

Detecting and Managing Developmental and Behavioral Problems in Infants and Young Children

The Potential Role of the DSM-PC

Dennis Drotar, PhD

The *Diagnostic and Statistical Manual for Primary Care* (DSM-PC), Child and Adolescent Version, provides a comprehensive method to facilitate professional recognition, management, and referral of a wide spectrum of children's behavioral and developmental problems, as well as stressful situations. This article describes the utility of the DSM-PC for a multidisciplinary group of practitioners who work with infants and young children. Four areas of potential application of the DSM-PC are described: (1) diagnosis and management of problems that are specific to infants and young children; (2) description of environmental stressors; (3) description of developmental variation and change in infant problem behaviors; and (4) implications for research concerning infants' behavioral and developmental problems. **Key words:** *behavioral problems, developmental problems, diagnosis, DSM-IV, DSM-PC, early identification, infant mental health*

PRIMARY CARE PRACTITIONERS (PCPs) (eg, pediatricians and family practitioners), preschool teachers, day care providers, and early intervention providers are in a critical position to provide monitoring and preventive management of the behavior and development of infants and toddlers. However, substantial numbers of infants and young children who present with behavioral and developmental problems such as sleep disturbance, irritable behavior, feeding problems, repetitive behavior patterns, delays in cognitive and language development, and problems relat-

ing to behavioral control may not be identified. As a consequence, considerable opportunities for early preventive management of such problems may be lost. Research has consistently noted that large numbers, anywhere from 12% to 25%, of children who are seen in primary care, have significant psychosocial problems (Costello, 1986; Costello et al., 1988; Kelleher & Rickert, 1994) but only a subset of these children is identified and referred for treatment (Costello et al., 1988; Lavigne et al., 1993).

Multiple factors influence the discrepancy between the prevalence of behavioral and developmental problems among infants and young children and the typical frequency of their recognition and management by pediatricians and other practicing professionals (Drotar, 2002). For example, practice-based time constraints may affect practitioners' abilities to diagnose and manage infants' behavioral and developmental problems. In addition, some practitioners may be reluctant to identify behavioral and developmental

From the Rainbow Babies and Children's Hospital, and the Department of Pediatrics, Case Western Reserve University School of Medicine, Cleveland, Ohio.

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Corresponding author: Dennis Drotar, PhD, Rainbow Babies and Children's Hospital, 11100 Euclid Ave, Cleveland, OH 44106 (e-mail: dxd3@po.cwru.edu).

problems because they are concerned about incorrectly labeling children at a very young age and/or alarming their parents unnecessarily. Problems with access to experienced mental health practitioners and limitations in insurance coverage may also limit early professional recognition and management of young children's behavioral problems (Drotar, 2002).

Another significant barrier to the diagnosis and management of young children's behavioral and developmental problems concerns available systems of diagnostic categorization of infants and young children with behavioral and developmental problems (Drotar, 2002). The primary diagnostic system for the classification of behavioral and developmental problems that is currently in use, the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV) (American Psychiatric Association, 1995) has salient limitations that limit its utility for professionals, including PCPs, who work with infants and young children. For example, the DSM-IV focuses on child and adolescent mental disorders that are both more serious and less prevalent than the broad spectrum of behavioral and developmental problems that are commonly seen in infants and young children (Jensen & Sinclair, 2002; Lieberman & Zennah, 1995; MacLean & Symons, 2002; Neary & Eyberg, 2002; Robinson, 2002). Professionals, including PCPs, who work with infants and young children encounter large numbers of children with behavioral and developmental problems that simply do not fit the DSM-IV criteria and/or do not meet specific thresholds for DSM-IV disorders. Consequently, when practitioners evaluate such children they may be uncertain about how best to classify children's problems using the DSM-IV. On the other hand, when they are given an opportunity to use an alternative diagnostic nomenclature system that includes a more comprehensive language with which to describe the full range of problems encountered in practice, they may identify behavioral problems with greater frequency. In support of this notion, Horwitz, Leaf, Leventhal,

Forsythe, and Speechley (1992) found that when pediatricians used a diagnostic nomenclature that provided a broader range of choices than does the DSM-IV, they identified higher rates of behavior problems than was typical in studies in which pediatricians have used the DSM-IV.

