Commentary: Current Status and Future Directions in Acute Pediatric Pain Assessment and Treatment

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In the last decade, the paradigm used by researchers in the study of acute pediatric pain has broadened from simply examining the level of children's distress behaviors or reports of distress to discerning distress in a historical, medical, and social context. That context includes children's previous medical treatments, the different phases of the current procedure, the efficacy of particular coping behaviors used by children for reducing distress, and the influence of parents' and medical staffs' behaviors on children's coping and distress. Assessment research evaluating the proximal aspects of the Proximal-Distal Model of Children's Acute Procedural Distress During Acute Painful Medical Procedures (Blount, Bunke, & Zaff, in press; Varni, Blount, Waldron, & Smith, 1995) has produced clear implications for the design of empirically derived treatment protocols. Additional lines of research have examined the influence of the more distal factors, including temperament, coping styles, and other personality variables. Although some interesting findings have resulted from these studies, these findings have not yet proven heuristic for the development of treatment interventions. Whether this is due to the nature of, and associations among, these distal variables, or simply to researchers not using those results to develop effective treatments, remains to be seen.

Recommendations for the Future

Studies to Inform Development of Treatment Interventions

It is absolutely essential in the area of acute pediatric pain to assess not only children's distress, but also children's coping, adults' coping-promoting, and perhaps adults' distress-promoting behaviors. The amount of distress is largely a result of effective or ineffective coping, and both distress and coping are influenced by the coping-promoting and distress-promoting behaviors of adults. However, determining specifically what constitutes each of those behavioral categories requires following a logical, data-based process. Initial assessment studies should be inductive, allowing for an examination of discrete behavior to behavior associations. Using the information about which discrete behaviors cluster together as distress or coping, and which adult behaviors are associated with children's coping or distress, the researcher is justified in combining discrete behavioral codes into larger constructs such as coping, or coping promoting (see Blount et al., 1997). This avoids the pitfalls of relying too heavily on clinical lore or the researcher's personal beliefs. Initial investigations into new areas of acute procedural pain should ideally proceed on a similar basis while simultaneously borrowing from previous research.

Using this approach in assessment studies, the
researcher is essentially conducting a functional analysis of children’s coping and distress behaviors and discovering empirical associations among temporally and functionally proximal variables, which are the likely antecedents and consequences to the children’s behaviors. Later, in a matching-to-sample approach, children who have high distress can be trained to behave similarly to those children who have low distress and high levels of coping. Also, adults can be trained to prompt the desired coping behaviors. This approach to assessment research is an excellent guide for developing future treatment interventions in a variety of areas in which children of different ages and characteristics experience procedural pain (see Blount et al., in press).

**Treatment**

Currently, distraction appears to be the common component used in cognitive behavioral treatments for reducing procedural distress in young children. Distraction is an active process of diverting attention from the hurt, pain, fear, and anxiety to something incompatible with those experiences. Distraction requiring the performance of overt behaviors is preferred to covert forms of distraction because the researcher can observe the performance of the coping behavior. Distraction behaviors should be highly engaging and easy to perform, particularly during the more painful aspects of medical procedures. Other techniques, such as relaxation and imagery, may be employed to augment treatment effects. However, even with these techniques, the researcher should attempt to encourage the performance of observable behaviors by the child. Future research should focus on more effective and efficient ways to distract children during acute painful medical treatments.

Another direction for future research is to investigate the efficacy of pharmacological and psychological interventions when used in combination or when compared to each other. State of the art versions of both types of treatments should be used. For example, there are now topical anaesthetics available in cream form, such as EMLA (see Buckley & Benfield, 1993), which provide good local anaesthesia. Treatment comparison studies that include combined treatments are the wave of the future, and studies of this type will be limited only by the creativity of the psychosocial and pharmacological researchers. The two treatment approaches work through different mechanisms, and hence may exert their therapeutic effects during different phases of medical procedures. Research in this area should evaluate long-term in addition to short-term effects, side-effects, cost-effectiveness, and consumer preferences.

Matching of treatment to child characteristics is another worthy area of investigation. Thus far, the literature indicates that children who were highly distressed during past procedures, or who display high levels of preprocedural distress, are more likely to be distressed during future medical procedures. Also, children who endorse using an approach coping style typically cope better with a variety of medical procedures than do their avoidant counterparts. In addition, there is an inverse relationship between age and distress. This research is useful for predicting which children need coping skills programs. However, little research provides clear guidelines for selecting a particular treatment approach for any given child. The literature on coping styles has been suggested for that purpose, but has not yielded treatment implications commensurate with the quantity of explicative research in that area. Few other guidelines exist for personalizing treatment components to child characteristics.

**Dissemination**

There has been little research on the dissemination of psychologically based treatment programs for acute pediatric pain. As a guiding principle for work in this area, we suggest (Blount, 1987) that researchers first focus on developing effective treatments, then refine the treatment to make it efficient and more easily disseminated. This philosophy has also guided our development of assessment instruments. Placing ease of use ahead of effectiveness is counterproductive.

In dissemination efforts the factors of cost-effectiveness, ease of use, time required, and children’s, parents’, and medical staffs’ satisfaction with and preferences for one treatment over another will be important variables in determining whether acute pain treatment programs are used on a widespread basis (Cohen, Blount, & Panopoulos, 1997). These dependent variables should be considered for routine inclusion by researchers in this area.

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References


