

ARTICLE

The impact of child maltreatment on the mental and physical health of child victims: a review of the evidence

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SUMMARY

This article gives a general overview of the current situation in relation to a range of widely recognised and also newly identified types of child maltreatment. The academic and clinical evidence relating to the impact of child maltreatment on the mental and physical health of child victims is substantial and steadily increasing in volume. New types of abuse are being identified, and changing environmental circumstances, which exacerbate the possibility of widely recognised types of child maltreatment occurring, are also being described. These include multi-type maltreatment, female genital mutilation and online child maltreatment. Serious questions may arise regarding neglect of the moral and social development of children and young people who become addicted to online gaming and pornography. Multiple national and local definitions of each of these existing and new forms of maltreatment have been created, some of which are covered here. The impact of these abuses on the physical and mental health and development of child victims in families or settings where abuse or neglect has occurred is discussed.

LEARNING OBJECTIVES

After reading this article you will be able to:

- recognise the various types of child maltreatment, including newer types such as online abuse
- understand the impact of maltreatment on children's mental and physical health
- appreciate the strengths and limitations of the developing child's brain to recover from long-term abuse.

KEYWORDS

Child; maltreatment; mental; physical; health.

Nearly 60 years ago Henry Kempe and colleagues published a seminal paper that stated: 'The battered-child syndrome, a clinical condition in young children who have received serious physical abuse,

is a frequent cause of permanent injury or death' (Kempe 1962). They recommended that the examining physician should consider battered-child syndrome in 'any child exhibiting evidence of fracture of any bone, subdural hematoma, failure to thrive, soft tissue swellings or skin bruising, in any child who dies suddenly, or where the degree and type of injury is at variance with the history given regarding the occurrence of the trauma'.

Their paper caused immediate controversy in the medical profession and child welfare agencies, since the finger appeared to be pointed at parents and carers who may have been trying to cover up the physical abuse of their children. The physical damage being done to children was acknowledged reluctantly by professionals in light of the radiological and clinical evidence presented. However, Kempe et al's expectation that doctors and social workers involved in such cases would consider the possibility of physical abuse of a child at the hands of their own parents was seen as unacceptable and damaging to the doctor–patient relationship.

Over the next few years, research into the prevalence of child maltreatment was undertaken in the USA and internationally, and reports continued to emerge of professional and public resistance to accepting the incontrovertible findings from scientific research into the prevalence and nature of child abuse. To raise awareness of potential personal and professional responses to hearing about maltreatment, Kempe presented a six-stage model (Box 1) of gradual community recognition of child maltreatment from a starting point of denial that the problem existed (Kempe 1978).

As professionals read about these processes of denial, they appeared to understand that such reactions could slow down or halt the investigation of child abuse suspicions. The need to address professional and community resistance to thinking about the traumatising of children slowly became incorporated into mainstream publications, lectures and mental health training. Training in these issues

BOX 1 Kempe's six stages of community awareness of child maltreatment

Stage 1: Denial of physical or sexual abuse

Stage 2: Battered child syndrome is recognised

Stage 3: Physical abuse is better managed – attention to neglect and failure to thrive

Stage 4: Recognition of emotional abuse, deprivation and neglect

Stage 5: The serious plight of the sexually abused child is recognised

Stage 6: Guaranteeing that each child is wanted, loved and cared for, sheltered, fed, and receives first-class preventive services and healthcare.

(Kempe 1978)

would, it was hoped, help professionals in working to prevent child maltreatment. Despite these educative efforts, the subject of child maltreatment, its existence, nature and the professional responses it requires still remain controversial (Vizard 1986; Labbe 2005; Leventhal 2012).

The first, graphic description of battered-child syndrome and of the physical findings in a large number of child sexual abuse cases appeared in a ground-breaking paper, 'Étude medico-légale sur les sévices et mauvais traitements exercés sur les enfants', by Ambroise Tardieu (1860). Despite devoting his professional life to trying to prevent child maltreatment, it seems that Tardieu's research and child protection recommendations were almost entirely ignored by professionals and the general public (Labbe 2005).

