses (Olds et al., 1995) found that participation in early intervention was associated with a 79% reduction in state-verified cases of child abuse and neglect among mothers who were poor and unmarried.

In all, 12 out of the 18 studies used a follow-up. The authors of the Foster Care Clinic (Horowitz et al., 2000) reported that their follow-up rates were excellent, with 92% of the intervention group and 95% of the comparison group followed up at 6 months and 90% and 93% followed up at 12 months, respectively. The authors of the Prenatal and Early Childhood Home Visitation (Olds et al., 1995), Hand in Hand (Whitemore et al., 2003), and Preventive Intervention (Zeanah et al., 2001) followed their children for 4 years.

Methodological Strengths and Weaknesses

In review of the findings of the 18 referenced studies, many methodological strengths and weaknesses emerged. Many interventions indicated positive findings but lacked other methodological rigor such as large sample size, random sampling, and treatment fidelity. Because of ethical concerns regarding employing a control group in treatment and preventive modalities, many effective interventions were limited to single treatment effects.

The researchers testing the Early Intervention Foster Care utilized a community comparison group along with an intervention group and regular foster care services. This community comparison revealed results consistent with findings that show that foster children lag behind their normal counterparts developmentally. Nonrandom assignment to Early Intervention Foster Care and RFC groups and small sample size limited the ability to generalize the results.

In the Partner's Intervention (Webster-Stratton, 1998), authors reported significant findings as a result of treatment, with follow-up at 12 and 18 months. In reporting their limitations, the authors noted that the control group was not actually a true control group. The families in the HeadStart centers still obtained regular HeadStart support services. Another limitation was that the results may not generalize to low-income families because only 50% of families in that geographical area are offered a placement in HeadStart (Webster-Stratton, 1998).

In the intervention Hand in Hand (Whitemore et al., 2003), researchers reported that their results were also limited by no control group. They reported that an absence of a suitable control group and the loss of one third of their participants from the follow-up limited generalizability of their positive findings of day treatment with proctor care. Henggeler and colleagues (1999) reported that their sample was economically disadvantaged, and positive outcomes could not be generalizable to more advantaged populations.

Limitations of several studies included the developmental changes of children over time, recidivism rates, and children changing foster placements. Other limitations included lack of follow-up (Becker-Weidman, 2004; Cowen & Reed, 2002; Gillespie et al., 1995; Myeroff et al., 1999; Nabors et al., 2001; O'Hara et al., 1998), small sample size ($N > 40$; Becker-Weidman, 2004; Borrego et al., 1999; Fisher et al., 2000; Gillespie et al., 1995; Myeroff et al., 1999), and nonrandom assignments (Becker-Weidman, 2004; Cowen & Reed, 2002; Fisher et al., 2000; Gillespie et al., 1995; Horowitz et al., 2000; Myeroff et al., 1999; Nabors et al., 2001; O'Hara et al., 1998; Whitemore et al., 2003; Zeanah et al., 2001).

Methodological strengths of interventions include the variety of modalities reviewed that included multidisciplinary approaches such as interventions involving therapists, social workers, psychiatrists, and behavioral specialists. Half of the interventions reviewed involved large samples, and 40% were randomly assigned to two or more groups. There were two recent studies where the effect size was reported (Evans et al., 2003; Webster-Stratton & Reid, 2003). Literature reviews were included in all 18 studies with detailed descriptions of interventions. Six studies included treatment integrity protocols (Borrego et al., 1999; Chamberlain & Reid, 1998; Clark & Prange, 1994; Henggeler et al., 1999; Webster-Stratton, 1998; Webster-Stratton & Reid, 2003). In all, 88% of the studies used standardized measures. The Enhanced Home-Based Crisis Intervention (Evans et al., 2003) included a bilingual, bicultural advocate to assist with supporting the family.

TREATMENT CLASSIFICATION

Many of the researched interventions in this review have been proven effective with use with children and

have been conducted with numerous studies in various settings (e.g., school, home, foster care, institutions). Other interventions have had one or two studies but are considered useful with children. Using the classification system devised by Saunders et al. (2004), interventions were categorized according to their effectiveness at the time of this writing. Therefore, the system is used as a tool to disseminate the progress and empirical characteristics of specific interventions. Using a precise guideline, this classification system provided a clear, criteria-based system to classify interventions according to their theoretical, clinical, and empirical support. Classification is coded between 1 and 6. The lower score indicates a well-supported, efficacious treatment (see Table 1). The interventions was researched and classified according to the classification system.

