INVITED COMMENTARY

Behavioral Kernels and Brief Interventions:
Teaching Parents Effective Behavior Management Strategies

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Reducing the high prevalence of emotional and behavioral problems among youth requires that parents be given access to high-quality, effective parenting supports and interventions. Recently developed brief parenting interventions can be delivered without stigma in primary health care and other settings by a range of professionals.

Why should we be concerned about teaching parents effective behavior management strategies? Simply put, the quality of parenting is one of the most important influences on a child's development and well-being. However, recent research suggests that large numbers of youths and families are not faring well in this respect and may benefit from parenting support. Between 14% and 20% of young people (up to age 25) are estimated to have 1 or more mental, emotional, or behavioral disorders, with annual costs to society estimated at $247 billion [1]. Although evidence-based prevention and intervention approaches for psychosocial problems are receiving increased attention and support at federal and state levels, the majority of youths and families in need do not access these services or participate in interventions that are helpful [2]. This dire state of affairs suggests the urgent need for strategies to reach a much broader segment of the population [3].

Brief parenting interventions can be disseminated to a broader degree and by a more diverse, multidisciplinary set of providers across a wider array of service settings than can interventions of greater length or intensity. Brief interventions can therefore reach many more families in need, which is necessary if we are to alter the high prevalence rates of emotional and behavioral disorders among youth. Primary care services not related to mental health services are critical for extending the reach of evidence-based interventions. Because primary care visits carry no stigma and are widely accessible, they are excellent points of access to information and support for managing a wide variety of concerns about children's social, emotional, and behavioral functioning.

Brief parenting interventions are also needed because of changes in behavioral health care delivery that will continue to evolve over the next decade. The majority of behavioral health care is now being and will continue to be provided by primary care physicians, not mental health care workers [4]. In fact, because primary health care settings are the first place many individuals turn to for care, some of the largest health care providers (including the military) currently operate models of behavioral health care involving co-location with or integration with primary health care. A number of states, including North Carolina, are making significant strides toward such integration [5].

Establishing the infrastructure for integration of behavioral health services with primary care is a necessary but not sufficient first step in this process. Successfully reaching young people and families in need of behavioral health services also requires the availability of a range of short-term, effective, evidence-based interventions that can operate effectively in a primary care environment. This issue is exacerbated by the fact that evidence-based prevention and intervention approaches have not come into widespread use in the United States [6].

Behavioral Kernels

One way to reach many parents is through very brief elements of effective intervention that can be flexibly applied. Embry and colleagues [6] coined the term "evidence-based behavioral kernels" to describe very basic units of behavioral technology that have been demonstrated through research to be effective in changing behavior. These kernels represent the common elements embedded in effective evidence-based interventions [6, 7,]. Because kernels are (or can be) well defined, they are easily transmissible [8]. Examples of kernels include a wide range of well-known behavioral strategies such as verbal descriptive praise, warm greetings, time-out, praise notes, or nasal breathing.

Consider the common situation in which parents raise concerns about a child arguing with a sibling. The parents may not have thought about approaching this problem by identifying and increasing the rate of the behavior they would like to see instead of focusing on decreasing the behavior they do not want to see. In this example, the behav-

Electronically published February 8, 2013.

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N C Med J. 2013;74(1):57-59.
0029-2559/2013/74112

ior the parents would like to see might be playing nicely with a sibling. The parents would then be encouraged to pay close attention when their children are playing together, and to verbally praise the children for cooperating or playing nicely with one another—to get close to the children, gain their attention, and tell them what it is specifically that the parents like (eg, "I really like the way both of you are playing the game together"). Noticing and acknowledging a positive behavior frequently at first, and then only occasionally, can help to encourage and maintain a new behavior.

Kernels are embedded in many effective behavioral family interventions and may be the driving force behind positive outcomes obtained with longer interventions. For example, in a large-scale study designed to reduce rates of child maltreatment at a population level—the US Triple P System Population Trial—more than 10,000 Triple P tip sheets on ways of managing common developmental challenges in children were distributed to families [9]. Tip sheets were distributed by providers to parents during the course of brief interventions (1-4 contacts); each tip sheet included targeted behavioral strategies (many of which were kernels) for preventing or managing the behavioral issue of concern (eg, noncompliance). In this manner, kernels were broadly distributed and may have played a role in the positive impact on maltreatment indicators seen at a population level [10].

Because kernels appear to be easy to understand and to transmit, they may be perceived to be simple interventions. However, to believe that being small and easily transmissible equates to being simple may be incorrect. Kernels are irreducible, meaning that if any element of the procedure or strategy is altered or removed, it will cease to be effective. Thus a complete understanding of the elements of the strategy and how to apply them is required for producing change. For example, "time outs" are an effective behavior management strategy only if "time in," or the social context in which the behavior is embedded, is positive. A second consideration is the question of whether kernels are effective if they are separated from the larger intervention packages in which they are embedded [9].

