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Psychosocial Treatment of Children in Foster Care: A Review

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Abstract
A substantial number of children in foster care exhibit psychiatric difficulties. Recent epidemiological and historical trends in foster care, clinical findings about the adjustment of children in foster care, and adult outcomes are reviewed, followed by a description of current approaches to treatment and extant empirical support. Available interventions for these children can be categorized as either symptom-focused or systemic, with empirical support for specific methods ranging from scant to substantial. Even with treatment, behavioral and emotional problems often persist into adulthood, resulting in poor functional outcomes. We suggest that self-regulation may be an important mediating factor in the appearance of emotional and behavioral disturbance in these children.

Introduction

For hundreds of thousands of children each year, foster placement is both the aftermath of early loss and trauma and the prelude to future adversity. As defined by Federal regulations, foster care is "24-hour substitute care for children outside their own homes," which includes settings ranging from family foster homes to childcare institutions (Access,

U.S.G.P.O. v. G. 2002). With such a diversity of settings, it is perhaps not surprising that there has been little systematic study of the pathways by which these placements succeed or fail in their mission of providing substitute care. Children in foster care are at high risk for behavioral and emotional difficulties and are prone to poor functional outcomes both in adolescence and in adulthood. Yet, little is known about the pathogenesis of behavioral and emotional problems in this population, and few empirically based psychosocial interventions have been developed to meet their needs.

Although children in foster care represent a heterogeneous group with inherent difficulties for systematic investigation, there are several fundamental commonalities within this diverse population that make study of this group of children important. The common features include the psychological and neurobiological effects associated with disrupted attachment to biological parents; the specific traumatic experiences (e.g., neglect and/or abuse) that necessitated placement; the emotional disruption of placement; the need to adjust to a foster care environment; the reality that those foster children referred for mental health services have passed a threshold of manifesting seriously problematic behavior in a new environment. At the same time, the relative stability of the foster care family can allow for some degree of control in understanding treatment factors and for implementing interventions.

This paper has three sections. First, we briefly review recent epidemiological and historical trends in foster care, clinical findings about the adjustment of children in foster care, and adult outcomes. Second, we review current approaches to treatment for children school age and older, with an emphasis on evidence-based interventions. Finally, we suggest that self-regulation may be an important mediating factor in the appearance of emotional and behavioral disturbance in these children. A computer-based literature search using Medline, PsychINFO, and Sociological Abstracts reveals well-supported descriptions of high levels of psychopathology and functional impairment in foster children but a paucity of evidence-based studies supporting specific treatments. The literature also identifies a set of themes consistent with a model of disrupted or poor self-regulation underlying dysfunctional behaviors frequently seen in the foster care population. This dysregulation is attributed largely to the effects of early loss on biological and behavioral systems of adaptation and development.

Epidemiology

According to the Adoption and Foster Care Analysis and Reporting System (U.S. Department of Health and Human Services, 2003a), an estimated 542,000 children were in foster care in this country as of September 30, 2001 (U.S. Department of Health and Human Services, 2003b). Almost one-half of these children were in foster family homes, living with non-relatives. AFCARS also notes that approximately the same percentage of children had permanency case plans with a goal of reunification with their families of origin. Slightly more than half of foster children were boys, and approximately the same percentage were identified as either African American or Hispanic. For those with a defined permanency goal other than reunification, the single largest group had a goal of adoption (20%); yet, only 4% were in preadoptive homes. Most children in foster care were preadolescent but not infants or toddlers (median age = 10.6 years) and 34% had been in care for more than

two years, with another 19% in placement for at least a year. Of those entering the foster care system in FY2000, 10.3% were reentering the system within 12 months of discharge (U.S. Department of Health and Human Services, 2003b). In summary, among those in foster care are a very large number of children who, although still quite young, have been removed from their families more than once, who have been in placement for more than one year and whose permanent placement is uncertain.

