Behavioral Problems of Infancy and Preschool Children (0–5)

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This chapter covers disruptive behavior problems, including oppositional and attentional difficulties; emotional problems such as fears, phobias and depression; and feeding problems in the age period 0–5 years. It will begin by considering common developmental aspects and causal explanations of early behavioral problems, followed by describing, for each type of disorder, classification, prevalence and stability. Finally, we discuss treatment. Other problems common in the early years are discussed in chapters on sleep (see chapter 54), attachment disorder (see chapter 55) and developmental disorders (see chapters 3, 34, 46 and 47). Cross-reference is also made to chapters on similar disorders in older children.

The term "disorder" is used cautiously in this age group, with some skepticism about its validity (Campbell, 2002). Evidence for stability and prognostic significance of preschool problems is not particularly strong, especially in the underthrees. Comorbidity is very high, and there are also concerns about distinguishing normal from abnormal behavior in this period of rapid developmental change, and about labeling very young children with disorders. However, there may also be disadvantages of not defining disorders in young children, including failure to recognize distress and provide appropriate help (Carter, Briggs-Gowan, & Davis, 2004; Egger & Angold, 2006). The latter is particularly important, given that there is a good deal of evidence about effective interventions for this age group, particularly for disruptive behavior problems.

In view of these uncertainties about defining disorders, most studies in the 0-5 age group use dimensional approaches to defining and measuring problem behavior. Accordingly, we use the term "disruptive problems" to refer to a constellation of oppositional or attentional symptoms, and the term "emotional problems" to refer to depressive and anxious-type symptoms. Studies based on dimensional approaches include children with severe or milder problems, often defined by clinical cutoff on symptom questionnaires. Where studies use diagnostic criteria, we use DSM and/or ICD disorder terminology. The period of infancy refers to 0-1 years, toddlerhood 1-3 years and preschool 3-5 years.

Developmental Perspectives on Problem Behavior in Early Childhood

It is important to recognize the rapid pace of growth and maturation that takes place from birth to age 5, which has multiple implications for assessment and treatment. For the primary types of problem behavior discussed in this chapter (i.e., disruptive and emotional problems), identification and diagnosis based purely on child behavior have been shown to have limited stability and prognostic implications until at least 24 months of age (Campbell, Shaw, & Gilliom, 2000; Keenan, Shaw, Walsh, Delliquadri, & Giovannelli, 1997). For assessing risk of clinically significant child problem behavior in the 0-2 age group, greater emphasis has been placed on parenting and factors that might compromise parental functioning (e.g., depression, social support, teen parenthood; Shaw, Dishion Supplee et al., 2006), as well as factors that might compromise the developing brain (e.g., prematurity; prenatal drug use). Child problem behavior shows increasing stability beginning in the toddler period. Whereas a substantial percentage of children will "outgrow" these problems, longitudinal studies suggest that 50-60% of children showing high rates of disruptive behavior at age 3-4 will continue to show these problems at school age (Campbell, Szumowski, Ewing et al., 1982; Campbell, Pierce, Moore et al., 1996; Campbell, Shaw, & Gilliom, 2000; Richman, Stevenson, & Graham, 1982). In a recent study of low-income boys, among those identified above the 90th percentile on disruptive symptoms at age 2, 60% remained above the 90th percentile and 100% (all 18) remained above the median at age 6 (Shaw, Gilliom, & Giovannelli, 2000; Shaw, Gilliom, Ingoldsby et al., 2003).

The low stability of behavior problems between toddlerhood and later childhood has implications for using the term "disorder" in referring to these problems in very early childhood (Campbell, 2002; Egger & Angold, 2006). It may be somewhat less problematic in the preschool range. There is currently much debate about the appropriateness of using traditional diagnostic categories, particularly for infants and toddlers. Rapid developmental change within the period 0–5 makes it particularly hard to distinguish normal from abnormal behavior, and to set age-appropriate criteria for classification systems. Thus, having six temper tantrums a day might be bothersome but normal at 22 months, but could contribute to a diagnosis of oppositional defiant disorder (ODD) in a 4-year-old. Similarly,

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a 2-year-old showing difficulty separating from a parent in the first week of daycare would be less worrisome than a 5-year-old showing similar reactions over many weeks.

Clearly, diagnostic systems need to be able to take these developmental variations into account. Systems for assessing preschoolers go some way to solving this problem, using criteria that are more age-appropriate, and basing assessments on observations and reports of child behavior in multiple settings (i.e., home and preschool, from parents and teachers). Recent advances in the field include the Research Diagnostic Criteria-Preschool Age (RDC-PA) which has attempted to modify DSM criteria to be suitable for preschoolers (Task Force on Research Diagnostic Criteria, 2003), and the Preschool Age Psychiatric Assessment (PAPA; Egger & Angold, 2004), which is a structured parent-interview schedule for ages 2-5. However, these systems cannot easily solve the problem that meaning and significance of problem behavior shift rapidly even within this period, and within a given cultural or family setting. Systems for very young children, such as the diagnostic classification: 0-3 (DC: 0-3) (Zero to Three, 1994), tend to place more emphasis on aspects of the parent-child relationship, rather that focusing solely on child behavior, with an increasing focus on behavior as children approach school age. However, evidence for validity of 0-3 diagnostic categories, including stability and, in some cases, links to later disorders of the same name (e.g., infantile "anorexia"; Chatoor & Ganiban, 2004) is not strong.