The concept of kernels represents an ideal form of brief intervention that has the potential to be widely disseminated and thus to have substantial impact on the emotional and behavioral functioning of young people. Examples of several kernels, including praise notes, can be found at the Paxis Institute Web site (www.paxis.org). However, more work is needed to bring kernels into widespread use outside of the interventions in which they are often embedded. This work includes further development of materials that can be used to disseminate kernels directly, as well as research that examines how kernels are taught and implemented in real-world intervention settings. Fortunately, a number of evidence-based parenting interventions incorporate these kernels into brief interventions that are flexible enough to be delivered in primary care settings.

Brief Interventions

Brief interventions to address common developmental and behavioral challenges in children and adolescents are becoming more widespread. Primary examples include the brief interventions incorporated in the Triple P-Positive Parenting Program (Triple P) system of interventions. Triple P, a multilevel system of parenting support designed to promote positive parenting practices at a population level, is based on public health and community psychology approaches. Triple P consists of tiered interventions of increasing strength and intensity; brief Triple P interventions are specifically designed to be delivered in a wide variety of settings including primary care.

Several recent studies attest to the efficacy and effectiveness of these brief Triple P interventions for managing behavioral and emotional challenges. In a randomized controlled trial of a brief parenting intervention delivered over 3-4 sessions by child health nurses in a primary health care setting [11], 30 families with young children seeking advice about behavioral or developmental issues from 3 community health clinics were randomly assigned to intervention or to wait-list control conditions. Significant reductions were seen in the number of parent reports of child behavior problems, use of dysfunctional parenting strategies, parental anxiety, and parental stress, and these reductions were still present at 6-month follow up. No differences between groups were seen on direct observation of parent-child interactions; it is likely that this is because overall rates of behavior problems during the parent-child interactions were low. This study is significant because it demonstrates the feasibility of using health care staff as the agents of delivery and the potential outcomes that can be achieved.

Although brief one-on-one interventions are quite useful, in many settings small-group interventions may increase reach to parents. One recent study supports the efficacy of a brief parenting-discussion-group intervention for managing disobedience [12]. Sixty-seven parents of children aged 2-5 years residing in the Brisbane, Australia, metropolitan area were recruited based on their concerns about their child's disobedience and were randomly assigned to an intervention group or a waitlist control group. The intervention consisted of a single 2-hour discussion group with an average of 6 families per group; each family also received 2 follow-up telephone calls after the discussion group. Significant decreases were found in child behavioral problems and in the use of dysfunctional parenting strategies. Parents in the intervention group reported significantly greater levels of confidence in managing specific child behaviors and improved relationships with their parenting partners. These gains were maintained at 6-month follow-up.

Another method of delivering brief group interventions is via seminars, which provide the opportunity for larger numbers of parents to be exposed to brief interventions for management of children's behavioral and emotional problems.

Sanders and colleagues [13] examined the efficacy of a series of 3 seminars, each lasting 90 minutes, in changing parent and child behavior. The first seminar introduced parents to a range of positive parenting strategies, the second targeted management of externalizing behavior problems, and the third targeted resilience and managing internalizing behavior problems (eg, worries and fears). As part of a large-scale depression prevention effort known as Every Family, a randomized controlled study was conducted in which parents interested in attending seminars were randomized to the introductory seminar only, the seminar series, or a waitlist control condition. Significant reductions in child behavior problems for parents in both seminar conditions were found. Full seminar exposure resulted in significant reductions in dysfunctional parenting practices, as well as significantly reduced levels of parental conflict. Significant change in child behavior and parenting practices occurred with exposure to a single seminar only; however, exposure to all 3 seminars was needed for significant reductions in problematic parenting practices [13].

Sofronoff and colleagues [14] examined the initial efficacy of 2 seminars, each lasting 2 hours, which were developed as part of Stepping Stones Triple P, a Triple P variant developed for parents of children with disabilities aged 2-10 years [14]. Using a randomized, controlled trial design, significant reductions in child behavior problems, problematic parenting styles, and parental conflict were found that were maintained at 3-month follow-up. In addition, significantly increased parenting confidence was detected at follow-up that had not been evident at post-treatment.

Brief interventions have evidence of efficacy in helping parents make positive changes in their children's behavior and in their own functioning when delivered in a variety of flexible formats. These brief interventions are ideally suited for delivery in primary care settings by a range of professionals. However, continued research is needed to examine the effectiveness of these brief interventions in real-world delivery contexts.

Future research on brief interventions also needs to consider consumer preferences for delivery models. Accounting for parent preferences is an important factor in the development of new interventions, as parents are the agents of change for most effective interventions for youth behavior problems. Research is emerging in this area. Metzler and colleagues [15] used online survey methodology to examine parent preferences for receiving parenting information in a sample of 162 parents of children aged 3-6 years, and to obtain feedback about a prototype episode of an online version of Triple P. Parents preferred self-administered delivery formats (television, online) over home visits, therapist delivery, and group formats, and they rated the video format as engaging and realistic [15]. Brief interventions delivered in a variety of ways that are not dependent on face-to-face contact with providers have the potential for population-level impact on rates of emotional and behavioral problems in youths. NCMJ

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Acknowledgment

Potential conflicts of interest. C.J.S. works as a Training Consultant for Triple P America.

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