History

While foster placements were historically most likely due to illness, poverty, or parental death (Schor, 1982, 1988), more than 50% are now secondary to abuse and/or neglect (Simms, 1989; Takayama, Wolfe, & Coulter, 1998). In one study, Stein (Stein, 1997) found that 75% of children in foster care had been abused and 69% had been neglected. Similarly, Kendall, Dale, and Plakitsis (1995) found that 53% of 300 foster care children had been neglected and 22% abused. This change in the basis for foster care placement is, in part, thought responsible for a marked increase in the frequency and severity of behavioral, emotional, and developmental problems in this population of children and adolescents (Cahill, Kaminer, & Johnson, 1999; dosReis, Zito, Safer, & Soeken, 2001; Kendall-Tackett, Williams, & Finkelhor, 1993; Klee, Kronstadt, & Zlotnick, 1997; Pearce & Pezzot-Pearce, 1997). While behavioral and emotional difficulties have been recognized in children placed in foster care since the 1940s (Simmel, Brooks, Barth, & Hinshaw, 2001; Wegar, 1995) and documented by the 1960s (Schecter, 1960; Simmel et al., 2001; Wegar, 1995), the extent of the risk has received increasing attention in the last two decades (dosReis et al., 2001; McMillen, 1999). The majority of children in foster care today have histories of adversity and exhibit higher rates of emotional and behavioral problems than other disadvantaged children (Chernoff, Combs-Orme, Risley-Curtis, & Heiser, 1994; Halfon, Berkowitz, & Klee, 1992; McIntyre & Thomas, 1986; Pilowsky, 1995).

Adjustment of Children in Foster Care

For a substantial number of children, foster placement does not result in timely, successful reunification with adequately competent parents. Rather, a significant number of children who are placed out of home experience multiple moves, either within the foster care system or between foster care and their family of origin, before a permanent placement plan can be implemented. Furthermore, there are approximately 5,000 instances annually of retraumatization while in foster care (U.S. Department of Health and Human Services, 2003b). The cumulative effect of early adversity followed by a period of uncertainty concerning long-term security substantially contributes to children's functional problems even when they finally achieve a permanent placement, e.g., adoption or reunification (Breslau, Glenn, Andreski, & Peterson, 1991; Kliewer, Fieaernow, & Walton, 1998).

Young people in foster care are at extremely high risk for both psychiatric disorders and poor long-term functional outcomes (Berry, 1992; Brodzinsky, Schechter, Braff, & Singer, 1984; Deutsch, Swanson, Bruell, Cantwell, Weinberg, & Baren, 1982; Lipman, Offord, Boyle, & Racine, 1993; Simmel et al., 2001). While there are no psychiatric diagnoses unique to foster care, the frequency of early abuse and neglect in this population exposes children to a greater risk for posttraumatic stress disorder (PTSD). For example, physical abuse and

sexual abuse have been associated with rates of PTSD of greater than 30% (Perry & Azad, 1999). Children with PTSD have also been noted to have extremely high rates of co-morbid internalizing disorders, viz., depression and anxiety, as well as disruptive behavior disorders and substance abuse (Amaya-Jackson, 1993; Davies & Flannery, 1998; Jacobsen, Southwick, & Kosten, 2001).

Thus, it is not surprising that children in foster care are some 16 times more likely to have psychiatric diagnoses, eight times more likely to be taking psychotropic medications and utilize psychiatric services at a rate eight times greater compared with children from similar socioeconomic backgrounds and living with their families (Takayama, Bergman, & Connell, 1994). As a group, they also require substantially higher expenditures for psychiatric services (Halfon, Berkowitz, & Klee 1992). Herrenkohl (Herrenkohl, Herrenkohl, & Egolf, 2003) has shown, for example, that changing residences, as one element of instability in a child's life, predicted negative psychosocial outcomes, such as pregnancy, substance abuse, and school drop-out.

Adult Outcomes of Foster Care

A number of studies have examined the range and extent of difficulties encountered by foster children as they enter adulthood. Approximately 20,000 foster children annually "age out" of foster care placement when they turn 18 (Pecora, Williams, Kessler, Downs, O'Brien, Hirpi et al., 2003; U.S. Department of Health and Human Services, 2003a). For these young adults, a successful transition to adulthood, as defined by "a composite of educational attainment, income, mental and physical health, and relationship satisfaction" (Pecora et al., 2003; U.S. Department of Health and Human Services, 2003a), is associated with certain characteristics of their foster care experience. Life skills preparation, completion of high school or GED, availability of financial resources for further education or training, adequate housing, and absence of learning problems or substance abuse are associated with positive transitions. Unfortunately, the majority of children leave foster care at the age of emancipation because of age alone, before they are capable of independent living and without reunification with family or relatives (McMillen, 1999). As these authors note, many youth who unsuccessfully transition to adulthood have histories of serious emotional and behavioral problems throughout their time in foster care and have not benefited from attempts at rehabilitation and treatment.