Based on the relative instability of problem behavior during early childhood, it should not be surprising to learn that many children demonstrate multiple types of problem behavior, including co-occurring disruptive and emotional problems (e.g., oppositionality coupled with depression or attention deficit/hyperactivity disorder [ADHD]). Egger and Angold (2006) reported that 50% of preschoolers showing a disorder in their community sample also showed one or more cooccurring disorders. Similar rates of comorbidity were found by Lavigne, Gibbons, Christoffel et al. (1996) and Keenan, Shaw, Walsh et al. (1997). Arguably, very high rates of comorbidity could be seen as a reason for caution in using diagnostic systems in this age group. However, this problem is not specific to the 0-5 range, as high rates of comorbidity are typical of childhood disorders in general (see chapter 2; Angold, Costello, & Erkanli, 1999).

Because of these rapid changes in development, and instability across time and context, problems may manifest themselves in different ways in under-fives compared to older children. For example, toddler fears and worries may manifest as irritable or oppositional behavior (e.g., tantrums). These may be harder to detect than in older children because of young children's limited ability to communicate emotions to adults. Equally, superficially similar behaviors in toddlers may reflect quite different underlying problems. Thus, if a toddler is isolated from peers in the nursery, it is important to assess whether this is a temporary reaction to a new environment, or related to aggression, social anxiety or to a more profound problem in communication (e.g., severe learning disability, autism spectrum disorder; see chapters 46 and 49). In a school-aged child, pervasive learning problems would be more apparent and, in most cases, already identified.

Theoretical perspectives

Preschool behavior problems are influenced by both biological and environmental factors, as manifest in individual differences in child characteristics (e.g., temperamental dimensions of activity, sociability, attention) and the quality of the caregiving environment. Genetic and prenatal environmental factors are influential in this age period (see chapters 23 and 30). We distinguish between risk factors, in the presence of which the probability of showing a disorder is raised; precursors, where there is continuity between an early problem (e.g., preschool disruptive problems) and a later one (e.g., conduct disorder); and the presence of formal disorder. Extreme difficult temperament is often viewed as a risk factor for later behavior problems (Hill, 2002), although at moderate levels of difficulty and without other indicators of child or family risk, such individual differences are likely to reflect developmentally normative patterns rather than necessarily implying risk for disorder.

In recent years, there has been increasing recognition of the multiple interacting factors that contribute to divergence in outcomes of infants who demonstrate early problems in feeding, emotionality or disruptive behavior (Campbell, Shaw, & Gilliom, 2000). This change in focus can be traced to the pioneering efforts of Thomas, Chess, and Birch (1968), who emphasized the goodness-of-fit between parent and child temperament, to Bell's (1968) work on children's effects on parents, and Sameroff and Chandler's (1975) transactional model of parent-child interaction. Thus, assessment and intervention efforts across problem behavior types have focused on changing child behavior, parent behavior and resources, and the quality of parent-child interaction. As children under 5 years are so dependent on their caregiving environment, there is an emphasis on identifying risk factors in the family and the wider caregiving context (e.g., quality of daycare or nonparental caregiving) which moderate the course of early problem behavior.

In early childhood intervention, similar parent management strategies are often used to manage apparently dissimilar problems (e.g., infant feeding or sleeping problems, preschool disruptive behavior). That similar intervention strategies are used to treat these various problem behaviors should not be surprising, as self-regulation skills develop rapidly during this age period. Self-regulation involves the ability to control impulses and expressions of emotion; thus, children with difficulties in self-regulation might show a range of problems, including higher rates of tantrums, irritable mood and oppositionality, and disturbances in sleep, eating, activity or attention. Despite the range of symptoms, there may be common maintaining mechanisms. All of these problems might elicit similar levels of frustration in parents, their responses leading to a worsening of child symptoms, in a cycle of coercive interaction (Patterson, 1982; Shaw & Bell, 1993).

In recent decades, there has been much speculation about the need to ensure that children's early years are not marked by environmental adversity, because of the fear of irreversible harm, as evidenced in animal studies. Unfortunately, relevant human data are limited. There is some evidence to suggest that exposure to psychosocial adversity during the toddler period shows stronger predictions to later outcomes than exposure in later periods (Appleyard, Egeland, van Dulmen, & Sroufe, 2005; Shaw, Gilliom, & Giovannelli, 2000). Thus, in the study by Appleyard et al. (2005) of children from low-income families, a cumulative index of contextual adversity in early childhood continued to be associated with adolescent antisocial behavior after accounting for the effects of contextual risk in middle childhood. However, in most cases, study designs have not permitted examination of whether there are critical periods for the operation of risk factors, where, based on timing of exposure, there might be differential effects on child adjustment.

Clinical Problems

Disruptive Behavior

Disruptive behavior, sometimes referred to as externalizing or "acting-out" problems, includes attentional and oppositional problems and their corresponding disorders, ADHD and ODD (Lahey, Loeber, Quay, Frick, & Grimm, 1992). As conduct disorder (CD) includes more serious forms of aggression, property destruction and theft, it is rarely applied to preschoolers. Disruptive problems represent the most frequent type of problem behavior in early childhood, particularly after the second year when parental expectations for children to comply with rules and contain aggressive behavior increase. Tremblay (1998) reported that by age 17 months, 70% of children take toys away from other children, 46% push others to obtain what they want and 21-27% engage in one or more of the following with peers: biting, kicking, fighting or physically attacking. Tremblay also reported that aggression occurs more frequently for infants with siblings, especially for girls, providing daily opportunities for conflicts over possessions. Relative to emotional problems, much more research has been conducted on the stability, course and predictors of disruptive problems in early childhood and about 50% of oppositional 3-year-olds continue to have these problems in the school years (Campbell, Shaw, & Gilliom, 2000).