Until relatively recently, no organized, logically coherent alternative to the DSM-IV has been available to professionals to guide their diagnosis and management of behavioral and developmental problems of infants and young children. One major advance that is relevant to diagnostic classification was the *Diagnostic Classification 0-3* (Zero to Three/National Center for Infant Programs, 1994), which categorizes emotional and behavioral patterns that represent significant deviations from normal development in the earliest years of life. Some of the categories in this system, such as *regulatory disorders*, are new formulations of mental health and developmental problems. Others describe the earliest manifestations of mental health problems, such as *mood disorders*, which have been identified among older children and adults, but have not been fully described in infants and young children. In addition to a section that describes the primary diagnosis (Axis I), the *Diagnostic Classification 0-3* includes a classification of *relationship disorders*, (eg, overinvolved, underinvolved) (Axis II), which is a list of psychosocial stressors and a description of whether they are acute, or enduring, and a rating of their impact (Axis IV), and an assessment of functional developmental level (Axis V), which addresses the way in which the infant organizes his or her functioning (eg, mutual engagement, representational communication, etc).

The *Diagnostic Classification 0-3* also describes any physical (including medical and neurological), mental health, and/or developmental diagnoses that are made based on other diagnostic and classification systems (Axis III). Coding systems identified as relevant for this purpose include the DSM-IV, *International Classification of Diseases* (ICD-10), and the *Diagnostic and Statistical*

Manual for Primary Care (DSM-PC), Child and Adolescent Version (Wolraich, 1997; Wolraich, Felice, & Drotar, 1996). The newest and perhaps least known of these classification systems to many professionals who work with infants and young children and their families, the DSM-PC was developed by the American Academy of Pediatrics (AAP) in collaboration with a number of other organizations involving other professional disciplines such as psychology and psychiatry. Potential advantages of the DSM-PC for use with infants and young children compared with alternative coding systems, including the *Diagnostic Classification 0-3*, are comprehensiveness (eg, inclusion of a wide range of developmental and behavioral problems), availability of an expanded list of environmental stressors, and emphasis on a continuum of behavioral and developmental phenomena, which include normal variations, problems, and disorders.

The DSM-PC has been available for use by PCPs, including pediatricians and family practitioners, for more than 4 years. However, to my knowledge, the specific applications of the DSM-PC to the classification and management of behavioral and developmental problems of infants and young children have not been described. To address this need, the purpose of this article is to describe the DSM-PC, its application to diagnosis and management of problems identified in infants and young children, and the implications for interdisciplinary practice, training, and research.

WORKING ASSUMPTIONS THAT GUIDED THE DEVELOPMENT OF THE DSM-PC

The primary working assumptions that guided the development of the DSM-PC (Wolraich, 1997) included the following: (1) children, including infants and young children, demonstrate symptoms that vary along a continuum from normal variations to severe mental disorders that can be divided into clinically meaningful gradations; (2) the quality of children's environments, including their exposure to stress, has a critical impact on their

mental health and development; (3) a coding system for children's developmental and behavioral problems should be fully compatible with available classification approaches such as the DSM-IV and the ICD-10; (4) an effective coding system should be clear, concise, and usable; (5) a coding system should be based on available objective data and professional consensus; and (6) the language used in the coding system should be clear and verifiable by research.

DESCRIPTION OF THE CORE ELEMENTS OF THE DSM-PC

The DSM-PC includes a table of contents, introduction, and 2 major core content areas: Situations and Child Manifestations, and appendices. Each of these selections is briefly described below.

Table of contents and introduction

The table of contents for the DSM-PC is followed by a detailed list that includes the page number and code number of each diagnosis. A brief introduction then describes the purpose, key assumptions, and organization of the manual. The introduction also includes guidelines for using the DSM-PC such as locating information in the manual, a flow chart of steps in coding, and case illustrations of how to use the manual. Finally, the introduction includes a description of relevant issues in assessing the severity of the clinical needs of children and families.

