Child abuse and neglect – counting the costs

LOUISE NEWMAN BA(Hons), MB BS(Hons), PhD, FRANZCP, Cert Child Psych RANZCP

The long-term effects of child abuse place a large burden on the healthcare system, but the costs are more than financial. The psychological and emotional cost to abused and neglected children is long lasting and life changing.

PHOTOLIBRARY

Child maltreatment is arguably one of the most significant public health problems.[1] It is estimated that between 10 and 30% of children in Australia and high-income countries experience some type of abuse, the majority at the hands of carers or attachment figures.[1] Abuse of children includes sexual, physical and psychological maltreatment, neglect and the fabrication and induction of illness in children. Abusive parents have core difficulties in recognising and responding to children's emotional dependency and needs for attachment, and some parents are rejecting and hostile.

Each year increasing numbers of children are reported as being at risk of abuse or harm, and child protection systems are experiencing difficulties in responding and prioritising cases of concern. Child protection services in Australia have reported a twofold increase in the number of child protection reports issued in the past five years, with about 30% involving children under the age of 5 years, and 10% involving infants under the age of 12 months. Recent reports have indicated that every year up to 16% of children are physically abused and 10% are neglected or psychologically abused. Additionally, up to 30% of people are exposed to some type of sexual abuse during childhood.[2,3]

Based on highly conservative incidence estimates, the annual financial burden of child abuse and neglect on the public health system in Australia is thought to be in excess of $4.9 billion.[3] Although responses to abuse vary and not all children who have experienced abuse will go on to develop mental health problems, the rates of physical, mental and psychosocial problems are significant in survivors of abuse and some problems last a lifetime. A particular concern is the difficulty some survivors of abuse face when attempting to care for their own children and the transgenerational transmission of abusive interactions. Individuals who have experienced child abuse and neglect themselves are at an increased risk of parenting problems with about one-third repeating abuse with their own children.[4]

There is increasing evidence that underlying the mental health problems of abuse survivors are changes in both structure and function of the brain resulting from the experience of extreme and prolonged stress during critical periods of brain development. The brain is growing at its most rapid rate during the first three years of life and experiences shape emerging neural circuits and structures involved in the regulation of emotional states and understanding of social interaction. The infant brain is particularly sensitive to the impact of stress-related hormones such as cortisol that affect neurogenesis, pruning and myelination. Neglect and a lack of stimulation may reduce brain growth. This suggests that early experiences influence neurodevelopment and the key functions needed as the basis for healthy psychological functioning.

Clinical studies of adults who have experienced early abuse show functional and structural brain differences on MRI when compared with controls who have not experienced any abuse.[5] This suggests that early abuse may result in long-term changes in neurological functioning. These important findings point to the need for early detection of children at risk of abuse and the need for early intervention approaches for children who have been abused and for parents at risk of abusing their children.

Defining child maltreatment

The term 'child maltreatment' refers to a range of adverse experiences including physical, psychological and sexual abuse, neglect and exposure to conflict and violence. The World Health Organization defines child abuse or maltreatment as 'all forms of physical and/or emotional maltreatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child's health,

Professor Newman is Chair of Developmental Psychiatry at Monash University, and Director of the Centre for Developmental Psychiatry and Psychology, Monash Medical Centre, Clayton, Vic.

survival, development or dignity in the context of a relationship of responsibility, trust or power'.[6]

Children may be direct or indirect victims of abuse and the impact of abuse depends on the age of the child, the relationship with the perpetrator, the duration of abuse exposure and the response of the family or social network to any disclosure of abuse made by the child. Children experiencing abuse and trauma during the first three years of life at the hands of attachment figures are likely to have broad ranging developmental difficulties including neurodevelopment problems and disturbed attachment relationships.

Abusive carers have difficulties in recognising and responding to the needs of children, particularly with regard to emotional dependency. They may respond to the child's expression of need for attachment and affection with rejection or hostility and some will punish the child for displays of need. The majority of abusing parents have histories of abuse and neglect and attempt to distance themselves from memories of their own early abuse. Under stress they respond in disturbing ways to their children who become confused, angry and disturbed. Children of abusive carers often approach the very person who scares or terrorises them seeking care and comfort.

Physical abuse includes a range of physical injuries to the child and is associated with harsh, authoritarian and aggressive parenting. Children may be presented late for medical attention despite obvious injury. About half of all deaths from abuse are the result of physical abuse, and one-third of these are in children under 12 months of age. Children with physical and developmental disabilities, chronic illness and prematurity are more likely than healthy children to be physically abused. Abusive families are frequently stressed financially, have few social supports and are affected by drug and alcohol and mental health problems.

Iwaniec defines emotional or psychological abuse as 'hostile or indifferent behaviour, which damages a child's self-esteem, degrades a sense of achievement, diminishes a sense of belonging, prevents healthy and vigorous development and takes away a child's well-being'.[7]

Parents fail to respond to the child's needs or in various ways isolate the child and imply that they are unworthy of attention. They may resent the child and ridicule and belittle them or make frequent threats of abandonment. Emotionally abused children grow up with constant anxiety and are not provided with the support to manage strong emotional experiences. They go on to develop long-term problems with emotional regulation.

