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Cognitive Behaviour Therapy for Post Traumatic Stress Disorder

Patrick Smith, Sean Perrin, & William Yule

It is only relatively recently that Post Traumatic Stress Disorder (PTSD) has been recognised in children. Controlled treatment outcome studies of childhood PTSD are scarce, but those that exist indicate that Cognitive Behaviour Therapy (CBT) is an effective intervention. In this article, we briefly describe PTSD in children and outline some behavioural and cognitive models of the disorder. Derived from these models, prolonged therapeutic exposure and cognitive restructuring as part of a CBT package are then described. In practice, effective therapy will include more than exposure-based work, and additional procedures, including work with parents, are highlighted. While CBT is the treatment of choice of PTSD in childhood, there is an urgent need for further treatment outcome studies.

Keywords: Cognitive behaviour therapy; PTSD; emotional processing; exposure therapy; cognitive restructuring; therapeutic groups; working with parents

Introduction

Cognitive Behaviour Therapy (CBT), especially for children and adolescents, has become a fairly broad banner. A 'CBT package' will now often encompass diverse elements, ranging from psychoeducational work, problem solving strategies, and skills teaching, to behaviourally based exposure methods, and the use of specific techniques to modify distorted cognitions. CBT therefore includes elements that are common to a number of therapeutic approaches. What distinguishes CBT is its therapeutic style, and the theoretically based nature of specific techniques. The therapeutic stance in CBT has been characterised as that of a 'collaborative educator' (Kendall, 1991): the approach is time limited, goal oriented, and based in the 'here and now'. The distinctive intervention techniques of CBT are those based on learning theory and information processing theories. The former holds that behavioural change may be effected by influencing antecedents and consequences; whereas the latter seek to show how cognitions may drive behaviour, and thus how altering cognitions can lead to behavioural and affect change (see Graham, 1998). In practice, CBT with children often seeks to preserve the demonstrable efficacy of behavioural techniques, but within a less

doctrinaire context that takes account of children's cognitive interpretations and attributions about events. In this short article, we ask how the principles and practice of CBT can help us understand and treat Post Traumatic Stress Disorder in young people.

It is only relatively recently that Post Traumatic Stress Disorder (PTSD) has been codified for children, but our understanding of how children react to traumatic events has advanced considerably in the last 10 years (see Pfefferbaum, 1997; Perrin, Smith, & Yule, 1998 for reviews). The disorder is characterised by three clusters of symptoms following exposure to a traumatic event: re-experiencing symptoms (nightmares, flashbacks, intrusive thoughts and images); avoidant symptoms (trying to avoid thinking or talking about the event, and behavioural avoidance of reminders); and arousal symptoms (hypervigilance, an exaggerated startle response, problems in sleeping and concentrating). There is now evidence for the manifestation of such symptoms in children in response to a wide range of traumas, such as natural disasters (Galante & Foa, 1986; Goenjian, 1993), violent crime (Schwartz & Kowalski, 1991), sexual abuse (McCleer et al., 1992), serious medical illness (Nir, 1984), and war (Kinzie et al.,

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1986; Saigh, 1991). Recent work has moved towards clarifying risk and moderating factors such as the level and type of trauma, child's age and gender, and family reactions (e.g., Foy et al., 1996; McFarlane, 1987). Certainly not all exposed children go on to develop the disorder, but if left untreated it may persist for years in a substantial minority. Children with PTSD are at higher risk of developing other disorders in the face of subsequent adversity, and PTSD may cause impairment in social and academic functioning, even at sub-clinical levels (Giaconia et al., 1995). PTSD in young people is therefore a major public health concern, and effective interventions are clearly needed.