Using DSM-IV criteria, generated from a structured interview with parents, the prevalence of preschool ODD in a US sample was estimated at 7%, and ADHD at 3% (Egger & Angold, 2006). Other studies broadly concur, although some questionnaire studies arrive at higher estimates, depending, not surprisingly, on the choice of definition, cut-off and informant (Koot, 1993; Richman, Stevenson, & Graham, 1982). In the toddler and preschool years, sex differences are not as marked as in older children. Boys' higher rates of disruptive behavior seem to emerge during the later preschool period, with studies documenting absence of sex differences from ages 1 to 3

(Achenbach, 1992; Keenan & Shaw, 1994; Richman, Stevenson, & Graham, 1982), followed by increasing sex differences from age 4 to 5 (Lavigne, Gibbons, Christoffel *et al.*, 1996; Rose, Rose, & Feldman, 1989), although this was not found for ODD by Egger and Angold (2006).

Attention Deficit/Hyperactivity Disorder

Core features include inattention, impulsivity and hyperactivity (Barkley, 1998). In terms of etiology, models tend to focus on different biological factors, including activity, impulse and attention control (see chapter 34; Barkley, 1997; Rothbart, Ellis, Rueda, & Posner, 2003). As with older children, most preschoolers with ADHD show other difficulties, most typically conduct problems (Barkley, 1997; Shaw, LaCourse, & Nagin, 2005). This co-occurrence carries risk for more severe and chronic adjustment problems in adolescence and adulthood (Moffitt, 1990; Weiss & Hechtman, 1993).

Oppositional Problems

These include defiant, angry, annoying, non-compliant and sometimes aggressive behaviors. For a diagnosis of ODD, behaviors need to occur more commonly than is typical for that age, persist for more than 6 months, and impair the child's functioning (American Psychiatric Association, 2000; Campbell, 2002). During toddlerhood, despite the high frequency of aggressive-like and oppositional behavior, many of these behaviors tend to be tolerated by parents because of children's limited ability to understand the consequences of their actions. However, with emerging cognitive maturation during this period, parental tolerance for disruptive behavior decreases, particularly when children cannot refrain from showing this behavior with peers and adults outside of the home (e.g., in daycare).

Causes and Correlates of Disruptive Behavior Problems

Causal models emphasize the dynamic interplay of child, parenting and contextual factors (Sameroff & Chandler, 1975), with individual differences in disruptive behavior often being magnified by ineffective parent management strategies (Campbell, Pierce, Moore *et al.*, 1996; Shaw, Gilliom, Ingoldsby *et al.*, 2003). Most of this research has focused on early predictors of conduct problems rather than ADHD, but one recent study found similar types of predictors for both conduct problems and ADHD (Shaw, Lacourse, & Nagin, 2005). Predictive validity for early child markers of more serious disruptive behavior begins to emerge around age 2 (Keenan, Shaw, Walsh *et al.*, 1997; Shaw, Gilliom, Ingoldsby *et al.*, 2003), with clearer predictions from age 3 to later, more serious forms of antisocial behavior (Caspi, Henry, McGee, Moffitt, & Silva, 1995; Henry, Caspi, Moffitt, & Silva, 1996).

Parenting models have been developed from attachment and social learning perspectives, with attachment models emphasizing unresponsive caregiving during infancy (Greenberg, Speltz, & DeKlyen, 1993; Sroufe, 1997), and social learning models focusing on the development of coercive cycles in which parents unwittingly reinforce and maintain child disruptive behavior by using inconsistent and harsh management strategies

(Patterson, 1982; Shaw & Bell, 1993). Research has consistently validated associations among low-quality parent-child relationships in the early years, the use of unresponsive or harsh parenting practices, and disruptive behavior in preschool and later years (Loeber & Dishion, 1983; Lyons-Ruth, 1996; Shaw, Keenan, & Vondra, 1994; Shaw, Winslow, Owens et al., 1998). Positive parenting skills (e.g., anticipating the child's troublesome moments, providing joint play activities) may be particularly important in the toddler years, as they can help to divert children from problem behavior at an age when children have limited skills for self-management of boredom and tempting impulses (Gardner, 1994; Gardner, Sonuga-Barke, & Sayal, 1999; Gardner, Ward, Burton et al., 2003; Gardner, Shaw, Dishion et al., 2007; Martin, 1981). Rather different parenting skills become important in middle childhood, where increasing independence requires greater monitoring of children across multiple settings, and planning for preventing problems that may occur in the parent's absence.

The wider family and caregiving environment can also influence the development of early emotional and behavioral problems. The nature of sibling relationships, for example, appears to be influenced by factors such as the temperament of each child, and the quality of other relationships in the family, such as parent-child and marital relationships (Dunn, 1993). Sibling relationships often encompass a complex mix of supportive and conflictual dimensions, and appear to be important for development. For example, Garcia, Shaw, Winslow, and Yaggi (2000) found that sibling conflict at age 5 was predictive of later disruptive problems at home and school, after accounting for earlier parenting and child behavior.

As young children spend more time outside the home, researchers have addressed whether and how daycare might affect early problem behavior. Early studies of daycare were mixed in quality of the methods used, quality of the daycare studied and the results found. A recent US study of daycare effects (over 1000 children) found that more hours spent in any kind of non-maternal care from infancy to age 54 months was associated with higher ratings of oppositional problems, more so for ratings made by alternative caregivers and teachers than parents (NICHD Early Child Care Research Network, 2003). These effects, albeit statistically significant, tended to be modest in magnitude and did not predict trajectories of clinically meaningful problem behavior. The quality of early child care has also bee found to discriminate conduct problems in a large sample of children from low-income families (Votruba-Drzal, Coley, & Chase-Landsdale, 2004). Results indicated that many hours of low-quality care was associated with higher oppositional problems at school entry, whereas high-quality care served a protective function. Fewer behavior problems have also been found in children in highquality day care, compared to home care, in Sweden, even at 10-year follow-up (Andersson, 1992). Overall, quality and, to some extent, amount of care, have been found to influence the course of early disruptive problems.