Situations

The "Situations" section was designed to help practitioners to describe and evaluate the impact of stressful situations that present in primary care and community settings and can affect children's mental health. As shown in Table 1, the following categories of potentially stressful situations that were identified as the most common and/or well-documented are defined in the DSM-PC: challenges to primary support group (eg, marital discord/divorce), changes in caregiving (eg, physical illness of parent), other functional changes in

Table 1. Environmental situations defined in the DSM-PC

Challenges to primary support group
Challenges to attachment
Relationship
Death of parent/other family member
Marital discord/divorce
Domestic violence
Other family relationship problems
Parent-child separation
Changes in caregiving
Foster care/adoption/institutional care
Substance abusing parents
Physical abuse/sexual abuse
Quality of nurture problem
Neglect
Mental disorder of parent
Physical illness of parent
Physical illness of sibling
Mental/behavioral disorder of sibling
Other functional change in family
Addition of a sibling
Change in parental caregiver
Community or social challenges
Acculturation
Social discrimination/family isolation
Religious or spiritual problem
Educational challenges
Illiteracy of parent
Inadequate school facilities
Discord with peers/teachers
Parent/adolescent occupational challenges
Unemployment
Loss of job
Adverse effect of work environment
Housing challenges
Homelessness
Inadequate housing
Unsafe neighborhood
Dislocation
Economic challenges
Poverty/inadequate financial status
Inadequate access to health and/or mental health services, legal system or crime problem
Crime problem of parent
Juvenile crime problem
Other environmental situations
Natural disaster
Witness of violence
Health-related situations
Chronic health conditions
Acute health conditions

family (eg, addition of a sibling), community or social challenges (eg, acculturation), educational challenges (eg, parental illiteracy), parent or adolescent occupational challenges (eg, unemployment), housing challenges (eg, homelessness), economic challenges (eg, poverty/inadequate financial status), inadequate access to health and/or mental health services, legal system or crime problem (eg, parent or juvenile crime), other environmental situations (eg, natural disaster), and health-related situations (eg, chronic or acute health conditions).

Information concerning potential risk (eg, family dysfunction) and protective factors (eg, intelligence) is also provided to highlight factors that might be expected to make children more vulnerable or resilient to stressful situations to which they are exposed.

Child manifestations

The second major content area of the DSM-PC, child manifestations or symptoms, is organized into specific sections identified as behavioral clusters. Each of these sections is introduced by a specific presenting complaint that describes concerns in words that are typically used by parents. Examples of typical presenting problems for young children include the following: “my child is not yet talking” in the Speech and Language cluster or “finicky eating” in the Irregular Feeding cluster. Practitioners can readily access the major symptoms by referring to the index of presenting complaints, which are listed in alphabetical order in the appendix.

Children’s symptoms are grouped into the following 10 domains: (1) developmental competency (eg, learning and developmental problems); (2) impulsivity, hyperactivity, or inattention disorders; (3) negative/antisocial behaviors; (4) substance use/abuse; (5) emotions and moods (eg, sadness or anxiety); (6) somatic and sleep behaviors; (7) feeding, eating, elimination behaviors; (8) illness-related behaviors; (9) sexual behaviors; and (10) atypical behaviors (see Table 2).

Each description of the above clusters is presented in a comparable format that

Table 2. Childhood manifestations defined in the DSM-PC

Developmental competency
Cognitive/adaptive skills (MR)
Academic skills
Motor development
Speech and language
Impulsive/hyperactive or inattentive behaviors
Hyperactive/impulsive behaviors
Inattentive behaviors
Negative/antisocial behaviors
Negative emotional behaviors
Aggressive/oppositional behaviors
Secretive antisocial behaviors
Substance use/abuse
Substance use/abuse
Emotions and moods
Anxious symptoms
Sadness and related symptoms
Suicidal thoughts or behaviors
Somatic and sleep behaviors
Pain/somatic complaints
Excessive daytime sleepiness
Sleeplessness
Nocturnal arousals
Feeding, eating, elimination behaviors
Soiling problems
Day/nighttime wetting problems
Purging/binge eating
Dieting/body image problems
Irregular feeding behaviors
Illness-related behaviors
Psychological factors affecting medical condition
Sexual behaviors
Gender identity issues
Sexual development behaviors
Atypical behaviors
Repetitive behavioral patterns
Social interaction behaviors
Bizarre behavior

includes the cluster title, presenting complaints, definitions and symptoms, as well as information about epidemiology and etiology of specific problems. These formats were developed to guide practitioners to consider the following issues for each cluster: (1) the

spectrum of severity of a child's presenting problems; (2) common developmental presentations (eg, how problems in the cluster present during infancy, early and middle childhood, and adolescence; and (3) differential diagnosis. In order to facilitate practitioners' abilities to make differential diagnoses, information for each cluster is presented in an algorithmic format. Examples of differential diagnosis in a young child who is not talking might include speech and language problem, expressive language disorder, hearing impairment, mental retardation, etc.