Six of the interventions had been tested extensively with multiple studies to prove their effectiveness (Dina Dinosaur, Multidimensional Treatment Foster Care, Multisystemic Therapy, Parent-Child Interaction Therapy, Partner's Intervention, and Prenatal and Early Childhood Home Visitation; see Table 4). These interventions are currently being utilized in various settings around the country. Three interventions were found to be in Category 2, which indicated a supported and probable efficacious treatment with fewer studies conducted but extensively utilized with children (Early Intervention Foster Care, Intensive Intervention, and Respite Care). The remaining nine interventions are considered supported and acceptable according to the criteria provided by this classification system (Dyadic Developmental Psychotherapy, Empowerment Zone, ENHANCE, Enhanced Home-Based Crisis Intervention, Foster Care Clinic, Fostering Individualized Assistance Program, Hand in Hand, Holding Therapy, and Intensive Preservation Service). Many of these interventions are being utilized in specific geographical areas where the researcher conducted the study.

Gaps were found in the current literature regarding the lack of specific interventions utilized with foster children. Only six interventions were found to be exclusive to foster children. Although the literature recognized behavioral problems such as eternizing and internalizing disorders, attachment issues, stigmatization, foster family dynamics, and other issues specific to foster children were sparse in the literature. The uniqueness of the foster family structure was not integrated within any interventions reviewed. Although numerous articles focused on the needs and deficits of foster children, effective interventions were limited to accessibility and family recourses.

TABLE 4: ***Classification of Therapeutic Interventions***

Intervention	*Classification*
Dyadic Developmental Psychotherapy	Category 3
Hand in Hand	Category 3
Dina Dinosaur	Category 1
Foster Care Clinic	Category 3
Parent-Child Interaction Therapy	Category 1
Multisystemic Therapy	Category 1
Multidimensional Treatment Foster Care	Category 1
Holding Therapy	Category 3
Fostering Individualized Assistance Program	Category 3
Enhanced Home-Based Crisis Intervention	Category 3
Respite Care	Category 2
Partners Intervention	Category 1
Empowerment Zone	Category 3
Intensive Intervention	Category 2
Early Intervention Foster Care	Category 2
ENHANCE	Category 3
Intensive Preservation Service	Category 3
Prenatal and Childhood Nurse Visitation	Category 1

NOTE: Category 1: Well-supported, efficacious treatment; Category 2: Supported and probably efficacious; Category 3: Supported and acceptable; Category 4: Promising and acceptable; Category 5: Novel and experimental; Category 6: Concerning treatment.

Attachment interventions were limited to two studies (Becker-Weidman, 2004; Myeroff et al., 1999). Considering the consequences of foster children dealing with attachment issues prompts the question, "Why are there no specific interventions for foster children being separated from their caregivers?" Intervention research continues to ignore the risk for attachment problems that concern foster children early in placement. Knowledge and awareness of attachment issues and their effects on foster children may be necessary to be considered in therapeutic interventions for foster children. Psychotherapy concerning loss of these relationships in combination with other factors bringing them into care may need to be addressed to resolve conflicts for necessary personality formation.

In an attempt to find additional promising interventions for foster children, interventions targeting children with multiple risk factors were also explored. Only 6 out of the 18 articles actually contained *foster children* in the title (Clark & Prange, 1994; Fisher et al., 2000; Gillespie et al., 1995; Horowitz et al., 2000; O'Hara et al., 1998; Zeanah et al., 2001). Considering that there are more than 500,000 children in foster care, it appears that there are deficits in our mental health system in providing evidenced-based interventions specifically for foster children.

DISCUSSION AND APPLICATIONS TO SOCIAL WORK PRACTICE

Mental health professionals need to be knowledgeable about the foster family structure to appropriately serve foster children and their families. The foster family structure is unique and requires a mental health professional to examine the family organization through a different lens. Also, the developmental implications of normative childhood growth and development and foster family dynamics need special consideration. Werner and Smith (1982) contended that an understanding of development is essential if therapists are to correctly discriminate normal from abnormal behavior in children. This developmental perspective is multidimensional and includes biological, cognitive, social, emotional, moral, and vocational domains (Werner & Smith, 1982).

Despite the considerable challenges posed by research with children in foster care, more research is needed. Because children are the primary clients of the child welfare system, we need to include their perspective as important informants in developing interventions designed for their welfare. In a recent qualitative and quantitative study assessing the needs of foster children, one child complained that mental health professionals were described as inaccessible and irrelevant to foster children's needs. In addition, they complained about already being stigmatized for being in care and were concerned that a label of mental illness might stigmatize them further (Blower, Addo, Hodgson, Lamington, & Towlson, 2004).

Increasing emphasis should be placed on studying early protective and risk factors that appear common to many disorders. Preventive interventions provide potential precursors of dysfunction of health (Coie et al., 1993). It has been well documented that intervening early in placement is essential in treating foster children (Clyman, Harden, & Little, 2002; Dozier et al., 2002; Stormont, 2002; Weil, 1998). With the increasing number of foster children entering the system, effective, evidence-based, therapeutic interventions are needed to treat this vulnerable population of children.

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