Post-traumatic stress disorder

A 1996 report from the Child Accident Prevention Trust¹ reminds us that “Every year in the UK about 700 children die, 120 000 are admitted to hospital, and over 200 000 attend accident & emergency departments as a result of accidents.” (The most common accidents were falls, followed by road traffic accidents.) Overall, 9% of the children attending three A&E departments scored so highly on a screening scale for post-traumatic stress disorder (PTSD) that a diagnosis of PTSD was extremely likely. Half the children involved in road traffic accidents were judged likely to have PTSD. Other, larger studies of child survivors of road traffic accidents^{2,3} found that 33% met criteria for a diagnosis of PTSD, with even more showing subthreshold clusters of distressing symptoms. After six months, one in six still presented with the full blown syndrome.

Until 15 years ago, it was widely accepted that most children responded to frightening events with transient distress and that not all children who experienced a potentially traumatic event reacted with disabling stress reactions.⁴ One reason for underestimating the effects of traumatic events on children was that the evidence was incomplete. Put simply, the bulk of the existing evidence came from data provided by parents and teachers. Few investigators had done what is now so obvious—they had not asked the children themselves!

PTSD was first officially recognised as a syndrome by the American Psychiatric Association in 1980. It was classified as an anxiety disorder and three main groups of symptoms were seen as characteristic: distressing and recurring recollections of the traumatic event; avoidance of stimuli associated with the trauma; and a range of signs of increased physiological arousal.⁵

Today, PTSD has become so widely discussed that trauma counsellors and specialists are expected to arrive in droves whenever major, and often minor, disasters occur. To some, it may seem that the disorder is potentially so commonplace as to have lost all credibility.⁶ I believe that PTSD is susceptible to clear diagnosis, that it is real, that it is distressing and disabling, that it can be long lasting, and that it can be treated. Moreover, paediatricians are very likely to encounter it among children who present following accidents, particularly road traffic accidents, and so they should consider ways to ameliorate the predictable emotional consequences of acts that bring children to A&E departments.

Characteristics of PTSD

When a child is faced with a very frightening, perhaps life threatening, situation he or she may become very distressed: crying, clinging, shaking with fear. If the upset is very great, they may go into shock and be largely unresponsive to outside stimulation for some time. These are normal reactions that have evolved as protective mechanisms. At times of danger, we need to be able to concentrate on what is threatening us to the exclusion of other, less relevant stimuli; we also need to be prepared to fight or flee. When the danger passes, a slow return to normal can usually be expected. But in some cases, such return to a normal state is elusive. Symptoms persist both day and night. This is when an *adjustment reaction* may develop into PTSD.

Following a traumatic event, children often need to be close to their parents for comfort and reassurance. This clinginess is understandable but may be extremely irritating to parents. Even teenagers may need to be

reassured at night and often regress to sharing the parental bed. But the most troublesome symptom from the child's point of view can be the *intrusive images* of the event. These can occur at any time and are notable for their vividness. Usually the child “sees” the event replaying over and over again, but this can be accompanied by repetitive memories in any of the senses: sound, smell, touch, and motion. Occasionally, children will report that the experience is so vivid that they truly believe it is happening again. Such dissociative experiences are called *flashbacks*. Bad dreams and nightmares are also very common.

The intrusive images often come to the children as they are settling down for the night. They can be so distressing that children will fight against sleep and try to stay awake. It is ironic that children who are extremely tired try to stay awake with the obvious consequence that they become more tired, irritable, and unable to concentrate. The irritability can lead to anger that can be difficult to deal with. Children develop fears, especially of stimuli that were present when the traumatic event happened. For example, after the sinking of the cruise ship *Jupiter*, teenagers reported a profound increase in fear of drowning, fear of water in general, and fear of death and travel.⁷ Following road traffic accidents, children are likely to find it difficult to get back into cars for some time. Obviously, these fears have a survival value, but when extreme they can disrupt the child's and family's life.