Common developmental presentations

To help practitioners recognize how common symptoms (eg, anxiety) may be expressed among children of different ages, guidelines for symptom expression are provided in the DSM-PC to facilitate coding of variations, problems, and disorders in each of 4 age groups; infancy (birth to 2 years of age), early childhood (3–5 years of age), middle childhood (6–12 years of age), and adolescence (13 years of age and older).

Differential diagnosis

Information that is provided in each of the clusters that is designed to help practitioners make a differential diagnosis is divided into 2 sections: alternative causes and comorbid and associated conditions. The "Differential Diagnosis" section describes phenomena that need to be considered as alternative causes for specific behaviors including (1) general medical conditions; (2) substances, legal and illegal, that could cause behavioral manifestations; or (3) mental disorders that may present with similar behavioral symptoms and which, if present, should be coded in place of the disorder in the cluster.

Appendices

The appendices include a list of presenting complaints and page numbers, a section on diagnostic vignettes, which provide informative case material that can be used to practice coding, and a section that summarizes frequently occurring DSM-IV diagnoses and criteria that

are likely to be used by practitioners, including PCPs.

POTENTIAL UTILITY OF THE DSM-PC FOR CLINICAL PRACTICE WITH INFANTS AND YOUNG CHILDREN

The DSM-PC was designed to help practitioners accomplish 2 main clinical tasks: (1) distinguish among a range of behavioral and developmental problems that vary widely in severity and content and (2) identify a wide range of stressful situations that can affect the management of young children's behavioral and developmental problems.

Making diagnostic determinations across the spectrum of problem severity

One of the special features of the development of infants and young children is the extraordinary rate of developmental change that is observed in this age group. For this reason, it can be especially difficult for practitioners and parents to distinguish clinically significant problems from those that reflect normal developmental variations. One of the primary features of the DSM-PC is that it gives practitioners a method to distinguish among the severity of behavioral/developmental problems encountered in infants and young children by defining 3 broad categories: developmental variations, problems, and disorders. The first 2 categories reflect diagnoses that are newly defined by the DSM-PC. *Disorders* are those that have already been defined in the DSM-IV. *Developmental variations* refer to those behaviors that parents may raise as a concern to their PCP or other professionals but are within the range of what is expected for an infant or young child of that particular age (eg, separation anxiety in a 15-month-old child). The management of behaviors that are classified as developmental variations is most likely to be conducted by pediatricians or family practitioners and may include assuring parents that their infants or toddlers have age-appropriate behaviors and providing specific guidance to parents concerning the management of their children's behavior.

In contrast to developmental variations, *problems* are defined as behaviors that are serious enough to disrupt the young child's functioning in any one of a number of relevant developmental contexts, such as the family situation, in relations with peers, or in preschool, and cause significant burden or distress for the child and/or parents. Depending on the level of functional impairment that is associated with a young child's behavioral or developmental problem and/or degree of distress caused by the problem, behaviors or symptoms that are classified as problems may be managed by the PCP, referred to other practitioners, or referred for early intervention services.

Case illustration

The following case example illustrates how professionals can use the distinction between developmental variation and problem to facilitate their assessment and management of behavioral symptoms in infants and young children. The parents of Sally, age 2, have been concerned about her difficulties relating to other children. Whenever unfamiliar children come into her house, she initially avoids them. Eventually, she is able to establish interactions with children whom she knows. Having provided care for Sally since she was an infant, her pediatrician recognizes that she has always been a very shy child who has had difficulty managing any new situation. Her parents have always had to help her manage novel events, especially unfamiliar social situations.

Based on the DSM-PC, Sally's behavior can be categorized within the cluster: "Atypical Behaviors," as a *social interaction variation*, which is defined as "a variation in children's ability and desire to interact with other people because of constitutional and psychological factors" (Wolraich et al., 1996). In managing Sally's problem, her pediatrician might advise the parents that her social behavior is largely within normal limits and reflects the expression of her special temperament, especially her strong preference to withdraw rather than approach in response to new situations. In addition, her parents might be advised to anticipate the constraints of her temperament by not overwhelming her with new peer contacts. Finally, Sally's parents might be instructed to encourage and reward her interactions with familiar peers.