For the purposes of this review, it is important to acknowledge that professional denial of the existence of various forms of child maltreatment is neither an unpleasant historical phenomenon, thankfully behind us now, nor has it been banished from current public or professional attitudes towards child abuse.

Since the 1970s until the present time, many Serious Case Reviews (SCRs) have been held into the deaths and maltreatment of children in the UK. These include reports on the deaths of Maria Colwell and Victoria Climbié as well as commentaries on the progress or otherwise towards implementation of the reports' recommendations (The Maria Colwell Report, Field-Fisher 1974; The Victoria Climbié Inquiry, Lord Laming 2003; The Laming Inquiry, Lord Laming 2009). All these SCR reports have made very similar recommendations for future practice and 'lessons to be learned'. However, it is not at all certain that these recommendations have been implemented fully or even

partially (The Rawlings report, Rawlings 2014; Donovan 2016).

The maltreatment of children in the UK and internationally continues to occur at worrying levels (NSPCC 2019). A recent research study from the Australian Temperament Project ($n = 390$ males; 610 females) found that 'almost a quarter (23%) of participants had experienced one or more of the five forms of maltreatment' (Price-Robertson 2013). Emotional maltreatment was the most prevalent form (17%), with bullying reported (45%) at least once during the school years.

All five forms of child maltreatment, i.e. physical abuse, sexual abuse, emotional abuse, neglect and witnessing or experiencing domestic abuse (intimate partner violence, IPV), have been linked with subsequent traumatic mental and physical health effects on child, young person and adult victims (Radford 2011; Asmussen 2020: pp. 29–31).

Intervening earlier in cases of child maltreatment can prevent trauma to the child and family and also save money. A preliminary study of the economic costs of child maltreatment in the UK estimated that the discounted lifetime costs of non-fatal maltreatment were £89 390 per victim. Lifetime costs per death from child maltreatment were over 10 times higher, at £940 758 (Conti 2017: p. 46).

References for further learning about the specifics of definitions, incidence and prevalence of different forms of child abuse are available in Asmussen et al (2020: p. 32) and on the NSPCC website (NSPCC 2020). The important issue of prevention of child abuse and neglect is discussed by MacMillan et al (2009).

Prevalence

There are five widely recognised types of child maltreatment on which most published research and clinical literature in this review are based. These are:

- (a) physical abuse
- (b) sexual abuse
- (c) emotional abuse
- (d) neglect
- (e) witnessing or experiencing domestic violence/intimate partner violence.

A recent overview of research into adverse childhood experiences (ACEs) suggested that five additional forms of family dysfunction that 'increase children's exposure to trauma' should be added to the above widely recognised list (Asmussen 2020). The resulting extended list of ACEs (Box 2) may be useful for consideration during clinical assessment and treatment in complex maltreatment cases. Such cases are also likely to require a more complex, systemic and modular approach, in which all relevant ACEs are considered (Bentovim 2018).

BOX 2 Ten adverse childhood experiences (ACEs)

- Physical abuse
- Sexual abuse
- Psychological abuse
- Physical neglect
- Psychological neglect
- Witnessing domestic abuse (intimate partner violence)
- Having a close family member who misused drugs or alcohol
- Having a close family member with mental health problems
- Having a close family member who served time in prison
- Parental separation on account of relationship breakdown

(Asmussen et al, 2020: p. 6)

A recent umbrella review of meta-analyses published between 2014 and 2018 on antecedents for child maltreatment and the effectiveness of preventive interventions confirmed the presence of many widely recognised family risk factors for child maltreatment. These were: parental experience of childhood abuse; low family socioeconomic status; dependent and aggressive parental personality; intimate partner violence; and higher baseline autonomic nervous system activity. The review noted 'large gaps' in our knowledge of antecedents and recommended more research investment into neurobiological antecedents in particular (van IJzendoorn 2020a).