In the immediate aftermath of an accident, children sometimes experience a great pressure to talk about what happened. Then, they often find it difficult to talk, especially with parents and friends. Anecdotally, many children report that they do not want to upset their parents when they talk about what happened and so they keep their feelings to themselves. In such circumstances, being able to talk to someone outside the family has obvious potential benefit.

Survivors have learned that life is very fragile. This can lead to a loss of faith in the future or a sense of foreshortened future. Their priorities change. Some feel they should live each day to the full and not plan far ahead. Others realise they have been over concerned with materialistic or petty matters and resolve to rethink their values. Their “assumptive world” has been challenged.⁸

Adolescent survivors report significantly high rates of depression, some becoming clinically depressed, having suicidal thoughts, and taking overdoses in the year after a disaster. A significant number become very anxious after accidents, although the appearance of panic attacks is sometimes considerably delayed. When children have been bereaved, they may need bereavement counselling.

Preschool children also develop distress that lasts beyond being an adjustment disorder and probably qualifies for the diagnosis of PTSD. In general, the DSM system is inadequate to reflect the stress reactions of very young children,^{9,10} which include playing out the traumatic event repetitively, drawing it repetitively, and more unfocused aggression.¹¹

Precipitants of PTSD

PTSD can follow any frightening event that is perceived by the child as being life threatening. Large scale disasters, such as shipping disasters, hurricanes, earthquakes, school shootings, and terrorist bombings¹² seem so remote from everyday life that education, health, and social services took a long time to realise that children are more likely to

be affected by a myriad of smaller, more personal disasters, which are nonetheless equally terrifying. Schools should prepare for children being maimed or killed while on the way to or from school. Children may get injured on school outings. Deranged individuals may enter school premises and hold children hostage or harm them. That is why schools have been urged to be "wise before the event"¹³ and prepare contingency plans to meet the emotional needs of children following such crises.

An important cause of PTSD in children is witnessing severe domestic violence, especially intrafamilial homicide.¹⁴ Civil conflict, urban violence, and war all affect large numbers of children, and one has to be aware that refugees from such conflicts may carry a heavy burden of traumatic stress.

Persistence and high risk groups

Nader *et al* reported a 14 month follow up of 100 children involved in a sniper attack on children at their school.¹⁵ The level of exposure to danger was strongly related to the severity of PTSD symptoms. In the most exposed group—the children who had been directly in the line of fire—the scores on the measure of PTSD were very stable over the 14 month period.

In the seven year follow up of adolescent survivors of the *Jupiter* sinking, now in their early 20s, preliminary findings indicate that overall 50% of the survivors had presented with PTSD at some point, mainly in the first few months. At follow up, around 15% still met the criteria for PTSD with many more showing several signs of stress reaction that were not sufficient to meet diagnostic criteria. A high proportion were depressed and, although the numbers are small, the rate of suicide attempts was threefold that of a group of matched controls.¹⁶ Thus, PTSD must be considered as a seriously disabling disorder that can lead to interference in development and adjustment over many years.

In general, girls are more susceptible to PTSD than boys, and less able children are more badly affected than more able children. The objective severity of the trauma is directly proportional to the stress reactions, but subjective factors also mediate the effects. Both must be taken into account in formulating effective intervention. This means that when assessing a child, not only should one try to get a clear account of their perception of what occurred, one should also ask directly whether at any point they thought they were going to die. If people did die in the accident, or if people were badly injured, then the child is at greater risk of developing a stress reaction. Risk and protective factors are more fully discussed elsewhere.¹⁷

Treatment

Critical incident stress debriefing was originally developed to assist emergency personnel adjust to their emotional reactions to events encountered in the course of their rescue work. It makes use of group support techniques and has now been adapted for use with children following a wide variety of traumas.¹⁸ Following transport accidents, debriefing has been found to reduce levels of stress, particularly those manifested in intrusive thoughts.^{19–21} However, we still do not know when best to offer such debriefing to survivors of a disaster, nor indeed whether all survivors benefit.

GROUP TREATMENT

Where natural groupings exist in communities and schools, it makes sense to direct some support through such groups.^{19–22–26} The aims of such groups should include the sharing of feelings, boosting children's sense of coping and

mastery, and sharing ways of solving common problems. Different incidents may require different types of group intervention, for parents as well as children.