While many individuals are able to overcome adversity in early life by the time they are young adults, those who have been in foster care as children have increased rates of physical illness, serious mental illness, suicide attempts, substance abuse, unemployment, homelessness, and global difficulties with interpersonal relationships and social functioning (Benedict, Zuravin, & Stallings, 1996; Cook-Fong, 2000; Dumaret, Coppel-Batsch, & Couraud, 1997; Susser, Lin, Conover, & Struening, 1991). One of the few national surveys of individuals exiting foster care revealed that almost 40% were identified as emotionally disturbed and one-half were abusing substances (Cook, 1991). As a group, they were also far less likely than their non-foster-care peers to have graduated from high school or to maintain full-time employment (Wertheimer, 2002). Strong linkages have been found between early abuse and neglect and subsequent involvement in criminal activity despite long-term out-of-home placement (Alexander, Baca, Fox, Frantz, Glanz, Huffman, et al.,

2003; Mech, Pryde, & Rycraft, 1995). Children of ethnic or racial minority backgrounds are at particularly high risk for adverse outcomes by adulthood including unintended pregnancy, academic failure, substance abuse, homelessness, criminal behavior, and welfare dependency (Yancey, 1992).

In sum, a large number of the nearly one-half million children in foster care at any one time have histories of adversity and demonstrate high rates of behavioral and psychiatric difficulties. These problems do not dissipate by adulthood; rather, these children are at significant risk for a broad spectrum of adverse functional outcomes, including poor academic achievement, un/under-employment, homelessness, chronic mental health problems, unintended pregnancies, substance abuse, and antisocial behaviors. The negative outcomes appear to be associated with a combination of the lingering effects of adversity preceding out-of-home placement, demographic factors, poor response to interventions during foster care, and premature transition to adulthood and independent living before attaining necessary adaptive skills.

Current Treatment Approaches in Foster Care

The heterogeneity of children in foster care, the broad range of their expressed psychopathologies, and the various preconditions of placement make the assessment of evidence-based treatments for children in foster care complex. Neither the children nor the experience are homogeneous but instead introduce substantial variability into attempts to develop a theoretical framework for empirical study. Indeed, under the current zeitgeist of family preservation as the preferred outcome for these children, foster care placement is often considered a dependent variable reflecting negative outcome in studies of delinquency and children's mental health (Henggeler, Schoenwals, Rowland, & Cunningham, 2002). Two general approaches to treatment for children in foster care are predominant in the literature: those that focus on treatments for symptoms in the child and those that manipulate systems to affect interventions. It is important to note that these approaches are not mutually exclusive in their specific applications but represent a useful organizing framework for discussion.

Symptom Focused Interventions

At present, there is no standard of care for emotionally or behaviorally disturbed children in foster care. Services depend largely upon the intersection between the perceived type of care required and the expertise of treatment providers available in the community (McClellan & Werry, 2003). Thus, an attempt to review all outpatient psychosocial interventions provided to children in foster care would need to capture much of the universe of the nearly 200 outpatient treatments in use today (Burns, Hoagwood, & Mrazek, 1999). It is more useful, therefore to focus on interventions that either have empirical support or are more uniquely focused on children who have been separated from early caregivers, viz., foster children.