Conceptual background

Cognitive behaviour therapies are based on empirically supported theories of psychological dysfunction. Recent work has therefore sought to develop models of the underlying mechanisms of PTSD in children, and these lead directly to intervention strategies. Following Keane, Zimmering, and Caddell's (1985) work with adults, Saigh (1992) has described in detail how Mowrer's two factor learning theory is useful in conceptualising the development of PTSD in children. Briefly, under this model, the traumatic event is an unconditioned stimulus that elicits certain involuntary responses: orientation to the threat cue; autonomic arousal; fear; and the behavioural 'flight or fight' response. Because of their proximity to the threatening event, previously neutral stimuli become conditioned stimuli, capable of eliciting these same involuntary responses. Extinction of the conditioned response fails to occur because the traumatised individual is negatively reinforced for avoiding the conditioned stimuli. Instead, higher order conditioning and stimulus generalisation may lead to other previously neutral stimuli eliciting the same conditioned anxiety response. Thus, the traumatised child finds himself or herself confronted with a wide array of anxiety-eliciting cues in the environment that cause persistent hyperarousal, intrusive recall of the traumatic event, and behavioural avoidance of the conditioned cues. As far as intervention is concerned, the prediction from this model is that prolonged therapeutic exposure to traumatic memories or reminders in the absence of the original unconditioned stimulus will lead to extinction of the anxiety response and a reduction in intrusive recall of the event.

However, this fundamental behavioural account cannot help in explaining individual differences in reactions (Foa, Steketee, & Rothbaum, 1989). For example, not all exposed children go on to develop PTSD, and the relationship between the severity of exposure and subsequent outcome is far from clear (Earls et al., 1988; Foy et al., 1996). This implies that stressors cannot be completely defined in objective terms (Rachman, 1980). Cognitive models therefore take into account individual differences in threat appraisal, attributions, and the meaning ascribed to the traumatic event. Broadly, cognitive accounts hold that individuals themselves bring to

the traumatic event a set of beliefs and models of the world. Exposure to trauma provides information, which is incompatible with these models, and yet highly salient. PTSD results because of a failure to integrate this new information into preexisting meaning structures (Dalglish, 1999). For example, Foa and Kozak (1986) propose that traumatic events lead to the development of fear structures in long-term memory that encompass stimulus information about the traumatic event; information about the cognitive, behavioural, and physiological reactions to the event; and information that links these stimulus and response elements together. Such fear networks are large, intense, and readily accessible. Activation of the fear structure leads to increases in arousal and re-experiencing, and attempts to suppress such activation lead to avoidant behaviours. Successful resolution of the trauma can only occur by activating the fear network and providing corrective information, both cognitive and affective, which is incompatible with that in the fear network, thereby integrating the fear network into existing memory structures.

Although developed from work with traumatised adults, there is emerging evidence that the role of threat appraisal, attributional processes, and attitudinal changes central to cognitive accounts of PTSD in adults are also important factors that mediate the re-integration of traumatic memories in children. In line with adult work (e.g. Foa, Feske, & Murdoch, 1991; Thrasher, Dalglish, & Yule, 1994), Moradi et al. (1997) have reported a specific attentional bias to trauma-related material in children with PTSD, using a modified Stroop task. Attributional processes can also mediate symptoms: in young survivors of a shipping accident, Joseph, Brewin, Yule, and Williams (1993) found that more internal and controllable attributions were associated with intrusive thoughts and depressive feelings one year after the accident. Consistent with the adult literature regarding the 'shattering' of pre-trauma assumptions (Janoff-Bulman, 1992), Johnson et al. (1996) report evidence of attitudinal changes in children who survived an earthquake, which were related specifically to PTSD symptomatology.

Complementing the behavioural account above, the prediction from such cognitive models is that therapeutic exposure ('activating the fear network') is a necessary—but probably not sufficient—component of an effective intervention. Behavioural and cognitive accounts of PTSD are broadly compatible. Both imply that exposure to trauma related cues and memories in tolerable doses is necessary to reduce PTSD symptoms, and this forms the basis for cognitive-behavioural interventions.