INDIVIDUAL TREATMENT

There is little evidence that drug treatment has a central role in PTSD, so the focus has been mainly on cognitive behavioural treatments that aim both to help the survivor make sense of what happened and to master their feelings of anxiety and helplessness.

Asking children to draw their experience often assists recall of both the event and the emotions,^{22–27} and are used as ways of assisting talking about the experience.

Most survivors recognise that sooner or later "they must face up to the traumatic event". The problem for the therapist is how to help the survivor re-experience the event and the emotions that it engenders in such a way that the distress can be mastered rather than magnified. Therapeutic exposure sessions that are too brief may sensitise rather than desensitise,²⁸ so therapists may need to use much longer exposure sessions than normal.²⁹ Recently, a procedure known as EMDR (eye movement desensitisation and reprocessing^{30–31}) has shown promise as a rapid treatment for some children. More comprehensive suggestions of useful techniques to promote emotional processing are given elsewhere.^{28–29–32–33}

To date, there are insufficient controlled treatment interventions with individual cases, let alone randomised control trials; moreover, it is far from clear how best to involve families in treatment. There are clear pointers that parental reactions can help or hinder recovery, and treatment plans should take a family perspective even when the main thrust may be individual exposure work with the child.

Implications for child health services

Recent studies have clearly identified road traffic accidents and other childhood accidents as significant causes of serious and long lasting psychopathology in children and adolescents.³⁴ While every effort must continue to reduce the number of road traffic accidents involving children, secondary prevention of the emotional consequences should be a priority in the already hard pressed A&E departments. Whatever the accident that leads a child to attend, part of the procedure should involve screening for emotional reactions and providing the child and parents with simple explanatory leaflets about possible emotional consequences and where to obtain further help locally should such reactions persist.

WILLIAM YULE

University of London, Institute of Psychiatry,
De Crespigny Park, London SE5, UK

- 1 Heptinstall E. *Healing the hidden hurt: the emotional effects of children's accidents*. London: Child Accident Prevention Trust, 1996.
- 2 DiGallo A, Barton J, Parry-Jones W. Road traffic accidents: early psychological consequences in children and adolescents. *Br J Psychiatry* 1997;170:358–62.
- 3 Mirza KAH, Bhadrinath BR, Goodyer I, Gilmour, C. Post-traumatic stress disorder in children and adolescents following road traffic accidents—a preliminary study. *Br J Psychiatry* 1998;172:443–7.
- 4 Garmezy N, Rutter M. Acute reactions to stress. In: Rutter M, Hersov L, eds. *Child and adolescent psychiatry: modern approaches*. 2nd ed. Oxford: Blackwell, 1985:152–76.
- 5 American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 4th ed. Washington, DC: American Psychiatric Association, 1993.
- 6 O'Donohue W, Eliot A. The current status of post traumatic stress syndrome as a diagnostic category: problems and proposals. *J Trauma Stress* 1992;5:421–39.
- 7 Yule W, Udwin O, Murdoch K. The "Jupiter" sinking: effects on children's fears, depression and anxiety. *J Child Psychol Psychiatry* 1990;31:1051–61.
- 8 Janoff-Bulman R. The aftermath of victimization: rebuilding shattered assumptions. In: Figley CR, ed. *Trauma and its wake*. Vol 1. New York: Brunner/Mazel, 1985:15–35.
- 9 Scheeringa MS, Zeanah CH, Drell MJ, Larrieu JA. Two approaches to the diagnosis of posttraumatic stress disorder in infancy and early childhood. *J Am Acad Child Adolesc Psychiatry* 1995;34:191–200.