In general, risk factors for early disruptive behavior are similar to those for later CD (see chapter 35), including parental attributes (e.g., mental illness; see chapter 27) and contextual factors (e.g., socioeconomic status; Shaw, Keenan, & Vondra, 1994; Shaw, Winslow, Owens *et al.*, 1998; Tremblay, Nagin, Seguin *et al.*, 2004). Cumulatively, these data suggest that several targets have been established for prevention and intervention studies (see chapter 61; Olds, 2002), some of which might be appropriate before a child is born.

Emotional Problems

Emotional problems such as anxiety, depression and posttraumatic stress in preschoolers have been much less studied than disruptive problems. There are a number of reasons for this, including the inability of young children easily to communicate about their emotions, or for adults to notice them as problematic. Furthermore, there are difficulties in distinguishing developmentally normal emotions (e.g., fears, crying) from more severe and prolonged anxiety or misery that might constitute a disorder. This is especially difficult in the early years, when children undergo rapid changes in the development of emotions, and in their ability to communicate these to others. There is probably insufficient evidence at present to decide whether diagnosing emotional disorders is valid and useful in the 0–5 year range.

Classification Systems

Many DSM categories, including social phobia, generalized anxiety and depression apply across the range of child to adulthood, and are therefore not designed to take preschool developmental factors into account. One exception is Separation Anxiety Disorder, which applies only to children. It is defined as "developmentally inappropriate and excessive anxiety concerning separation from home or from those the child is attached to" (APA, 2000). However, there are still problems in applying this diagnosis to very young children because normative expectations of responses to separation from caregivers change so much across the first 3 years. Thus, in the 0-3 system, this constellation is not considered abnormal and therefore is not included as a disorder. In all cases it is important to take into account the child's developmental stage in assessing whether a problem is of concern. The majority of children show fears at some stage in development, and typical fears change with age. Thus, fear of strangers is very common in late infancy, and fear of animals in toddlerhood. Whether they constitute a clinical problem (Campbell, 2002) depends also on factors such as persistence, and how much they impair the child's and family's well-being, for example if the child is persistently unable to engage in normal activities (e.g., going to daycare or the park).

Stability

Many emotional problems in this age range are thought to represent transient reactions to stressful life events, rather than disorders per se. Relative to studies of disruptive problems, there is a paucity of research on the stability of early emotional problems for young children. In one study, stability of preschool depression over 6 months was high among 3- to

5-year-olds (Luby, Heffelfinger, Mrakotsky *et al.*, 2002), but there are no data on the long-term prognosis for these children. Both predictive validity and functional impairment are important in validating a diagnostic category, and in the case of depressed preschoolers, there is preliminary evidence that these children show moderate to high levels of impairment in their daily functioning (Egger & Angold, 2006).

Prevalence

Studies of preschool children using DSM-III and DSM-IV criteria have estimated prevalence of emotional disorder diagnoses; these tend to be low for each category: separation anxiety (0.3-5%), social phobia (2-4%), specific phobia (0-2%) and depression (0-2%); Egger & Angold, 2006; Lavigne, Gibbons, Christoffel *et al.*, 1996). However, in Egger and Angold's study, which included multiple types of problem behavior, rates of any emotional disorder were as high as for disruptive disorders, both around 10%. As found in middle childhood, prevalence of depression and anxiety did not differ by gender (Keenan, Shaw, Walsh *et al.*, 1997). Sex differences tend to emerge around puberty. Comorbidity between depression and ODD was very high in one study of 2- to 5-year-olds (Egger & Angold, 2006), raising questions about whether these are separate disorders.

Causes and Correlates of Emotional Problems

As with disruptive behaviors, causes are likely to be multifaceted, and to reflect the interplay between child and parent genetic factors, parenting and the wider social environment around the child. As with other aspects of emotional problems, there have been few studies of multiple etiological factors, especially in preschool children. Studies have suggested quite high heritability for some preschool emotional problems (Eley, Bolton, O'Connor et al., 2003). Where risk factors have been studied in preschoolers, broadly these appear similar to those found in studies of older children (Luby, Heffelfinger, Mrakotsky et al., 2003). Maternal transmission of anxiety also seems to be an important factor, not only via genetic factors, but also through processes such as modeling and an anxious style of parenting (see chapter 27). Individual differences in children's temperament (see chapter 14) also have been linked to early emotional problems, most notably for children who are behaviorally inhibited (Hirshfeld-Becker, Biederman, & Rosenbaum, 2004). Behavioral inhibition is defined as the tendency to react to novelty with unusual fear, cautiousness and withdrawal, and appears to be moderately stable across early childhood (Kagan, 1999; Kagan, Reznick, & Snidman, 1988). Biederman, Hirshfeld-Becker, Rosenbaum et al. (2001) found that behavioral inhibition assessed during early childhood was associated with increased risk for anxiety disorders 5 years later. Another recent study examined predictors of trajectories of boys' anxiety from ages 2 to 10 years, and subsequent emotional disorders in early adolescence (Feng, Shaw, Lane, Alarcon, & Skuban, 2006). Consistent with Kagan's work, shy temperament at age 2 tended to differentiate between initial high- and low-anxiety trajectory groups, whereas early maternal negative control and maternal depression were

associated with increasing trajectories and elevated anxiety symptoms in middle childhood. Follow-up to adolescence indicated that child factors such as temperament contributed strongly to diagnoses of anxiety disorders, whereas both child and parent factors (e.g., negative control) contributed to boys' depression.