Techniques used in CBT

At the core of CBT for PTSD in children is therefore the use of imaginal and *in vivo* exposure techniques within a safe therapeutic environment. Saigh (1987a, b, 1989) has provided informative single case studies and detailed protocols (Saigh, 1992). In imaginal exposure, the child is

asked to imagine and recount their traumatic experience, while *in vivo* exposure refers to the real life confrontation of traumatic cues or reminders. The problem for the clinician is how to help the survivor remember and reexperience the event and the emotions that it engenders in such a way that the distress can be mastered rather than magnified. This will depend foremost on the establishment of a safe and trusting environment in which the traumatic event can be remembered and discussed. Therapists must be prepared to ask children about the most difficult aspects of the traumatic experience, but at the same time ensure that exposure to traumatic memories is paced in such a way that the child does not experience overwhelming anxiety. For many children, talking directly about the traumatic event may be too difficult and other means of accessing traumatic memories must be found. Asking children to draw their experiences often assists in the recall of both the event and the accompanying emotions (Pynoos & Eth, 1986), and with younger children, play may be used similarly (Misch et al., 1993). Exposure work may be preceded by coping skills training: children may be taught deep muscle and breath relaxation, and positive imagery training, among other skills. A 'script' of the event is then developed, with the child providing a first-person present-tense account, including details of what they saw, heard, felt, and thought during the event. The child is instructed in the use of SUDs (Subjective Units of Distress) scales to rate their anxiety; and then asked to recount the experience while the therapist prompts for SUDs. Particular attention is paid to points in the account that are poor in detail or that elicit high SUDs. Here, the child will be asked to provide greater detail and to hold the image in mind until SUDs scores decrease. It is crucial that the child feels in control of exposure sessions, that they are paced appropriately, and that they are sufficiently long. At the end of every session, children will practise their relaxation skills so that they can leave the session without feeling unduly aroused. Concurrently, and usually with parents' involvement, between session homework assignments utilising gradual *in vivo* exposure to traumatic reminders will be designed to address behavioural avoidance. Homework might also include further imaginal exposure, for example, by asking the child to listen to a tape recording of their session.

Additional protocols

While this kind of therapeutic exposure seems to deal well with intrusive and avoidance symptoms, a CBT package will usually be broad based and include components to treat other common reactions, such as sleep disturbance, separation anxiety, anger and conduct problems, prolonged grief reactions, and generalised anxiety.

For example, sleep disturbance is common after exposure to traumatic events, and a careful analysis will reveal whether the problem is one of getting off to sleep or in waking due to trauma-related nightmares. In the former case, implementing relaxation routines before bed and

masking thoughts with music may help (Yule & Williams, 1990). In the latter, rehearsal relief of nightmares, or dream restructuring techniques, may be useful (Palace & Johnston, 1989). In younger children, night-time enuresis may be present, and this may be treated using star charts and enuresis alarm techniques at the same time as addressing the central trauma.

Given the nature of traumatic events, children are frequently bereaved as a consequence. Pynoos and Nader (1988) emphasise the need to help children to distinguish their trauma-related responses from those related to grief, and suggest that where several children are bereaved, small groups can be beneficial in the initial stages. Dyregrov's (1993) account of the distinguishing features of traumatic bereavement implies that the traumatic nature of the death and post trauma reactions need to be addressed before grieving can begin. Black (1993) uses a wide variety of techniques, including the use of drawings and play, in her work with children who have been bereaved as a consequence of one parent killing another. Importantly, she also describes how family work, including that with new carers, is necessary in cases where a child has lost a parent.

Guilt, self-blame, helplessness, and vulnerability are common themes among older children and adolescents who have survived traumatic events. While these may be related to depressive features, they are often seen to have a different quality to them. Children may talk of omens, for example, relating perhaps to a search for meaning as well as being related to issues of culpability. In work with younger children, it is important that any misunderstandings about the causes of the event are clarified, while with older children, cognitive restructuring may be used to counter misattributions of predictability, causality, and responsibility (Janoff-Bulman, 1992).