Behavioral, Cognitive Behavioral, and Interpersonal Therapies

For reducing problem behaviors and noncompliance with rules, several controlled studies have found family interventions that use operant behavioral principles (Patterson, 1974) successful with conduct disordered (older) youth. Behavioral family intervention was superior to either standard psychodynamic therapy, client-centered therapy, or no treatment (Alexander & Parsons, 1973; Bernal, Klinnert, & Schultz, 1980; Firestone, Kelly, & Fike, 1980; Wiltz & Patterson, 1974). CBT interventions that focus on specific cognitive processes underlying conduct problems have also shown good results (Kazdin, 2000). These include problem-solving training (Kazdin, Esveldt-Dawson, French, & Unis, 1987; Kazdin, Siegel, & Bass, 1992), anger management strategies (Lochman, Burch, Curry, & Lampron, 1984; Lochman, Lampron, & Rabiner, 1989) assertiveness training (Huey & Rank, 1984), and rational-emotive therapy (Block, 1978). It is important to note that studies with young children typically included parenting interventions (Labellarte, Ginsburg, Walkup, & Riddle, 1999; Weisz, Weiss, Han, Granger, & Morton, 1995).

A recent review of evidenced-based treatments for mental health problems in youth suggests that there is empirical support for cognitive behavioral therapies (CBT) to address depressive symptoms, anxiety disorders, including post-traumatic stress disorder, and conduct problems (Asarnow, Jaycox, & Tompson, 2001; Clarke, Rohde, Lewinsohn, Hops, & Seeley, 1999; Kaslow & Thompson, 1998; McLellan & Werry, 2003). For depression in adolescents, CBT was found to be effective compared to wait list control status, systemic family therapy or nondirective supportive therapy (Brent, Holder, Kolko, Birmaher, Baugher, Roth et al., 1997), and relaxation therapy (Wood, Harrington, & Moore, 1996). In adolescents with high depression symptom ratings, Reynolds & Coats (1986) also found that CBT and relaxation therapy were both superior to controls. In addition to CBT, two controlled studies show interpersonal therapy to be effective for depressed adolescents (Mufson, Weissman, Moreau, & Garfinkel, 1999; Rossello & Bernal, 1999).

As a component of CBT, problem solving has been included in several studies comparing CBT treatments to other treatments or wait list controls. Training in problem-solving skills has been shown to be effective in reducing caregiver stress, as well as negative affect and depressive symptomatology in a wide range of clinical populations (Drotar, 1997; D'Zurilla, 1986; Mynors-Wallis, Gath, Lloyd-Thomas, & Tomlinson, 1995; Nezu, 1986; Nezu & Perri, 1989; Robin & Foster, 1989).

Perhaps the most robust findings in support of CBT are for anxiety disorders. Cognitive-behavioral strategies using self-instruction training has been shown to be effective for childhood phobias (Ollendick, 1998), overanxious, generalized anxiety and separation anxiety disorder (Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Kendall & Southam-Gerow, 1996; Kendall, Flannery-Schroeder, Panichelli-Mindel, Southam-Gerow, Henin, & Warman, 1997; Manassis, Mendlowitz, Scapillato, Avery, Fiksenbaum, Freire et al., 2002). Family-based CBT strategies are also beneficial (Barrett et al., 1996; Labellarte et al., 1999). Shortt (Shortt, Barrett, & Fox, 2001) noted that studies comparing CBT to other active treatments have focused primarily on examining the benefits of including parents or caregivers in the treatment process.

PTSD, which is categorized in DSM-IV as an anxiety disorder (American Psychiatric Association, 1994), has also been the focus of recent treatment studies. Trauma-focused

CBT has been shown with randomized controlled trials (RCT) to be effective in treating PTSD in sexually abused children and adolescents (Celano & Rothbaum, 2002; Cohen, Deblinger, Mannarino, & Steer, 2004; King, Tonge, Mullen, Myerson, Heyne, Rollings, et al., 2000; Pine & Cohen, 2002). Another RCT has shown CBT effectiveness as a group intervention for schoolchildren exposed to violence (Stein, Jaycox, Kataoka, Wong, Tu, Elliot, et al., 2003), while a similar study demonstrated the efficacy of group CBT for treating PTSD in Latino immigrant children exposed to community violence (Kataoka, Stein, Jaycox, Wong, Escudero, Tu, et al., 2003).

In summary, the bulk of empirical evidence supports the use of operant behavioral treatments, cognitive-behavioral therapy, and interpersonal therapy for a variety of specific symptom clusters and diagnoses in youth. Family involvement is seen as important for treating younger children. There are caveats mentioned in the literature, particularly the need for replication in real-world settings, as most research is conducted in laboratory settings (Weisz et al., 1995). Specifically, there are no studies of youth in foster care settings.