Eating and Feeding Problems

Normal patterns of feeding change greatly between individuals and across time in the developmental period 0-5. The same can be said for disorders of eating and feeding, which present in a wide variety of ways (Stein & Barnes, 2002). Thus, in the early months, babies may fail to thrive for a number of reasons, or show signs of infantile colic. In the preschool years, food refusal or excess fussiness may be linked to other toddler oppositional behaviors, and intervention may need to consider parental management of child behavior more broadly. Feeding problems are common, but are more prevalent in children with developmental disabilities, pointing to the combination of physical health, family factors and developmental delay that are often involved in feeding problems. Their multifactorial origins can make it hard to define which problems belong within the realm of child psychiatry, rather than pediatrics, as many feeding problems that are primarily physical (e.g., failure to thrive [FTT] as a result of oral-motor dysfunction in cerebral palsy) may or may not have a substantial component exacerbated by family stress or poor parenting skills. The picture is further complicated by the fact that etiology is often unknown (e.g., in FTT, colic). While bearing in mind this caution, we will focus on problems thought to have a primarily psychosocial cause.

Classification and Prevalence

There is no standard system for classifying all types of feeding problems in the 0-5 period. DSM-IV includes the categories pica, rumination and "feeding disorder of infancy and early childhood," defined as persistent failure to eat adequately, with weight loss or failure to gain weight that is not caused by physical illness, and onset before age 6. Various systems of classification have been proposed, but some make unwarranted assumptions about etiology, for example Chatoor & Ganiban (2004), who classify disorders by psychogenic or other cause (e.g., "feeding disorder of caregiver-infant reciprocity," or "post-traumatic feeding disorder"). This chapter covers the most common problems in this age group, including colic, FTT and food refusal. Feeding problems have been estimated to affect up to 30% of infants (Jenkins, Bax, & Hart, 1980). However, given the lack of standard criteria for definition, figures vary quite widely across studies. Similarly, investigation of prognosis and causes of feeding problems is hampered by lack of a clear classification system.

Infant Colic

The causes of colic are unclear and, as a result, it has been classified variously as a feeding, regulatory or crying problem. Wessel, Cobb, Jackson, Harris, and Detweiler's (1954) classic "rule of three" definition involves "paroxysms of irritability, fussing, crying lasting more than 3 hours a day, on more than 3 days in 1 week" and continuing for more than 3 weeks, between the ages of 1 and 4 months. Colic is common, reported as occurring in 10-20% of babies in large community surveys (Crowcroft & Stachan, 1997). There may be little justification for using the term "colic" for a phenomenon that might be more parsimoniously viewed as persistent unexplained infant crying (St. James-Roberts, 2004). There are a number of theories of etiology, focusing on gastrointestinal dysfunction, central nervous system immaturity, and parental stress and anxiety. However, there is very little conclusive evidence to support these theories (Stifter & Wiggins, 2004), or to validate treatments that follow from them (Garrison & Christakis, 2000). Irrespective of cause, colic is a significant cause of parental stress and low confidence. A recent working party (Barr, St. James-Roberts, & Keefe, 2001) concluded that colic could most usefully be seen as a problem resulting from early individual differences in reactivity and the development of regulation. Although colic is seen by parents and professionals as a physical problem, rarely is there any known underlying condition, such as gastrointestinal disorder.

Failure to Thrive

Historically, there has been little agreement on a precise definition of the term "failure to thrive" (FTT). It has been defined in several ways, including by weight centile, by weightfor-height and by growth faltering over time (Benoit, 2000). Traditionally, FTT was divided into two subgroups: organic and non-organic, the latter term carrying connotations of psychosocial causation, such as parental neglect, abuse or poor management of feeding. However, more recently the assumption of a clear-cut distinction between organic and nonorganic FTT has been called into question (Boddy & Skuse, 1994; Chatoor & Ganiban, 2004). Absence of a physical explanation does not mean that poor parenting is necessarily the cause. However, attributing growth delay to parental neglect may be unhelpful (Skuse, 1985), and in some cases may have harmful consequences. Furthermore, many children with nonorganic FTT turn out later to have undiagnosed illnesses or impairments in oral-motor skills. One population survey (Reilly, Skuse, Wolke, & Stevenson, 1999) found oral-motor dysfunction in 35% of children with non-organic FTT, suggesting that assumptions about parental causes may often be unwarranted. Finally, as discussed in relation to other early behavior problems, FTT is now thought likely to have multifactorial causes, where factors such as temperament, developmental delay and poor feeding skills interact with parental stress and poor management of feeding. In a UK population survey of growth delay (Skuse, Reilly, & Wolke, 1994), a prevalence rate of 3-4% was found. However, it was also noted that there was considerable variation between ethnic groups, with higher rates among South Asian and lower rates in African groups. We should be cautious about assuming that these are related to cultural differences in early feeding patterns; it is also possible that norms are inadequate for defining growth faltering in minority groups.

Food Refusal

Food refusal is a general term for a range of feeding problems, broader than DSM "Feeding disorder of infancy and early childhood," as it focuses on child behavior rather than requiring growth failure. It includes children of normal weight who consistently or selectively refuse to eat. Selective refusal may be unpredictable, or may be specific to certain foods or situations (Chatoor & Ganniban, 2004; Douglas, 2002). In toddlers, it may be linked to other behavioral problems, or may be limited to feeding contexts. It may be related to long-standing early feeding problems or arise anew in the "terrible twos." Again, causes are likely to be multifactorial, including combinations of temperament, family stress and poor parenting skills, as for other oppositional problems. In many cases, there may be more specific contributing factors related to food, including feeding experiences, parental anxiety about food and body shape or prior health problems that might initiate the feeding problem (e.g., pain or anxiety about vomiting or reflux), which may then be unwittingly reinforced by parental reactions (Douglas, 2002; Stein & Barnes, 2002).