Variation in reported rates of child maltreatment over time

Research shows that child maltreatment rates have varied considerably over recent years. In the UK, an unprecedented rise in reported cases of child sexual abuse and other forms of maltreatment in the early and mid-1980s was partly related to the success of awareness-raising campaigns by, for example, Childline and later the NSPCC. Childline, founded in 1986 as a confidential telephone helpline for children experiencing abuse, reported soaring numbers of child maltreatment cases as children and young people spoke out about their experiences (Harrison 2000).

In contrast, the early 2000s saw a surprising decline in reported cases of child sexual abuse in both the UK and the USA. In the UK, by 2019 official figures for children in need who were subject to a child protection plan decreased slightly (3%). However, overall 54% of children in need had suffered abuse or neglect (Department for Education

2019). Possible reasons for this seemingly inexplicable decline after the earlier success of awareness-raising campaigns have been discussed (Finkelhor 2006). However, it seems unlikely that the perpetration of child abuse has declined to any great extent. Other factors, such as earlier professional intervention with at-risk families, increased disclosure of abuse by victims and the availability of both victim and perpetrator helplines, may have reduced the need for official or legal responses.

More recently reported types of child maltreatment

Multi-type maltreatment and polyvictimisation

Most child victims of maltreatment referred to child protection services are likely to have suffered more than one type of abuse (multi-type maltreatment, involving some or all of the five forms of maltreatment listed above: Higgins 2000). They may also have suffered multiple experiences of victimisation within a wider context, such as physical and sexual abuse at home and bullying by peers and witnessing violence in the community (polyvictimisation: Finkelhor 2005).

Children who have suffered multi-type maltreatment have poorer long-term adjustment and physical and mental health outcomes than individuals who have experienced single-type abuse (Arata 2005). When children suffered both multi-type maltreatment and polyvictimisation (in the form of bullying) under 18 years of age, they were three times as likely to be depressed at age 23–24 than those who suffered multi-type maltreatment but not polyvictimisation (Price-Robertson 2013).

To the list of maltreatment effects must be added the traumatic effects of the perpetrating child's own sexual or violent behaviour on themselves, on their child victims and on assessing and treating professionals (Box 3) (Vizard 2013). The considerable effect on children of witnessing or being involved in intimate partner violence also needs to be taken into account.

Other types of child maltreatment

Several additional types of child abuse have been identified in the past decade. Examples are:

- online child maltreatment, including live streaming of abuse
- unaccompanied refugee minors
- female genital mutilation and labiaplasty.

These have a variety of adverse effects on children's physical, developmental and sexual health. A common factor in each type is the striking complexity of the damage inflicted on children's developing bodies, minds, understanding of human relationships and their moral compasses.

BOX 3 Guidance for practitioners working with maltreated children

- The impact on practitioners of disturbing work with maltreated children should be remembered by supervisors and managers.
 - Practitioners should have regular supervision (not just line management) by fully trained, registered and experienced clinicians, plus external staff support or consultation if necessary.
 - Failure of professionals to act on reasonable suspicion of abuse or abusive behaviour colludes with the forces of denial always present in the systems around these children.
 - A systemic, interagency approach is needed, for safeguarding reasons and to handle the new disclosures of abuse that regularly occur with this patient group.
 - A plan for treatment is needed before starting. Pre-treatment assessment should identify whether any treatment is appropriate, and if so, the model and duration and whether there should be a subsequent treatment input or a psychosocial intervention should be decided.
 - Manualised treatment programmes can be a great thing. However, individual children's needs may vary slightly or considerably from what is recommended in the manual.
- Some children may need specially adapted, modular programmes to cater for their complex impairments. Non-treating local professionals will need to be engaged in supporting the proposed, carefully planned, modular approach to treatment early on during the assessment process with families where there has been maltreatment (Bentovim 2020).
- Work with children and family members where there are high levels of distress and domestic violence can be challenging for practitioners, who will need for supervision and support.
 - The complex data gathered by the clinician in the course of assessment and treatment should be recorded accurately in anticipation of safeguarding proceedings and possible court hearings at which the practitioner may give expert evidence.
 - Observed behaviours, known facts and other professional findings should be stated early on in any assessment report, and the practitioner's professional opinion about the meaning of the data, psychiatric diagnoses and recommendations should appear at the end of the report.
- (After Vizard 2013)