Working with parents and groups

Children and parents will often have been exposed to the same traumatic event and, in this case, they can get locked into cycles of not talking about the event, for fear of upsetting each other. Families that are unable to talk about the event and its aftermath in this way are likely to fare worse in terms of psychological outcome (McFarlane, 1987). Working with parents is therefore a crucial aspect of CBT treatment. Parents need to be given information about the effects of traumatic exposure on children and adults. Normalising their child's reaction in this way may be a first step in enabling the family to talk through what has happened. Parents also need to know that avoidance of talking about the event is likely to maintain their child's distress, and they should be encouraged to listen to their children and answer their questions about what has happened in an honest and straightforward way. Parents may be engaged as co-therapists, helping children with between session exposure work; and can be encouraged to set aside a special time to talk at home if necessary.

Traumatic events may occur on a large scale, and then effective group treatments are desirable. Galante and Foa (1986) and Yule and Williams (1990), for example, have described broad-based cognitive behavioural therapeutic group protocols for children who survived an earthquake and a shipping disaster. Although differing in details, the aims of both groups included the sharing of feelings and experiences, boosting children's sense of coping and mastery, and sharing ways of solving common problems. Goenjian (1993) has also described in detail the implementation of a mental health relief programme in Armenia following an earthquake, utilising broadly based cognitive behavioural therapies within the context of rebuilding services. CBT interventions, being rationally based, goal oriented, flexible, and short-term, are well suited to this sort of large-scale development programme.

A key component of Goenjian's (1993) mental health relief programme in Armenia was attention to the needs of the local therapists, themselves often affected in similar ways to the children. Although efforts aimed at 'burnout prevention' or 'helping the helpers' are common components of these sorts of international relief programmes (e.g., Hacam et al., 1998), arguably less attention is given to the needs of therapists who work in civilian, peacetime, non-disaster settings. Various terms secondary traumatic stress disorder, or compassion fatigue, Figley (1995) has argued forcibly that therapists must be aware of their own reactions, and take steps to cope with them—team debriefings, or peer supervision groups for example—if they are to remain effective therapists.

Efficacy

Three controlled studies have shown that CBT is an effective treatment for children with PTSD. Deblinger, Lippman, and Steer (1996) found that individual CBT or joint parent/child CBT was superior to a community treatment control group in reducing PTSD symptoms in sexually abused children. Cohen and Mannarino (1996) also found that a trauma focused CBT intervention for sexually abused preschoolers and their parents was superior to nondirective supportive therapy. After the Armenian earthquake, Goenjian et al. (1997) found that the schools-based group intervention referred to above was more effective than no treatment. In an earlier uncontrolled trial of a 12 session CBT programme with 19 sexually abused and traumatised children, Deblinger, McCleer, and Henry (1990) found that each major category of PTSD symptoms improved, and although some children were still symptomatic post treatment, none met criteria for diagnosis. More recently, March et al. (1998) have reported on an uncontrolled trial of a broad based, 18 session cognitive behavioural group treatment trial for children followed a variety of single incident stressors, with promising results: 8 of 14 children were free of PTSD at the end of treatment, and a further 4 children were free of PTSD 6 months later (an overall recovery rate

of 86%). Last, Saigh's series (1987a, b, 1989) of single case multiple baseline across traumatic scene studies for children affected by war is convincing, and promising for behaviourally based exposure treatments.

Summary and further research

Therapeutic exposure in the context of a safe and trusting relationship is at the heart of cognitive behavioural techniques for treating PTSD in children. Care must be taken that exposure sessions are sufficiently long for desensitisation to occur and for emotional processing to be promoted: repetitive retelling alone is not enough. CBT packages tend to be flexible and broadly based, so that in addition to exposure work, a variety of other techniques is commonly used, both to target particularly distressing symptoms and to bolster coping strategies for the future. It remains true, however, that CBT for PTSD in children has tended to focus more on the behavioural than the cognitive aspect, and there is sometimes a wide gap between the sorts of theoretical models used to explain PTSD, and clinical practice. Further work is needed, for example, in examining what sorts of changes in (preconscious) information processing accompany PTSD in children; and in investigating children's post traumatic attitudinal and attribution changes. A fuller understanding of the cognitive processes in PTSD in children may help in the refinement of effective interventions. Most importantly, controlled treatment outcome trials of CBT for childhood PTSD are scarce, and there is clearly an urgent need for further controlled treatment trials.