Attachment Therapies

A large body of inquiry has focused on the correlates of placement in foster care, viz., loss of parental involvement and the concomitant experience of loss of attachment relationships. Attachment theory has its conceptual roots in the work of John Bowlby and Mary Ainsworth, and emphasizes the importance of positive early interactions with primary caretakers in providing children with internal working cognitive and affective models (Wilson, 2001) that provide a secure base for future relationships (Brisch & Kronenberg, 2002). Separation from caretakers produces emotional insecurity which adversely effects emotional growth and behavior in later childhood (Cicchetti & Tucker, 1994) and has a negative impact on cognitive functions related to self-regulation (Egeland, Pianta, & O'Brien, 1993).

The focus of intervention is directed at one or more of the presumed causal links in the pathway from pathogenic early attachment experiences to current behavioral and social dysfunction which theoretically reflect the child's inability to form enduring and trusting relationships with nurturing adult caretakers. Critical points identified include the lack of secure care-giving in infancy, the persistence of cognitive distortions, abusive internalized relational models, frightening memories that preclude the ability to form trusting relationships with adults, the inability to enjoy shared experiences with nurturing adults, and the emergence of self-defeating behavioral patterns that evoke rejection from caretakers who respond to the child's negative behaviors as personal criticism (Howe & Fearnley, 2003; Hughes, 1999).

DSM-IV (American Psychiatric Association, 1994) recognizes a potentially severe type of psychiatric disturbance specifically caused by early-life parenting failures, Reactive Attachment Disorder (RAD). RAD is characterized by a marked inability, in the absence of mental retardation or pervasive developmental disorder, to respond to social interactions in a developmentally appropriate manner prior to age 5 and in response to pathological parenting behavior. Two subtypes are specified: an inhibited type in which children are primarily avoidant, hypervigilant, or contradictory in their responses; and, a disinhibited

type in which children form indiscriminate and nonselective attachments. While the definition of this disorder has been controversial (Hanson & Spratt, 2000; Minde, 2003), studies have generally found that pathogenic parenting puts children at high risk for significant disturbances of social, emotional, and emotional development that often overlap with the symptoms of RAD (Stein, Evans, Mazumdar, & Rae-Grant, 1996; Shields & Cicchetti, 1998).

Disorders of attachment in school-age children and older, including RAD, have become the focus of a heterogeneous group of treatments, which can be referred to collectively as attachment therapies or "attachment-based interventions" (Minde, 2003). Several discrete models for attachment therapy have been studied. Based upon case studies, James (1994) describes a model whose treatment goals are influenced by which one of five possible categories of attachment relationships characterizes the family. Treatment essentials are the same for all categories; however, the treatment process varies with respect to focusing on family psychoeducation, identity development in the child, regulation of affect, relationship building with caretakers, behavioral mastery, exploring past trauma, and mourning lost attachments. The treatment setting may range from outpatient therapy combined with therapeutic parenting at home to residential care.

An alternative approach reported by Levy and Orlans (2000), also through case descriptions, incorporates similar basic treatment elements; however, considerably more emphasis is placed on providing a process for children to achieve trusting relationships. Treatment is intensive, often takes place away from the child's home, and may involve foster placement during the treatment phase (Levy & Orlans, 1998). This approach focuses on having parents establish authoritative relationships with their child as a precondition for the child learning self-control. Parents are taught to use techniques geared toward forcing the child to develop respect for people, animals, and property and to accept responsibility for their bodies, possessions, chores, and schoolwork. Randolph and Myeroff (1998) report long-term (6–24 months) and short-term (2 weeks) outcome studies using this model. Both studies found improvement in Child Behavior Checklist subscales with long-term treatment having a broader effect across multiple domains.

A third model, again described with case examples, is proposed by Hughes (1997). This approach emphasizes the relationship between both the child and the parents and the child and the therapist. Treatment utilizes physical contact, e.g., touching, holding, stroking, hugging, in the service of providing qualities of nurturing (Worrell, 2000) considered essential for the poorly attached child to experience the carefully attuned affective connection with adults missing during early life (Hughes, 1998). Parents are also helped to maintain their own emotional equilibrium and commitment to the child even in the face of the child's rejection (Hughes, 1999). A similar approach, also supported through case reports, is reported by Howe and Fearnley (2003) as a multimodal treatment that draws upon such techniques as play therapy, Eye Movement Desensitization and Reprocessing, holding, relaxation, and CBT.