Emotional rejection is often associated with child neglect. Parents fail to respond to the children's attachment, social and emotional needs. Physical neglect involves failure to provide the basics of care including food, shelter and clothing. Children may be left to fend for themselves and are not protected from physical harm or risk. In extreme cases, very young children and infants are left alone for extended periods of time without care. This is a profoundly disturbing experience and may result in social withdrawal and a state of apathy, such as seen in infants presenting with nonorganic failure to thrive in the context of emotional deprivation and also in some children in Romanian and Bulgarian orphanages who experienced prolonged neglect.

Sexual abuse of children involves a breakdown of caring relationships and frequently involves coercion and threats. Involvement of children in developmentally inappropriate sexual activity and adult sexual themes may involve direct sexual approaches or exposure to adult sexual images such as pornography. Children may be confused and their sense of reality distorted if the abuser denies the abuse or tells the child it is a good thing. Adding to the confusion is the behaviour of the abuser, who may be affectionate and act in a caring way to attract the child and maintain the sexual relationship.

Indirect abuse of children involves exposure to violence and conflict. For a young child, witnessing assaults on the primary caregiver is as psychologically traumatic as a direct attack on the self given the dependency of the child on the parent. The impact of indirect exposure can be as significant as those of direct abuse.

In practice, many forms of child abuse occur concurrently. Children may experience intermittent direct abuse and neglect. It can be argued that underlying any abuse of a child is an adult's lack of empathic connection to the child's experience, which is a fundamental part of attachment relationships and nurturing. It is not uncommon for child abusers to deny, minimise or in other ways distort the reality of the abuse in a self-serving way; these cognitive distortions are difficult to change.

Child neglect

Child neglect is the most prevalent form of child maltreatment, accounting for about 60% of cases.[8] Children deprived of emotional and physical care have poor outcomes and are at risk of long-term psychosocial impairment. Recent studies of Romanian orphans found them to have growth retardation, cognitive and language delays, disordered attachment behaviour and, in some cases, profound disturbance in social interactions and autistic-like features. Emotional and social deprivation is a major form of stress for the young child and will impact the developing brain.[9] Neglect may have specific effects on the development of social cognition and the understanding of emotional interactions and empathy.

Implications of child abuse and neglect

Children with experiences of abuse and neglect may present with persistent features of high-stress reactivity and hyperarousal, including anxiety, sleep disturbance, aggressive and dysregulated behaviours, and

disturbances of social interactions and attachment. Some abused children are socially withdrawn, whereas others are socially disinhibited and attempt to find affections and attachments with strangers in a persistent way. Most have core difficulties in reading social cues and developing trusting relationships. They may express anger towards parents and carers and others in positions of authority. If the history of trauma is not available or is not adequately assessed, it is not uncommon for these children to attract an erroneous diagnosis of attention deficit hyperactivity disorder or other disruptive behaviour disorder. This does not assist in the appropriate formulation or treatment of the child's problems.

Post-traumatic stress disorder (PTSD) after severe trauma is associated with intrusive recollections of the traumatic event that may be triggered by stimuli related to the past event. Children may exhibit physiological hyperarousal with persistent anxiety and difficulties in attention and concentration impacting on learning and school functioning.

Abuse victims with persistent symptoms of PTSD may have ongoing disturbances in hypothalamic pituitary adrenal axis functioning and may overreact to stress with excessive cortisol production, as well as altered limbic system responses and emotional dysregulation. These changes may underlie the behavioural and emotional dysregulation that characterises complex PTSD.

In terms of psychological development, abused and neglected children have difficulties in establishing secure attachments and trusting relationships, and may have ideas that they are unworthy of care and expect to be abused. In later life they may gravitate towards abusive relationships because they fulfil these expectations. Abuse in the context of primary attachment figures is likely to be significant in terms of the child's developing sense of self and understanding of relationships. Abused children frequently show persistent difficulties in attachment behaviours and these may be diagnosed as an attachment disorder.

The Diagnostic and Statistical Manual of Mental Disorders, 4th edition, refers to reactive attachment disorder, which describes children with patterns of disorganised attachment behaviours such as indiscriminate sociability, often related to neglect, and inhibition of attachment, which may result from abuse.[10] Early attachment disorganisation and failure to develop organised models of attachment relationships may result in ongoing interpersonal difficulties, including poor relationship functioning, chaotic relationships and repetition of dysfunctional relationship patterns. These are common features of the personality and interpersonal difficulties seen in adults who have experienced severe early abuse.

Children who have experienced abuse may attract various diagnoses, which can be misleading unless put in the context of the children's experiences of trauma. Premature diagnosis without recognition of the contribution of abuse and trauma to a children behavioural and emotional difficulties potentially risks inappropriate treatment and failure to protect the child. Comprehensive assessment of a child's attachment relationships and quality of care will both assist in early recognition of child abuse and early intervention. Table 1 lists mental disorders commonly diagnosed in abused children.