References

- Black, D. (1993). When father kills mother. In G. Forrest (Ed.), *Trauma and crisis management*. London: ACPP Occasional Papers, 8.
- Cohen, J. A., & Mannarino, A. P. (1996). A treatment outcome study for sexually abused preschool children: Initial findings. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 42–50.
- Dagleish, T. (1999). Cognitive theories of post traumatic stress disorder. In W. Yule (Ed.), *Post traumatic stress disorders*. Chichester: Wiley.
- Deblinger, E., Lippman, J., & Steer, R. (1996). Sexually abused children suffering posttraumatic stress symptoms: Initial treatment findings. *Child Maltreatment*, 1, 310–321.
- Deblinger, E., McCleer, S. V., & Henry, D. (1990). Cognitive behavioral treatment for sexually abused children suffering posttraumatic stress: Preliminary findings. *Journal of the American Academy of Child and Adolescent Psychiatry*, 19, 747–752.
- Dyregrov, A. (1993). The interplay of trauma and grief. In G. Forrest (Ed.), *Trauma and crisis management*. London: ACPP Occasional Papers, 8.
- Earls, F., Smith, E., Reich, W., & Jung, K. G. (1988). Investigating psychopathological consequences of disaster in children: A pilot study incorporating a structured diagnostic

- interview. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 90–95.
- Figley, C. R. (1995). *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatised*. New York: Brunner/Mazel.
- Foa, E. B., Feske, U., & Murdoch, T. B. (1991). Processing of threat related information in rape victims. *Journal of Abnormal Psychology*, 100, 156–162.
- Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99, 220–35.
- Foa, E. B., Steketee, G., & Rothbaum, B. O. (1989). Behavioural-cognitive conceptualisations of post traumatic stress disorder. *Behaviour Therapy*, 20, 155–176.
- Foy, D. W., Madvid, B. T., Pynoos, R. S., & Camilleri, A. J. (1996). Etiologic factors in the development of post traumatic stress disorder in children and adolescents. *Journal of School Psychology*, 34, 133–145.
- Galante, R., & Foa, D. (1986). An epidemiological study of psychic trauma and treatment effectiveness after a natural disaster. *Journal of the American Academy of Child Psychiatry*, 25, 357–363.
- Giaconia, R. M., Reinherz, H. Z., Silverman, A. B., Pakiz, B., Frost, A. K., & Cohen, E. (1995). Traumas and post traumatic stress in a community population of older adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 1369–1380.
- Goenjian, A. K. (1993). A mental health relief programme in Armenia after the 1988 earthquake. *British Journal of Psychiatry*, 163, 230–239.
- Goenjian, A. K., Karayan, I., Pynoos, R., Steinberg, A., Najarian, L., Asarnow, J., Ghurabi, M., & Fairbanks, L. (1997). Outcome of psychotherapy among early adolescents after trauma. *American Journal of Psychiatry*, 154, 536–542.
- Graham, P. (Ed.) (1998). *Cognitive behaviour therapy for children and families*. Cambridge: Cambridge University Press.
- Hacam, B., Smith, P., Yule, W., & Perrin, S. (1998). *Psychological services for children in war*. Paper presented to the 14th International Congress of the International Association for Child and Adolescent Psychiatry and Allied Professions, Stockholm, August.
- Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York: Free Press.
- Johnson, K. M., Foa, E. B., Jaycox, L. H., & Rescorla, L. (1996). *Post trauma attitudes in traumatised children*. Poster presented to the Annual Conference of the International Society for Traumatic Stress Studies, San Francisco, CA.
- Joseph, S., Brewin, C., Yule, W., & Williams, R. (1993). Causal attributions and psychiatric symptoms in adolescent survivors of disaster. *Journal of Child Psychology and Psychiatry*, 34, 247–253.
- Keane, T. M., Zimmering, R. T., & Caddell, J. M. (1985). A behavioural formulation of PTSD in Vietnam veterans. *Behaviour Therapist*, 8, 9–12.