Online child maltreatment, including live streaming of abuse

Learning online and developing a wide range of IT skills is now the norm for many children in Western society. There are potential substantial benefits for all children and particularly those with special needs. Acquiring online skills, including competence at certain video games, may have offline social and educational benefits. These new skills could directly enhance the physical, emotional and social development of children with special needs in particular.

However, the online world is not always a positive and safe environment for children, since potential predators are also online, seeking victims of all ages. As noted below, potential online abusers continue to try to access vulnerable children to groom them for abuse.

It is now possible for children from all backgrounds to view harmful or outright abusive material online via live streaming sites, where adults can commission and purchase films of children being abused. It seems likely that parents in 'safe' families may be unaware of the nature of the material being viewed by their children. However, a darker side to this online imagery is that perpetrators, adult or adolescent, who are seeking child victims may use viewing of such grossly abusive material as part of their 'grooming' process of the victim for subsequent direct sexual abuse (NSPCC 2020).

Unsupervised access to violent and sexualised video games online may 'desensitise' a child or young person to the images and behaviour within

the game. They may become increasingly determined to play the game up to certain 'levels', the repetition of which can lead to a form of addiction. It has been noted that excessive pornography use (online) can lead to subsequent erectile dysfunction and lack of response to erectile dysfunction drugs (Zimbardo 2015: pp. 107–109).

In contrast, it could be said that unsupervised access to online pornography by children is giving them sex education and that children will understand that any coercive or violent episodes in the videos do not represent real-life sexual relations. However, such understanding will depend on the age and developmental status of the child and the availability of a safe carer with whom to discuss the material viewed.

It is also arguable that such unsupervised viewing runs the risk of 'normalising' inappropriate violent or sexualised behaviour seen online where there are no immediate consequences of this behaviour. This lack of consequences may also distort the child's developing moral compass and later understanding of what is right or wrong in human behaviour.

Without access to a safe caregiver who understands safeguarding law, to provide an explanation about consequences of such violent and sexual behaviours in real life, there are dangers for children of being groomed, unwittingly, for abuse without the support provided by safeguarding laws to protect children. Children at such risk may require urgent police contact and subsequent referral to the

specialist Child Exploitation and Online Protection (CEOP) team (NSPCC 2020).

Given the proliferation of potentially harmful internet sites, it is likely that even more types of online opportunity for child maltreatment will emerge, and practitioners need to be aware of how to take effective prevention and safeguarding measures (HM Government 2018).

With such accessible online harm to children, often unknown to parents or carers, the wider societal question may be ‘Who is ultimately responsible for exposure of children and young people to such material?’.

Unaccompanied refugee minors

In the case of unaccompanied refugee minors, it is clear that a young person on the move from one hostile country to another over months or years cannot develop a secure sense of self-identity without a stable home background, a peer group to relate to and a sense of roots and belonging. At the very least this is a serious neglect of the young person’s emotional and social development (von Werthern 2019).

Female genital mutilation and labiaplasty

There is a terrible irony in comparing the experiences of forced, violent mutilation of a young girl’s external genitalia (female genital mutilation, FGM) by a trusted female relative and the voluntary presentation by caring parents of a young adolescent girl with normal external genitalia to a plastic surgeon for labiaplasty for the purposes of making her vulval area look more childlike and ‘tidier’ (Moran 2013; Royal College of Midwives 2013). FGM and labiaplasty on young girls encompass both physical and emotional abuse. It is recommended that important ethical and practical lessons are learned by practitioners working with children at risk of FGM or unnecessary plastic surgery (Royal College of Midwives 2013).