Research on the treatment of attachment disorders is limited in both quantity and quality (Hanson & Spraft, 2000; Mercer, 2001; Minde, 2003; Wilson, 2001; Worrell, 2000). These authors note the absence of empirically validated treatments for RAD and related conditions as well as the potentially harmful effects of certain practices, e.g., physical restraint. The few existing clinical trials are limited by significant methodological shortcomings, e.g.,

the use of very small sample sizes, the absence of adequate control groups, excessive reliance on retrospective data, and the use of anecdotal and case reports.

In summary, attachment therapies are based upon the theory that disrupted or pathogenic early caretaking relationships are the underlying cause of later emotional and behavioral disorder. Interventions are focused upon reestablishing the child's ability to trust nurturing adults, helping the child achieve better affective self-control and supporting the child's coping with past losses. Depending upon the approach, clinical emphasis is placed upon interventions directed primarily toward the therapist-child relationship, primarily toward the parents (biological, adoptive, or foster), primarily toward parent-child interactions, or some combination of these. Clinical reports on the treatment of attachment disorders are abundant; however, there are no controlled clinical trials demonstrating the efficacy of a specific treatment for child formally assessed for RAD or related conditions.

System of Care Approaches

More recently, research has focused on examining and modifying systems of service delivery to children in foster care. These approaches are considered the least restrictive form of therapeutic placement for children with severe emotional disorders, placing them in private homes with specially trained foster parents. The combination of family-based care with specialized treatment approaches is intended to create a therapeutic environment in the context of a nurturing family home (Sroul & Friedman, 1986).

Treatment Foster Care (TFC) programs are broadly defined as integrated service delivery systems that incorporate foster parents as central members of the treatment team. Foster parents receive specialized training and high levels of agency support, participate as treatment agents, and receive higher compensation than non-TFC parents (Steib, 2002). In TFC, there are fewer children in the home and multimodal treatments such as foster family and individual child therapies, school interventions, foster parent support, therapy for the aftercare family, are carefully coordinated by case managers with small caseloads.

TFC has gained empirical support in the juvenile delinquency literature (Brown, Swenson, Cunningham, Henggeler, Schoenwald, & Rowland, 1997; Chamberlain & Reid, 1998; Henggeler, Melton, Brondino, Scherer, & Hanley, 1997; Schoenwald, Ward, Henggeler, & Rowland, 2000) and is increasingly being applied to nondelinquent children in foster care (Henggeler, Rowland, Randall, Ward, Pickerel, Cunningham, et al., 1999; Reddy & Pfeiffer, 1997; Schoenwald Ward, Henggeler, & Rowland, 2000). It has been reported to improve outcomes of children with multiple comorbid mental disorders, including decreases in aggression, reduction in institutionalization, and increases in positive adjustment (Chamberlain & Reid, 1991; Chamberlain & Weinrott, 1990; Clarke & Prange, 1994; Clarke, Prange, Lee, Steward, McDonald, & Boyd, 1998). A review, however, of 40 outcome studies of TFC over a 22-year period found that, while effective in increasing placement permanency and improving children's social skills, TFC was only modestly successful in reducing the level of psychiatric and behavioral problems or in improving functional outcomes (Reddy & Pfeiffer, 1997).

While Treatment Foster Care has become a mainstay of service delivery with results that suggest better outcomes than standard foster care, several factors limit the strength, spec-

ificity and generalizability of empirical outcomes. Initially, the majority of studies examined TFC as an alternative treatment to group home placement or institutional care for adolescents identified as juvenile delinquents, limiting the applicability of findings to children placed in foster care secondary to abuse or neglect; however, identifying the active ingredients or causal change agents in these complex studies has been difficult. In their review of TFC studies, Reddy and Pfeiffer (1997) noted that only the presence of adult foster care providers was clearly associated with positive outcomes. More recent studies suggest, however, that there are several characteristics of TFC that are emerging as important ingredients leading to successful outcomes (Steib, 2002) including foster parent supports (Redding, Fried, & Britner, 2000), increased time spent with foster parents and decreased time with deviant peers (Meadowcrof & Thomlison, 1994), and involvement of foster parents in treatment (Redding et al., 2000). Although the research base is still limited, Burns et al. (1999) noted that the development of standards of care for TFC should improve the ability of researchers to operationalize outcomes and provide better empirical validation of this system of care.