- Kendall, P. C. (Ed.) (1991). *Child and adolescent therapy: Cognitive behavioural procedures*. New York: Guilford Press.
- Kinzie, J. D., Sack, W. H., Angell, R. H., Manson, S., & Rath, B. (1986). The psychiatric effects of massive trauma on Cambodian children I: The children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 25, 377–383.
- March, J. S., Amaya-Jackson, L., Murray, M. C., & Schulte, A. (1998). Cognitive behavioural psychotherapy for children and adolescents with posttraumatic stress disorder after a single incident stressor. *Journal of the American Academy of Child and Adolescent Psychiatry*, 137, 585–593.
- McCleer, S. V., Deblinger, E., Henry, D., & Orvaschel, H. (1992). Sexually abused children at high risk for post traumatic stress disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 875–879.
- McFarlane, A. C. (1987). Family functioning and overprotection following a natural disaster: The longitudinal effects of post traumatic morbidity. *Australia and New Zealand Journal of Psychiatry*, 21, 210–218.
- Misch, P., Phillips, M., Evans, P., & Berkowitz, M. (1993). Trauma in preschool children: A clinical account. In G. Forrest, *Trauma and crisis management*. London: ACP Occasional Papers, 8.
- Moradi, A., Dagleish, T., Taghavi, R., Neshat-Doost, H., & Yule, W. (1997). *Attention and memory in children and adolescents with PTSD*. Paper presented to the Annual conference of the International Society for Traumatic Stress Studies, Quebec, Canada, November.
- Nir, Y. (1984). Post traumatic stress disorder in children with cancer. In S. Eth & R. S. Pynoos (Eds.), *Post traumatic stress disorder in children* (pp. 121–132). Washington, DC: APA.
- Palace, E. M., & Johnston, C. (1989). Treatment of recurrent nightmares by the dream reorganisation approach. *Journal of Behaviour Therapy and Experimental Psychiatry*, 20, 219–226.
- Perrin, S. G., Smith, P. A., & Yule, W. (1998). Post traumatic stress disorder. In M. Hersen & A. Bellack (Eds.), *Comprehensive clinical psychology, Vol. 5. Children and adolescents: Clinical formulation and treatment*. Oxford: Elsevier Science.
- Pfefferbaum, B. (1997). Posttraumatic stress disorder in children: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1503–1511.
- Pynoos, R. S., & Eth, S. (1986). Witness to violence: The child interview. *Journal of the American Academy of Child and Adolescent Psychiatry*, 25, 306–319.
- Pynoos, R. S., & Nader, K. O. (1988). Psychological first aid and treatment approaches for children exposed to community violence. *Journal of Traumatic Stress*, 1, 243–267.
- Rachman, S. J. (1980). Emotional processing. *Behaviour Research and Therapy*, 18, 51–60.
- Saigh, P. A. (1987a). In-vitro flooding of an adolescent's post-traumatic stress disorder. *Journal of Clinical Child Psychology*, 16, 147–150.
- Saigh, P. A. (1987b). In-vitro flooding of a childhood post-traumatic stress disorder. *School Psychology Review*, 16, 203–211.
- Saigh, P. A. (1989). The use of in-vitro flooding in the treatment of a traumatized adolescent. *Journal of Behavioural and Developmental Paediatrics*, 10, 17–21.
- Saigh, P. A. (1991). The development of post traumatic stress disorder following four different types of traumatisation. *Behaviour Research and Therapy*, 29, 213–216.
- Saigh, P. A. (1992). The behavioural treatment of child and

- adolescent posttraumatic stress disorder. *Advances in Behaviour Research and Therapy*, 14, 247–275.
- Schwartz, E. D., & Kowalski, J. M. (1991). Posttraumatic stress disorder after a school shooting. *American Journal of Psychiatry*, 148, 592–597.
- Thrasher, S. M., Dalgleish, T., & Yule, W. (1994). Information processing in posttraumatic stress disorder. *Behaviour Research and Therapy*, 32, 247–254.
- Yule, W., & Williams, R. (1990). Post traumatic stress reactions in children. *Journal of Traumatic Stress*, 3, 279–295.