Consider the contrasting social interaction problems of 3-year-old Alex: His nursery school teacher contacted his parents because she was very concerned about his difficulty establishing contact with other children, despite repeated opportunities for him to do so after a number of months in preschool. He has preferred to stay near her and avoided other children for the most part. Alex also demonstrated great difficulty separating from his mother to attend preschool. His teacher also noted that Alex's avoidance of other children has interfered significantly with his relationships with peers who now avoid him. His behavior has become a significant source of concern to his mother who wonders whether she should take him out of preschool because of these problems. On the other hand, Alex's father does not believe that Alex has any problems, and the parents have disagreed strongly about how best to manage Alex's behavior.

Alex's problems are clearly more serious that would be expected for a child of his age, yet do not meet threshold for any DSM-IV diagnosis. Using the DSM-PC, one could classify Alex's behavior as a *social withdrawal problem*, defined as "the child's inability and/or desire to interact with people is limited enough to begin to interfere with the child's development and activities" (Wolraich et al., 1996). To help Alex's parents manage his problems, the PCP might recommend a more intensive evaluation and/or intervention that might necessitate referral to a mental health practitioner or a community-based early intervention program.

Assessing stability and change in young children's behavioral and developmental problems

As shown in the following clinical problem, the DSM-PC can also be used to assess stability versus change over time in the severity of infants' and preschoolers' behavioral and developmental problems.

Case illustration

Johnny is a 15-month-old child whose mother has been concerned about the fact that he has shown increased separation anxiety over the past few months. An interview revealed that his mother has recently taken a part-time job and the increase in Johnny's separation anxiety coincided with this event. According to the DSM-PC, this

would be coded as *developmental variation anxiety*, "which is defined as fears and worries that are appropriate for developmental age and do not affect normal development."

What if Johnny, who is now 3 years old, continues to demonstrate separation anxieties that have now become more pervasive? He can't let his mother out of his sight, becomes very upset, having temper tantrums when she leaves him. He is unable to attend preschool because of his anxieties. His mother is very stressed by this problem and has taken time off work to help manage it. The parents disagree about how to handle Johnny's problem, which is causing increased marital strain. Johnny's anxiety problem now fits the diagnosis of an *anxiety problem*, defined as "excessive worry or fearfulness that causes significant distress in the child, but does not meet the threshold for a DSM-IV diagnosis." At this point in time, the PCP might make a referral to a mental health provider for management of Johnny's anxiety.

What if Johnny's anxiety did not respond to intervention and he again presents at age 5 with anxiety-related symptoms, which have intensified? He now demonstrates the following symptoms: persistent and excessive worry about losing and possible harm coming to his mother and father, persistent refusal to go to preschool because of separation concerns, persistent fears of being alone, and persistent refusal to go to sleep without being near his mother. His symptoms now meet threshold for a separation anxiety disorder based on the DSM-IV and would warrant more intensive treatment such as cognitive-behavioral intervention, parental guidance, medication, or a combination of treatments.

Identifying stressful situations that affect the prognosis and management of young children's behavioral and developmental problems

The "Environmental Situations" section of the DSM-PC was designed to help practitioners identify stressful situations that might influence the expression, impact, and prognosis of children's behavioral and developmental problems. The codes for Environmental Situations can be used to describe the focus of clinical encounters in which parents, children, or other family members are counseled to manage the impact of stressful situations

(eg, parental divorce). By identifying clinically relevant stressful situations, practitioners can assess potential psychological risks to infants and young children that are associated with known environmental stressors and monitor the impact over time on the clinical management and prognosis of behavioral problems. For example, consider the case of the 18-month-old overly shy child, Sally, described earlier. What if the family practitioner learned that Sally's family had severe marital problems and that her mother was being abused by the child's father? Such information would clearly increase the level of professional concern and necessitate a number of additional interventions such as counseling her mother about the need to protect Sally and referral to a shelter for battered women.