Impact of child maltreatment on the child’s health and development

Impact on the child’s physical health

Adverse childhood experiences (ACEs) and dose–response findings

The Adverse Childhood Experiences study undertaken in the USA found ‘a strong graded relationship between the breadth of exposure to abuse or household dysfunction during childhood and multiple risk factors for several of the leading causes of death in adults’ (Felitti 1998). This cumulative nature of ACE risk findings was supported by similar evidence in the LONGSCAN study, also conducted in the USA (Thompson 2012).

These links between ACEs and adverse adult outcomes appear striking. However, there have been recent calls for academics and practitioners using ACE instruments in maltreatment screening programmes to learn ‘cautionary lessons’ from other health screening research, which has noted unacceptably high levels of both false positives and false negatives (Finkelhor 2018). Finkelhor’s cautionary message was echoed in a comprehensive review by the Early Intervention Foundation into the strengths and weaknesses of ACE research to date (Asmussen 2020).

An important critique of the underlying conceptual and measurement issues suggested ‘new ways of conceptualising and measuring ACEs’. Its authors make the point that the burgeoning field of ACE academic and clinical research has so far lacked a coherent theoretical framework, with implications for practitioners, policy and practice (Lacey 2019).

Links with later inflammatory disease

In 2007, a study of adults ($n=972$) up to 32 years old, part of the Dunedin Multi-Disciplinary Health and Development study, investigated significant biomarkers of inflammation in adulthood. It found a significant association between childhood maltreatment in the first decade of life and elevated adult inflammatory markers such as C-reactive protein (CRP). It was already known that adult health outcomes linked to these inflammatory biomarkers included cardiovascular disease, diabetes and chronic lung disease. The authors suggested that inflammation might be an important mechanism mediating the adverse effects of early life stress on current health (Danese 2007).

Impact on the child’s mental health

Felitti and colleagues’ seminal study showed that ACEs may have severe, cumulative consequences for the child victims’ mental and physical health during their development (Felitti 1998). Official estimates suggest that ACEs are present in 54% of children in need, and within that group 80% of children had at least one ACE-related problem (Asmussen 2020; p. 32).

The LONGSCAN study also examined the possibility that there was a ‘dose–response’ relationship between ACEs and early adolescent mental and physical health problems (Thompson 2012; Flaherty 2013). Its authors note that, with 90% of the cohort having suffered an ACE by age 14 years, ‘There was a graded relationship between adverse childhood exposures and any health problem, while 2 and ≥ 3 adverse exposures were

associated with somatic complaints' (Flaherty 2013).

Children who have suffered early ACEs, including maltreatment, often present to services with intellectual disabilities, emotion dysregulation and out-of-control behaviours such as antisocial behaviour with involvement in the criminal justice system (Vizard 2013; Walsh 2018: p. 18).

It has also been shown that the higher the number of ACEs, the higher the risk of developing health-harming behaviours. Compared with controls who had no ACEs, children and young people with 4+ ACEs were seven times more likely to have been involved in violence in the previous year and 10 times more likely to have felt suicidal or to have self-harmed. Those with 6 ACEs were 46 times more likely to become intravenous drug users and 35 times more at risk of suicide (Walsh 2018: p. 17).

The evidence overall shows that an ACE-type dose–response model best describes likely outcomes for victims of multi-type child maltreatment and polyvictimisation, i.e. more (maltreatment) = worse (outcome).

Furthermore, effective intervention will require active intercession by a range of local agencies and services to address several levels of individual, family and societal complexity in the child's life (Bentovim 2018).