Although interpersonal and attachment difficulties are common in abused children, the current classification systems are limited in this area.

In adolescence, disclosures of abuse and trauma may be dramatic and associated with self-harming behaviours and behavioural disturbance. Adolescents who have been abused are more likely to engage in premature sexual relationships, risk-taking behaviours, drug and alcohol abuse and suicidal behaviours. There is a risk of the young person becoming involved in exploitative relationships and developing dysfunctional relationship patterns.

Table 1. Mental disorders commonly diagnosed in abused children

- Post-traumatic stress disorder
- Depressive disorder
- Anxiety disorder
- Oppositional defiant disorder
- Attention deficit hyperactivity disorder
- Reactive attachment disorder

Child abuse and neglect and the brain

Trauma and abuse during the early years of development when neural pathways are being laid down will lead to the development of functions needed to adapt to a threatening environment. The developing brain will also adapt to high levels of circulating stress hormones and the need to detect threats as quickly as possible. Both the amygdala, involved in threat response, and the hippocampus, involved in memory systems, show reduced volume and responsivity in longer-term threat exposure in abused children. Patterns of stress response and behaviour in response to threats are established early and may have neurological underpinnings. These patterns, common in PTSD, may be difficult to change, even if the child is in a place of safety and receiving appropriate care and attention.

The cerebellar vermis is another area of the brain directly impacted by stress hormones. This region influences the release of a range of neurotransmitters. Disturbances of these neurotransmitters are involved in several mental disorders, including mood disorders and psychotic symptoms. The cerebellum has a role in emotional responses and the operation of the limbic system, and changes have been found in survivors of child abuse. This suggests that stress and trauma may

continued

Table 2. Possible neurobiological effects of abuse on the brain and the implications for mental disorder

Area of brain	Effect of abuse	Mental disorder
Hippocampus	Reduced hippocampus volume	Effect found in PTSD and borderline personality disorder
Amygdala	Decreased amygdala volume	Effect found in PTSD and dissociative disorder
Corpus callosum	Reduced in size	Effect found in PTSD and borderline personality disorder
Cerebellar vermis	Decreased blood flow	Effect found in depression and drug abuse
Cerebral cortex	Left hemisphere under development Smaller cerebral volume	Effect found in PTSD

Adapted from Rick S, Douglas DH. Neurobiological effects of childhood abuse. J Psychosoc Nurs Ment Health Serv 2007; 45: 47-54.

ABBREVIATION: PTSD = post-traumatic stress disorder.

impact on the functioning of the cerebellar vermis and mediate some of the primary neurobehavioural consequences of early abuse.

Research has also focused on the impact of trauma on the limbic system, which is involved in the regulation of emotional states and responses, memory and learning and behavioural regulation. Teicher and colleagues summarise a series of studies suggesting that traumatised children develop enhanced electrical activity in the limbic system (limbic irritability) that may predispose them to mood instability and is associated with changes seen on electroencephalogram.[11]

A further change found in the brains of abused children is that of hemispheric functioning and integration. Reduction in the volume of the mid corpus callosum, involved in interhemispheric communication, has been found in samples from abused patients. This may be important as the corpus callosum is crucial in the 'translation' of affective information into the more verbal modes of processing of the left hemisphere, a process that is important in the processing of highly charged emotional states such as trauma and abuse. Similarly, abused children show greater right hemispheric activity compared with controls who had not been abused, presumably due to the experience of persistent negative effects.

Long-term outcomes

The experience of early abuse is a risk factor for a range of mental disorders in adult life, including depression, anxiety, eating disorders and somatoform conditions (Table 2).[12] Symptoms of PTSD may persist into old age and have a huge impact on quality of life. Older persons may not have been able to discuss abuse histories and may have kept traumatic events a secret largely as a result of feelings of shame and social stigma. Rates of depression, anxiety, somatoform conditions, sexual dysfunction and relationship difficulties are significantly increased in survivors of abuse.

The diagnosis of borderline personality disorder may apply to some individuals with a history of severe abuse and ongoing features of trauma. This condition may have neurobiological underpinning and is more likely to be seen in individuals with early-onset severe trauma. It is characterised by difficulties in self-image, interpersonal functioning, emotional regulation and impulse control. Individuals with borderline personality disorder have great difficulty managing stress and are hypersensitive to feelings of rejection and abandonment, making them vulnerable to victimisation and exploitation in relationships. A key focus for intervention is the reworking of past trauma and providing support to gain insight into current interpersonal functioning.

Conclusion

Child abuse and neglect is now recognised as a significant social problem with potential long-term impacts on mental health. This awareness has resulted in a focus on early recognition and the need to intervene to provide children with protection and, in some cases, alternative attachment figures. Providing children with respite care and relationships with alternative carers or extended family members are protective even in the face of poor relationships with primary carers. Support for parents at risk of causing abuse and neglect is a cornerstone of intervention approaches. Detection of risk in the antenatal period (as screening for a history of abuse) allows close support and monitoring. MT

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A list of references is available on request to the editorial office.

Further reading

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