Promoting a shared language for interdisciplinary collaboration, consultation, and training

Another relevant application of the DSM-PC concerns its potential use in promoting a shared language for collaboration and consultation among pediatricians and practitioners from a range of disciplines. The DSM-PC includes terms and concepts (eg, developmental variation and problems) that can be readily understood and do not depend on a specific professional or theoretical orientation. For this reason, PCPs and other practicing clinicians can use the DSM-PC to facilitate referral to other professionals by specifying the severity of a particular presenting problem and clarifying the need for interdisciplinary evaluation and management.

My experiences have indicated that the DSM-PC can be a very useful tool to train psychologists and mental health professionals who work in pediatric settings to understand the full range of clinical problems and environmental stressors seen in children when providing consultation to PCPs. Because the DSM-PC emphasizes the concept of a developmental continuum of behavioral problems, it is also quite compatible with teaching concepts of child development and developmental psychopathology and has been used for

this purpose in undergraduate level courses at Case Western Reserve University.

Monitoring community-based preventive intervention for young children at risk

One of the most interesting future applications of the DSM-PC from a public health standpoint concerns its potential to be used to target and monitor interdisciplinary, community-based preventive intervention for children at risk (Perrin & Stancin, 2002). Because the DSM-PC uses nontechnical language and is not tied to profession-specific diagnostic classification language, as is the case with the DSM-IV, it has the potential to be used to target and monitor interventions for infants and young children who are showing early signs of developmental and/or mental health problems and may be at risk for developing clinically significant developmental and/or mental disorders when they become older. In order to implement such community-based monitoring, the DSM-PC should be closely integrated with developmentally appropriate screening and assessment techniques (Nickel & Squires, 2002).

Communicating with parents about their infants' behavioral and developmental problems

The language of the DSM-PC describes a range of young children's presenting problems based on content categories and levels of severity that can be used to give parents feedback about their children's problems and a rationale for a recommended management approach. For example, in cases of less severe symptoms that are nevertheless distressing to family members, parents can be helped to learn that their infants' problems reflect average expectable developmental variations, such as individual differences in temperament. On the other hand, for more serious problems, the DSM-PC can also be used to help clarify the need for a referral to a mental health professional to parents (eg, that the child's symptoms are persistent, severe enough to cause distress in the family,

and are more severe than expected developmental variations for the child's age).

Limitations of the DSM-PC and diagnostic systems for use with infants and young children

Several limitations of the DSM-PC should be considered. For example, the DSM-PC does not address parent-child relational problems, which may be the focus of clinical attention for any number of infants and young children who present to PCPs and other professionals. Second, the DSM-PC provides relatively limited coverage of the spectrum of developmental problems and delays that are seen by practitioners who see infants and young children. A third limitation is that while the DSM-PC does offer an option to practitioners for diagnostic coding of young children's problems that do not reach threshold for a DSM-IV diagnosis, it does not provide an alternative to the diagnoses provided in the DSM-IV nomenclature. Finally, the DSM-PC does not provide specific information concerning how best to use it in practice (eg, instruments to be used and/or interventions).

Practitioners who apply the DSM-PC should also consider the limitations of using any diagnostic system, including the DSM-PC, with infants and young children. These include potential stigma and impact of diagnostic labels on parents and the importance of cultural variations in parental recognition and reporting of young children's problems and symptoms and acceptance of diagnostic information from professionals.

RECOMMENDATIONS TO ENHANCE APPLICATIONS OF THE DSM-PC WITH INFANTS AND YOUNG CHILDREN

The DSM-PC is a promising system for the classification of children's behavioral and developmental problems in pediatric and family practice settings (Wolraich, 1997). This method also has potential for broader utilization among professionals, especially those who work with infants and young children and their parents. Barriers to such utiliza-

tion include lack of professional awareness of the potential use of the DSM-PC, limited reimbursement for its use, and a limited research base to support the use of the DSM-PC (Wolraich, 1997). A number of strategies are needed to facilitate greater utilization of the DSM-PC including the following: continued dissemination of information concerning the DSM-PC, especially applications in practice settings, promotion of reimbursement for use of the DSM-PC, and development of research using the DSM-PC.