Multidimensional Treatment Foster Care

Multidimensional Treatment Foster Care (Chamberlain & Reid, 1998) stems from earlier TFC models (Hawkins, Meadowcroft, Trout, & Luster, 1985) developed at the Oregon Social Learning Center. The model of intervention is based on research with delinquents that identified important correlates of antisocial behavior in adolescents, namely poor adult supervision, inconsistent discipline, association with deviant peers, and poor academic performance (Chamberlain, Ray, & Moore, 1996; Chamberlain & Reid, 1994). The MTFC intervention is an intensive three-tiered approach that includes systems-level supports, family and individual treatment, and school interventions (Chamberlain & Reid, 1998). MTFC families typically have experience with adolescents, are willing to act as treatment agents, and provide consistent nurturing environments. Treatment studies often provide foster parents with substantial amounts of intensive training in behavior management and the MTFC model, including the need for structured daily environment, close supervision, and clear rules and limits (Chamberlain & Reid, 1998). In addition to training for foster parents, other treatments typically include individual therapy for the adolescents with problem-solving training, social perspective taking, and nonaggression training. The biological families also participate in weekly family therapy with training in parenting. Behavior management programs are implemented in school and home settings. Psychiatric treatment is used as needed. Therapists and families receive intensive case management and supervision.

When compared with outcomes for juvenile offenders living together in group homes without intensive treatment, those in the MTFC model described above were reported to engage in less criminal activity and to return to live with their biological relatives more frequently (Chamberlain & Reid, 1998). Of note, adolescents in this study who were noncompliant with MTFC were expelled from the program, potentially biasing results. The findings were consistent with other outcome studies with juvenile offenders (Chamberlain & Weinrott, 1990) and hospitalized adolescents (Chamberlain & Reid, 1991) as control groups for evaluating MTFC.

MTFC has demonstrated impressive results in clinical outcome studies. Its focus on empowering constituents to make better use of the social service system appears to be well organized and grounded. While MTFC has not been systematically studied to date with nonoffending juveniles, e.g., children with histories of trauma placed in foster care, it remains an important and promising treatment method for such children.

In summary, system of care models have emerged as empirically supported, systemic interventions for children and adolescents placed outside of their homes. While cost effectiveness has been demonstrated relative to more restrictive placements, the intensity of service is considerable. As opposed to interventions targeting a specific set of symptoms or functional deficit, these formats bring multiple integrated resources to bear on behalf of the child with foster parents as primary change agents. The interventions are intensive, with family and individual therapies, intensive behavior management in the home and school environments, psychiatric supports, constant availability of case management, and specialized training in the intervention methods for all involved. The majority of studies have focused on treatment of juvenile delinquents with no randomized clinical trials of children in foster care secondary to trauma (i.e., abuse, neglect). The few available studies examining treatment effects for traumatized children suggest that the intensity of treatment may need to be substantially higher, given the complex psychiatric presentations often seen in these children. Despite current limitations, system of care methods offer substantial promise as effective methods of intervention for children in foster care.

Discussion

As a group, foster care children represent a population of children with backgrounds of adversity and disrupted attachment, almost by definition. These children present substantial diagnostic and treatment challenges. They frequently manifest symptoms crossing multiple diagnostic categories and functional domains, making treatment difficult to specify and even more difficult to measure. While these children utilize mental health services at a high rate, there has been little systematic study of which interventions are effective or efficacious. Of particular concern are data suggesting that, despite their high rate of service utilization and the sometimes intensive interventions, these children remain at high risk for poor long-term functional outcomes well into adulthood.