- 10 Almqvist K, Brandell-Forsberg M. Refugee children in Sweden: post-traumatic stress disorder in Iranian preschool children exposed to organized violence. *Child Abuse Negl* 1997;21:351–366.
- 11 Misch P, Phillips M, Evans P, Berelowitz M. Trauma in pre-school children: a clinical account. In: Forrest G, ed. *Trauma and crisis management*. London: Association for Child Psychology and Psychiatry, 1993:11–18.
- 12 Yule W. Posttraumatic stress disorder in children. *Current Opinions in Pediatrics* 1992;4:623–9.
- 13 Yule W, Gold A. *Wise before the event: coping with crises in schools*. London: Calouste Gulbenkian Foundation, 1993.
- 14 Harris Hendricks J, Black D, Kaplan T. *When father kills mother: guiding children through trauma and grief*. London: Routledge, 1993.
- 15 Nader K, Pynoos RS, Fairbanks L, Frederick C. Childhood PTSD reactions one year after a sniper attack. *Am J Psychiatry* 1991;147:1526–30.
- 16 Yule W, Bolton D, Udwin O, Boyle S, O’Ryan D, Nurrish J. The Jupiter sinking follow-up: 5–7 year outcome following a shipping disaster. European Association for Behavioural and Cognitive Therapy meeting, Cork, September 1998.
- 17 Yule W. Resilience and vulnerability in child survivors of disasters. In: Tizard B, Varma V, eds. *Vulnerability and resilience: a festschrift for Ann and Alan Clarke*. London: Jessica Kingsley, 1992:82–98.
- 18 Dyregrov A. *Grief in children: a handbook for adults*. London: Jessica Kingsley Publishers, 1991.
- 19 Yule W, Udwin O. Screening child survivors for post-traumatic stress disorders: experiences from the “Jupiter” sinking. *Br J Clin Psychol* 1991;30:131–8.
- 20 Yule W. Post traumatic stress disorder in child survivors of shipping disasters: the sinking of the “Jupiter”. *Psychother Psychosom* 1992;57:200–5.
- 21 Stallard P, Law F. Screening and psychological debriefing of adolescent survivors of life-threatening events. *Br J Psychiatry* 1993;163:660–5.
- 22 Galante R, Foa D. An epidemiological study of psychic trauma and treatment effectiveness after a natural disaster. *J Am Acad Child Psychiatry* 1986;25:357–63.
- 23 Farberow NL, Gordon NS. *Manual for child health workers in major disasters*. Washington, DC: US Government Printing Office, DHHS Publication No. (ADM 81–1070), 1981.
- 24 Ayalon O. *Rescue! Community oriented preventive education for coping with stress*. Haifa: Nord Publications, 1988.
- 25 Yule W, Williams R. Post traumatic stress reactions in children. *J Trauma Stress* 1990;3:279–95.
- 26 Gillis HM. Individual and small-group psychotherapy for children involved in trauma and disaster. In: Saylor CF, ed. *Children and disasters*. New York: Plenum, 1993:165–86.
- 27 Pynoos RS, Eth S. Witness to violence: the child interview. *J Am Acad Child Psychiatry* 1986;25:306–19.
- 28 Rachman S. Emotional processing. *Behav Res Ther* 1980;18:51–60.
- 29 Saigh PA. The behavioral treatment of child and adolescent posttraumatic stress disorder. *Advances in Behaviour Research and Therapy* 1992;14:247–75.
- 30 Shapiro F. *Eye movement desensitization and reprocessing: basic principles, protocols and procedures*. New York: The Guilford Press, 1995.
- 31 Smith PA, Yule W. Eye movement desensitization and reprocessing therapy (EMDR) and other rapid treatments. In: Yule W, ed. *Post traumatic stress disorder*. Chichester: Wiley, 1998:267–84.
- 32 Yule W. Work with children following disasters. In: Herbert M, ed. *Clinical child psychology: social learning, development and behaviour*. Chichester: John Wiley, 1991:349–63.
- 33 Richards D, Lovell K. Imaginal and in-vivo exposure in the treatment of PTSD. In: Yule W, ed. *Post traumatic stress disorder*. Chichester: Wiley, 1998: 239–66.
- 34 Canterbury R, Yule W. The effects on children of road traffic accidents. In: Mitchell M, ed. *The aftermath of road traffic accidents: psychological, social and legal consequences of an everyday trauma*. London: Routledge 1997:59–69.