Disseminating information concerning the DSM-PC and application in practice settings

The DSM-PC is available from American Academy of Pediatrics Publications, PO Box 127, 141 Northwest Point Blvd, Elk Grove Village, IL 60009. Many professionals are still not familiar with the DSM-PC and its potential applicability to practice, teaching, and research; consequently, one strategy will be to promote awareness of the DSM-PC by disseminating information in professional meetings and articles in professional journals. Some specific methods have also been developed to facilitate the utilization of the DSM-PC, such as an application of the DSM-PC via computerized interviews for parents (Drotar, Sturmer, Nobile in press). Moreover, screening procedures for behavioral and developmental problems are quite compatible with use of the DSM-PC (Perrin & Stancin, 2002).

Methods of training professionals to use the DSM-PC have been developed that can be applied in different settings. One example is the use of videotapes of parent interviews that illustrate common presenting problems (Drotar, 1999). Practitioners can view these videotapes and use the DSM-PC to code the behavioral problems and environmental stressors that they have observed in the interviews.

Promoting reimbursement for using the DSM-PC and other relevant diagnostic coding systems

The limited reimbursement that pediatricians and other professionals receive for their

assessment and management of infants' and young children's behavioral and developmental problems, including problems coded by the DSM-PC, are powerful barriers to their use (Rappo, 1997). Consequently, an important strategy to promote reimbursement for professional use of the DSM-PC will be to educate third-party payers concerning the potential of the DSM-PC to document clinical practices concerning the management of behavioral and developmental problems in infants and young children, including criteria for referral of behavioral problems to mental health professionals (Rappo, 1997). As more and more practitioners use the DSM-PC and develop a track record of use in various settings, more data can eventually be provided to insurance companies. Moreover, it is possible that use of the DSM-PC may enhance the efficiency of referrals for young children with mental health problems from PCPs and ultimately reduce the costs of mental health care by encouraging earlier, more informed referral to early intervention services. However, this remains to be demonstrated.

Research applications of the DSM-PC

One of the most important future needs concerns research concerning various applications of the DSM-PC. One of the most important of these areas is to test the hypothesis, which is a central working assumption of the DSM-PC, that training pediatricians and/or other professionals to use the DSM-PC will result in increased recognition of behavioral and developmental problems and improved management.

Because the DSM-PC can classify the broad range of problems that present in primary care settings, it also provides a potential tool to conduct collaborative descriptive research concerning the incidence, prevalence, and

course of developmental and behavioral problems in infants and young children. With some notable exceptions (Lavigne et al., 1993), such data are very limited. The DSM-PC can also be used to document the patterns of stability versus change in common behavioral and developmental problems among infants and young children and to find out how such problems respond to various interventions. Other areas for future research applications concern how the DSM-PC categories relate to those used in other systems. For example, do children who present with developmental problems and variations according to the DSM-PC also present with relationship disorders according to the *Diagnostic Classification 0-3*? Do children who are identified as having *problems* according to the DSM-PC and who do not receive appropriate intervention go on to develop disorders according to the DSM-IV?

Finally, the DSM-PC can be used to document the incidence, prevalence, and diagnostic and treatment patterns concerning young children's behavioral and developmental problems that are at subthreshold level for a DSM-IV or *Diagnostic Classification 0-3* diagnosis but nonetheless reflect substantial functional impairment (Angold, Costello, Farmer, Burns, & Erkanli, 1999). The needs of such children for early diagnosis and preventive clinical management underscore the need for a comprehensive, public health approach to the mental health and developmental problems of infants and young children (Palfrey, Singer, Walker, & Butler, 1987). In order to implement such an approach, it would be important to integrate the use of DSM-PC with modern methods of developmental screening (Palfrey et al., 1987) and a comprehensive, community-based approach to early childhood mental health services (Knitzer, 2000).