Treatment

General Principles for Selecting Treatments

From earlier discussions of multiple interacting factors that contribute to behavioral problems in the 0-5 period, it will be clear that intervention requires assessment of the presenting problems in the context of family and caregiver influences, as well as the child's development and physical health. Thus, factors such as fussy temperament, parental inconsistency, stress of poverty, early illness and oral-motor delay may all combine to produce toddler eating problems. Knowing the causes of a problem can be helpful for understanding and selecting treatment; however, at the same time it is vital that clinicians use, wherever possible, interventions that have a strong evidence-base, and that they keep up to date with this knowledge as new trials and systematic reviews appear. Thus, knowing that oral-motor dysfunction is contributing to a longstanding eating problem in a toddler born very prematurely is helpful in making sense of a problem, and for reducing parental blame and guilt; however, arguably it is not useful information for treatment if there is no evidence of effectiveness of available speech therapy for oral-motor delay. However, there is better evidence about the effectiveness of parenting interventions for food refusal and other mealtime behavior problems (Kerwin, 1999; Turner, Sanders, & Wall, 1994). Parent management difficulties are only one of several causal factors contributing to early eating, sleep, oppositional or attentional problems, but parenting intervention might nevertheless be the treatment of choice. In this age group, it is developmentally appropriate and has the strongest evidence-base from randomized trials. This is the case even for preschool ADHD, where there is a clear genetic contribution to etiology.

Given these considerations, this section focuses on common principles behind evidence-based approaches, particularly

parent management of toddler behavior problems, as well as including specific guidance for clinicians. We concentrate on interventions with an evidence-base from high-quality systematic reviews, such as those published by the Cochrane Collaboration, and randomized controlled trials (RCTs). Some of these cover a wide age range but, where possible, we have sought effectiveness data applicable to the 0–5 age group. Readers are referred to other chapters for fuller details on particular problems and interventions.

Overview of Evidence

We begin with a brief overview of evidence on intervention effectiveness. A systematic review of interventions for early conduct problems age 3-8 (Barlow & Stewart-Brown, 2000) concluded that behaviorally based parent-training is effective. Several recent trials that comprise entirely, or high proportions of, preschoolers reach similar conclusions (Gardner, Burton, & Klimes, 2006; Hutchings, Bywater, Daley et al., 2007; Sanders, Markie-Dadds, Tully, & Bor, 2000; Scott, Spender, Doolan, Jacobs, & Aspland, 2001; Webster-Stratton, 1998a), suggesting that interventions are translatable across countries and varied service settings. Some programs appear to be equally effective across ethnic groups; a secondary analysis of 630 preschoolers in trials of the Webster-Stratton preventive parenting program found no differences by ethnicity on any parent or child outcome measures, or on parent engagement and satisfaction (Reid, Webster-Stratton, & Beauchaine, 2001). For sleeping problems, systematic reviews suggest that behavioral parent management of settling and night-waking problems is effective (Mindell, 1999; Ramchandani, Wiggs, Webb, & Stores, 2000). For toddler and preschool eating problems, evidence from two very small RCTs and several case series leads to the tentative conclusion that parent management approaches may be effective (Turner, Sanders, & Wall, 1994). Kerwin's (1999) review reached a similar conclusion for severe infant feeding problems. The picture is much less clear for early emotional disorders, as very few treatment trials include children under 5.

Medication is controversial in this age group, and practice varies between USA and Europe. For ADHD, stimulant medication is not licensed for preschoolers because of worries about safety, and parenting interventions have been found to be as effective in this age group as stimulant drugs are in older children (Sonuga-Barke, Daley, Thompson, Laver-Bradbury, & Weeks, 2001). Nevertheless, one trial claimed methylphenidate may be effective in preschoolers (Greenhill, Kollins, Abikoff et al., 2006), although it should be noted that the trial only included children for whom parent-training approaches were not effective, and there was quite a high rate of side effects. Tricyclic antidepressants are not recommended in prepubertal children (Hazell, O'Connell, Heathcote, & Henry, 2002), and there are considerable doubts about the effectiveness of selective serotonin reuptake inhibitors (SSRIs) in children of all ages (Whittington, Kendall, Fonagy et al., 2004).

Interventions for Disruptive Behavior Problems

We begin with principles of parenting interventions for early oppositional and attentional problems, while noting that these broad principles are also applicable to toddler eating and sleeping problems, particularly given the frequent comorbidity and common causes for these problems. Specific interventions for feeding problems follow. (For fuller details on parenting interventions see chapter 64. For useful detailed guides to carrying out parenting interventions in young children see Sutton, 1999; Webster-Stratton, 1992; Webster-Stratton & Herbert, 1994.)

Intervention begins with broad assessment of the child's health, development and temperament, the overall family and caregiving setting, and a detailed evaluation of the frequency, duration and situational determinants of the presenting problems. In particular, assessment should focus on parenting strategies and other situational factors that may be triggering or maintaining the problem on a day-to-day basis. Equally important is examination of parenting strengths and competencies that can be built on in treatment. What are the positive features of the relationship between child and parents? Under what conditions does the problem fail to occur, or how have parents succeeded in preventing or alleviating it? Parenting strategies are best assessed through a combination of parent diary records, direct observation of parent-child interaction and careful interviewing. Observational methods are particularly useful for preschoolers (see chapter 19), who tend to be less reactive to being observed. There is increasing evidence that learning and putting into practice new parenting skills, carefully tailored to the child's needs, is a critical intervening mechanism (Rutter, 2005) underlying successful interventions for early conduct problems (Forgatch & DeGarmo, 1999; Gardner, Burton, & Klimes, 2006; Gardner, Shaw, Dishion et al., 2007; Hutchings, Lane, & Gardner, 2004). Hence, this parenting assessment information is central to planning the main active ingredients of the intervention. Providing systematic sensitive feedback to parents about the findings of assessment may be helpful for several reasons (Dishion & Kavanagh, 2003; Shaw, Dishion, Gardner et al., 2006), including to motivate parents' engagement with challenging interventions; to reach a shared formulation and plan for treatment (rather than one that is imposed by the clinician); and to aid later skills coaching.