Interventions for children in foster care can be viewed within two approaches: symptom-focused treatments and systemic treatments. The application of symptom-focused treatments depends largely upon the intersection between the perceived type of care required and the expertise of treatment providers available to the child. As such, they lack an organizing heuristic principle for examining their applicability to the broad spectrum of diagnoses and behaviors with which children in foster care present. Among the focal treatments, therapies based in attachment theory are conceptually appealing as they target disrupted attachments with primary caregivers as the presumed source of emotional and behavioral difficulties for children with histories of adversity. Despite the increasing popularity of attachment therapies, there is little consistency among therapies and applications within this model, and very little empirical support.

Unlike symptom-focused treatments, systemic interventions, including Treatment Foster Care (TFC) and Multidimensional Treatment Foster Care (MTFC), were developed specifically to deliver treatment via the foster care environment. Studies supporting the effectiveness of TFC have recently begun to emerge whereas a considerable amount of empirical support has evolved over the past decade for MTFC. This model has been systematically studied and shown to produce effective outcomes and is less restrictive than the available alternatives (i.e., hospitalization and residential care). However, such intensive services are costly, requiring multiple individual and family therapies, behavior management at home and in the community, as well as high levels of case management support. Although the majority of systemic intervention studies have focused on treatment of juvenile delinquents in foster care rather than the broad spectrum of children in foster care with histories of adversity, these interventions hold promise for the latter population.

One potential avenue of exploration that has received little attention but may offer an organizing heuristic and subsequent treatment methods specific to children with histories of adversity in foster care is self-regulation. Self-regulation, or the ability to inhibit impulses and modulate affective states and emotional expressions, is fundamental to more complex components involved in attentional, linguistic, social, and motor behaviors (Barkley, 1997). While deficits in self-regulation are increasingly studied and known contributors to a broad array of emotional and behavioral disorders (Barkley, 1997; Benton, 1991; Deckla & Reiss, 1997; Mateer & Williams, 1991; Pennington, 1997), this theoretical model has received scant attention in traumatized children. There is evidence to suggest from both biological and behavioral perspectives, however, that such children have vulnerable or deficient self-regulatory systems. For example, disruption of early attachment relationships experienced by these children is associated with dysregulation of biological systems (Dozier, Higley, Albus, & Nutter, 2002; Suomi, 2002) and alterations of behavior that can be seen beginning as early as infancy (Fisher, Gunnar, Chamberlain, & Reid, 2000). Similar patterns of physiological and behavioral dysregulation are seen in children with abusive backgrounds (Carlson, Cicchetti, Barnett, & Braunwald, 1989) and are associated with aggressive behavior (Carlson, et al., 1989; Lyons-Ruth, 1996; Lyons-Ruth, Alpern, & Repacholi, 1993) and dissociative symptomatology (Carlson, et al., 1989).

Racusin colleagues (Racusin, Maerlander, Sengupta, Straus, & Isquith, 2003) examined self-regulatory function in a small group of children with histories of trauma and disrupted attachments placed in long-term treatment foster care. They found clinically significant deficits in inhibitory control, emotional modulation, and cognitive/behavioral flexibility in a substantial proportion of the children. Further, these deficits were strongly correlated with disordered attachment, behavior problems, psychiatric disorders, and poor functional outcomes. Thus, impaired self-regulation may be implicated in pathways leading to emotional and behavioral symptoms and functional impairment. Impaired self-regulation also likely contributes indirectly to the origin and maintenance of symptoms as it is a significant component of behaviors that create interpersonal anxiety, anger, and fear. Poorly regulated children may also be less likely to benefit from interventions requiring attention, reflection, self-awareness, or cognitive performance. Symptom- or behavior-specific interventions that do not take into account problems in self-regulation may meet with unpredictable or inconsistent levels of success.

Psychiatric disturbances resulting in poor functional outcomes for children in foster care represent a significant public health problem. Given the broad array of symptom presentations, however, there is currently little integration in the conceptual frameworks that currently guide treatment choice. The developing understanding of neurobiological effects of childhood adversity on self-regulatory systems and the contributions of these self-regulatory deficits to later emotional and behavioral disorders suggest a need for direct examination of self-regulation in children with traumatic histories. Interventions that consider self-regulation as an important function may also be a component of a comprehensive treatment approach.

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