REFERENCES

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- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author. 1995.
- Angold, A., Costello, E. J., Farmer, E., Burns, B. J., & Erkanli, A. (1999). Impaired but undiagnosed. *Journal of American Academy of Child and Adolescent Psychiatry*, 38, 129-137.
- Costello, E. J. (1986). Primary care pediatrics and child

- psychopathology: A review of diagnostic, treatment, and referral practices. *Pediatrics*, 78, 1044-1051.
- Costello, E. J., Edelbrock, C., Costello, A. J., Dulcan, M. K., Burns, B. J., & Brent, D. (1988). Psychopathology in pediatric primary care: The new hidden morbidity. *Pediatrics*, 82, 415-424.
- Drotar, D. (1999). The Diagnostic and Statistical Manual for Primary Care (DSM-PC) Child and Adolescent Version: What pediatric psychologists need to know. *Journal of Pediatric Psychology*, 24, 369-380.
- Drotar, D. (2002). Behavioral and emotional problems in infants and young children: Challenges of clinical assessment and intervention. *Infants & Young Children*, 14, 1-5.
- Drotar, D., Sturner, R., & Nobile, C. (in press). Diagnosing and managing behavioral and developmental problems in primary care: Applications of the DSM-PC. In B. G. Wildman, & T. Stancin (Eds.) *Treating children's psychosocial problems in primary care*. Westport, CT: Greenwood Press.
- Horwitz, S. M., Leaf, P. J., Leventhal, J. M., Forsythe, B., & Speechley, K. N. (1992). Identification and management of psychosocial and developmental problems in community-based, primary care pediatric practices. *Pediatrics*, 89, 480-485.
- Jensen, V. K., & Sinclair, L. V. (2002). Treatment of autism in young children: Behavioral intervention in applied behavior analysis. *Infants & Young Children*, 14, 42-53.
- Kelleher, K., & Rickert VI. Management of pediatric mental disorders in primary care. In: J. Miranda, A. A. Hohmann, C. C. Attkinson, D. B. Larson, (Eds.), *Mental disorders in primary care* (pp. 320-346). San Francisco: Jossey Bass; 1994.
- Knitzer, J. Early childhood mental health services: A policy and systems development perspective. In J. P. Shonkoff, S. J. Meisels (Eds.), *Handbook of early childhood intervention* (pp. 416-439). New York: Cambridge University Press. 2000.
- Lavigne, J. V., Binns, J. H., Christoffel, K. K., Rosenbaum, D. L., Arendt, R., Smith, K., et al. (1993). Behavioral and emotional problems among preschool children in pediatric primary care: Prevalence and pediatricians' recognition. *Pediatrics*, 91, 649-655.
- Lieberman, A. F., & Zennah, C. H. (1995). Disorders of attachment in infancy. *Child and Adolescent Psychiatric Clinics of North America*, 4, 571-587.
- MacLean, W. F., & Symons, F. (2002). Self-injurious behavior in young children. *Infants & Young Children*, 14, 31-41.
- Neary, E. M., & Eyberg, S. M. (2002). Management of disruptive behavior in young children. *Infants & Young Children*, 14, 53-67.
- Nickel, R. E., & Squires, J. Developmental screening and surveillance. In: R. E. Nickel, L. W. Desch (Eds.), *The physician's guide to caring for children with disabilities and chronic conditions* (pp. 15-27). New York: Paul H. Brookes Publishing Co. 2000.
- Palfrey, J. S., Singer, J. D., Walker, D. K., & Butler, J. A. (1987). Early identification of children's special needs: A study in the metropolitan communities. *Journal of Pediatrics*, 111, 651-659.
- Perrin, E., & Stancin, T. (2002). A continuing dilemma: Whether and how to screen for concerns about children's behavior. *Pediatrics in Review*, 23, 264-278.
- Rappo, P. D. (1997). Use of DSM-PC and implications for reimbursement. *Journal of Developmental and Behavioral Pediatrics*, 18, 175-177.
- Robinson, J. R. (2002). Attachment problems and disorders in infants and young children. Identification, assessment and intervention. *Infants & Young Children*, 14, 6-18.
- Wolraich, M. L. (1997). Diagnostic and Statistical Manual for Primary Care (DSM-PC) Child and Adolescent Version: Design, intent, and hopes for the future. *Journal of Developmental and Behavioral Pediatrics*, 18, 171-172.
- Wolraich, M. L., Felice, M. E., Drotar, D. (Eds). *The classification of child and adolescent mental diagnosis in primary care: Diagnosis and Statistical Manual for Primary Care (DSM-PC) Child and Adolescent Version*. Elk Grove, IL: American Academy of Pediatrics. 1996.
- Zero to Three/National Center for Infant Programs. *Diagnostic classification: 0-3. Diagnostic classification of mental health and developmental disorders of infancy and early childhood*. Arlington, VA: Author. 1994.

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