Although enhancing parenting skills is a key part of intervention for behavior problems, it is important to help the parents understand that they are not necessarily the main cause of the problem, rather that they are the best solution. Helping parents understand how the child's temperament and development (e.g., language or cognitive impairment; see chapters 47 and 49) contribute to parenting and conflict can be very helpful in formulating a problem, and preparing the ground for skills-based work. A preschool ADHD intervention provides an excellent example of this approach (Sonuga-Barke, Daley, Thompson *et al.*, 2001; Thompson, Weeks, & Laver-Bradbury, 1999). The first part of the intervention involves helping parents to understand and empathize with the individual temperamental characteristics of the child with ADHD,

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and considering how some of the parents' expectations and skills may need to be adapted to fit better with the child. Following this, parents work on setting new expectations and limits, and practice strategies to manage the child and change symptomatic behavior. As the majority of children with ADHD show comorbid conduct problems, such approaches are also applicable to changing oppositional behavior (Sonuga-Barke, Daley, Thompson *et al.*, 2001).

Following assessment, intervention focuses on applying cognitive-behavioral parenting principles in an individualized manner to the child and family. An example of a wellspecified effective parenting intervention is Webster-Stratton's (1998a,b; Webster-Stratton & Herbert, 1994) "Incredible Years" program (see chapter 64), which employs a collaborative approach, building on parents' strengths and expertise. Principles covered include parent-child play, praise, incentives, limit-setting, problem-solving and discipline. Video clips are used to encourage problem-solving around strategies to manage their child, and to illustrate their varying effects on child behavior. Role plays and homework are used to find solutions and practice parenting skills. In each session, homework successes and problems are discussed, and used as further problem-solving examples. Although this program is designed to be delivered to groups of parents, these principles are equally important in individual work with families of young children. Similar effective programs, aimed particularly at 2to 5-year-olds, and designed to be carried out in a home or clinic setting with individual families, include Sanders, Markie-Dadds, Tully et al.s' (2000) Triple-P program, and Forgatch and DeGarmo's (1999) Parent Management Training.

When advising parents about disruptive behavior, it is helpful to encourage them to observe and record their child's behavior, the situations that trigger it, and their reactions and attempts at managing the behavior. It is important to help parents build a warm cooperative relationship with the child, especially if this appears to be lacking, by advising a regular daily joint play session, say 5-10 min, using an age-appropriate calm activity. Co-operative play should be encouraged and rewarded. Meanwhile, it is important for parents to explain simple ground rules to the child (behavior that is expected or prohibited, in key situations), and then to reward the child using praise, and token rewards (e.g., sticker or star charts) for behaving well, especially in situations that commonly lead to troublesome behavior. Planning ahead for how to deal with the most difficult situations is an important element. It is possible to plan to ignore milder problem behaviors, and use mild consequences for more severe problems (e.g., aggression, repeated defiance about important issues), such as time out (for 2-3 min at age 2-5) or brief immediate withdrawal of enjoyable activities. For milder problems, a Cochrane review suggests that self-help materials can improve disruptive problem behavior (Montgomery, Bjornstad, & Dennis, 2006). For example, books explaining evidence-based principles for managing early behavior problems (e.g., Sanders, 2004; Webster-Stratton, 1992) can be useful for parents, or for clinicians to work through with parents.

Non-attendance is a common problem in treatment services, and it behoves clinicians to find ways to overcome barriers to engagement, especially for distressed and disadvantaged families. Webster-Stratton (1998a,b) achieves this by offering flexible timing of intervention, transport and child care, which are particularly important for families with preschoolers. Other strategies include home-visiting, or using community locations, such as primary healthcare clinics (Stewart-Brown, Patterson, Mockford *et al.*, 2004; Turner & Sanders, 2006). Others have developed specific strategies to enhance parent motivation (Dishion & Kavanagh, 2003; Dishion, Shaw, Connell *et al.* (in press)). It is undoubtedly challenging to be flexible to parents' needs when working in a clinic setting; without attention to these issues, attendance rates may remain low and the most troubled children may be unable to access services.

Interventions for Emotional Problems

There is a good deal of evidence from systematic reviews and randomized trials (Ollendick & King, 1998) to support the use of cognitive-behavioral interventions for anxiety and depression in school-age children, but few treatment trials include children under 5 years. However, there is some evidence from single-case studies and small trials (Ollendick & King, 1998) that the same techniques may be applied to 3to 5-year-olds, provided the intervention is carefully matched to the children's developmental level. There is also important evidence emerging about cognitive-behavioral interventions from studies aimed primarily at helping preschool conduct problems, namely Webster-Stratton and Hammond's (1997) child-focused "Dinosaur" program. They find that cognitivebehavioral techniques, delivered using developmentally appropriate games and puppets, to groups of preschoolers, can reduce comorbid emotional symptoms as well as disruptive problems. Parental involvement in cognitive-behavioral interventions is useful in older children, especially where parents are very anxious, and may well prove to be helpful with younger children, pending further empirical validation (Barrett, Dadds, & Rapee, 1996). Chapter 63 describes detailed principles of cognitive-behavioral interventions for anxiety. These intervention principles can be adapted for the developmental level of preschoolers (Hirshfeld-Becker & Biederman, 2002); for example, using pictures to help with discussions about emotions, and by a greater focus on behavioral strategies, such as graded exposure and modeling to deal with phobias.

Interventions for Feeding Problems Colic

A systematic review by Garrison and Christakis (2000) found 22 randomized trials of interventions for colic. Most trials were of poor quality, and the reviewers concluded that there was little clear evidence for efficacy of the various interventions tested. Medication did not appear to be effective; nor did infant carrying (although this has been found to be effective for other, less persistent forms of crying). There was slightly more promising support for helping parents to manage crying by

reducing stimulation or improving communication skills, and some support for dietary interventions, including four small trials of hypoallergenic diets. Lactase was not effective. Because of methodological weaknesses, these results need to be treated with a great deal of caution, as putting infants on restricted diets, although potentially beneficial, could cause harm to the infant and unnecessary stress to the family. A recent trial of 600 neonates tested whether persistent crying could be prevented with behavioral interventions (St. James-Roberts & Gillham, 2001). Only modest effects on sleeping and crying were found, representing an increase of 10% in the number of babies sleeping through the night. Given the evidence from many trials suggesting that most interventions are ineffective for colic, including parental management strategies (e.g., carrying) and dietary change, advice needs to be based on reassurance and information, coupled with acknowledgment and management of parents' understandably high levels of stress. Parents can be advised that there are no significant long-term consequences of early colic, that it normally peaks around 6 weeks and stops at 3-4 months (Stifter & Wiggins, 2004; St. James-Roberts, 2004), and that the child is not ill, nor necessarily in pain.

Failure to Thrive

Intervention should aim to assess the contribution of parent management and child feeding skills to mealtime and food intake problems, in order to reduce tense cycles of coercive interaction that often prevail (Skuse, 1985). Direct observations of mealtime interaction (see chapter 19), ideally at home, may be particularly useful for analyzing factors that contribute to maintaining conflict over food. There is some evidence for effectiveness of parent-focused interventions from a small number of trials. Wright, Callum, Birks, and Jarvis' (1998) RCT of a primary care-based, health visitor-led multidisciplinary intervention for under-twos, involving dietary advice and some parent-management work, found positive effects on growth 1 year later compared to usual health visitor care. Black, Dubowitz, Hutcheson et al. (1995) found more mixed effects for a combined intervention involving clinic-based dietary advice and home-based parenting skills. For under-twos with nonorganic FTT from low-income families, there were no effects on growth; rather, both intervention and control group children improved over the trial period. However, beneficial intervention effects were found in the quality of the home environment and on child language development, suggesting that such interventions may alleviate some of the concomitant psychosocial problems found with FTT.

Food Refusal

Careful assessment is needed to establish whether food refusal is linked to weight loss, and to reveal the situations in which it occurs, and in toddlers whether it is linked to other oppositional behaviors. In the latter case, feeding problems need to be assessed and managed in the context of other toddler noncompliant behaviors. If assessment reveals that parents are very anxious about food intake, then this may be a factor contributing to mealtime conflict (Stein & Barnes, 2002). Where appro-

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priate, reassuring parents about physical health and growth of the child is important, coupled with advice on strategies for setting reasonable limits on the child and for reducing mealtime conflict (Douglas, 2002; Turner, Sanders, & Wall, 1994).

There is modest evidence of effectiveness of interventions for food refusal. No Cochrane or other rigorous systematic review was found. We can draw tentative conclusions from a narrative review by Kerwin (1999), which found two very small RCTs (Turner, Sanders, & Wall, 1994) and 27 single-case designs with quantitative outcome measurement, suggesting that behavioral parent management interventions may be effective. Searching did not reveal further RCTs since 1999. When dealing with food refusal and other problem behavior at mealtime in 2- to 5-year-olds, clinicians need to adapt the broad principles outlined for disruptive behavior. Additionally, it is important with mealtime problems to plan how to help eating to become a positive experience and how to reduce stress and conflict over food, particularly by taking a graduated approach to changing the specific problem. Douglas (2002) provided very helpful advice to clinicians. For example, to help food refusal and fussy eating, parents should cease force-feeding and angry responses, and instead take small steps to introduce new habits. It is important to switch to providing praise and attention for eating, and to reduce parents' natural response, which is to attend to a child when they refuse to eat. Where child anxiety appears to be factor, modeling pleasure in eating and even playing with food can be helpful in establishing enjoyment and reducing anxiety around meals. This may be particularly difficult for parents who feel very anxious around food and its mess, and they may need a good deal of support and encouragement to change (see chapter 27).

Conclusions

It will be apparent that the state of knowledge about preschool behavior problems is quite uneven. A good deal is known about preschool disruptive behavior, and about effective preventive and treatment interventions for this age group. This is particularly true for oppositional problems, and somewhat less so for ADHD. There is a growing literature on how interventions for early disruptive behavior that have been tested in specialized settings (i.e., "efficacy" trials) can be translated to other settings and cultures, and how they might be disseminated on a wider scale. In contrast, little is known about preschool emotional problems, with poor agreement on classification and little evidence about causes and treatment. To some extent, the same applies to childhood emotional disorders in general. This area should be a priority for future basic and treatment research, especially if it can be confirmed that these problems are stable and significant from an early age. Feeding problems have a longer history of treatment research, much of it from pediatric multidisciplinary teams, but work in this area is still hampered by lack of an agreed classification. Furthermore, understanding diagnosis and causes is complicated by great clinical variability in children who may have

accompanying disabilities and developmental delays, combined with psychogenic feeding problems. At the younger end of the 0-5 range, in the specialty known as infant psychiatry, diagnosis is much more controversial and there is a need to establish validity or otherwise of categories and, eventually, effectiveness of treatments that follow from diagnosis. To further understand causal mechanisms, and to delineate the active ingredients of interventions in this age group, work is needed on intervention mechanisms, including gene–environment interactions (Caspi, McClay, Moffitt *et al.*, 2002), to address questions about whether interventions operate in different or similar ways in early childhood compared to older ages.

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