Impact on the child's brain development

Traumatic brain injury/abusive head trauma

For decades, associations have been noted between the maltreatment of children and various forms of traumatic brain injury (TBI) to babies and young children, for example 'the battered child' (Tardieu 1860; Caffey 1946; Kempe 1962). Children presenting to accident and emergency departments with abusive head trauma (AHT) have often been from deprived backgrounds with multiple risk factors for child abuse (Lopes 2013).

In the UK, the effect of a national lockdown during the COVID-19 pandemic appears to have exacerbated family tensions, which can lead to domestic violence and child maltreatment. A recent letter to the *Archives of Disease in Childhood* noted 'a marked increase in the incidence of abusive head trauma (AHT) at our institution' (a children's hospital) during the lockdown period (Sidpra 2020). Its authors pointed out that 'The complex links between abuse, mental health, substance misuse, and socioeconomic circumstances are often interdependent and cannot effectively be addressed in isolation'. This begs the question about what types of complex assessment and treatment methods are appropriate and available for practitioners

working with known or suspected abusing families in community settings.

Toxic stress

Evidence on the impact of ACEs on the mental and physical health and development of child and young adult victims is extensive (Asmussen 2020: pp. 29–31). Structural physical changes in the brains of children exposed to maltreatment include a smaller volume of the prefrontal cortex than in non-abused children. These changes appear to persist into later life, since adults who were maltreated as children have shown a reduction in the size of both the prefrontal cortex and the hippocampus. These children may also show problems in maintaining physiological equilibrium or allostasis when challenging external conditions such as abuse force the child's hypothalamic–pituitary–adrenal (HPA) axis to remain chronically active (Danese 2012).

Evidence suggests that lasting harmful consequences for children's brain development following sustained early adversity, including several types of abuse, can induce a condition described as 'toxic stress'. The child's brain architecture and neural connectivity can be weakened and their stress response system can be set to 'high alert' or constant jumpiness instead of a normally responsive setting (National Scientific Council on the Developing Child 2008/2012).

Research also suggests that ACEs and exposure to violence in childhood may be associated with chromosome damage (telomere erosion) (Flaherty 2013; Shalev 2013). When cumulative severe abuse with ACEs persists, allostatic overload, beyond the usual bodily 'wear and tear', may cause the normal neurobiological responses to become pathological rather than protective and to attack the child's body with raised inflammatory markers (Danese 2007, 2012).

A review summarising the impact of early adversity on children's development noted that chronic stress can be toxic to the child's development and significant early adversity can lead to lifelong problems (National Scientific Council on the Developing Child 2008/2012). For example, when maltreatment-induced chronic elevation of cortisol occurs in the context of toxic stress, damaging effects in the brain can include deficits in memory formation and recall and impaired cognitive control over thought, emotion and behaviours, resulting in poorer later performance in school, the workplace and relationships (p. 5).

A review of ACEs suffered by maltreated children stated that they showed 'a smaller volume of the prefrontal cortex and hippocampus, greater activation

of the HPA axis and elevation in inflammation levels compared to non-maltreated individuals' and these observable childhood brain changes remained apparent in adult life (Danese 2012).

Longitudinal studies looking at the later adverse impact of ACEs on children's mental health and brain functioning suggest that early damage to a child's developing brain is not necessarily irreversible. The brain retains plasticity throughout the lifetime and if the child has acquired sufficient life-course resilience from a relationship with an 'always available adult', recovery from early ACEs may be possible, at least in part (Bellis 2017).

Impact on the child's social development

A review concluded that when social and psychological stressors occur during children's 'sensitive developmental windows', they may have enduring negative influences on later immune responses. These adverse influences could induce 'biological embedding', thereby exerting long-term effects on children's health, including their age-dependent psychosocial development (Danese 2012).

The long shadow of childhood neglect

The impact of neglect and emotional maltreatment on the developing child is less recognised than the impact of other types of abuse (Brassard 2020), despite neglect being the most 'challenging and prevalent' form of abuse (Hibbard 2020). Unfortunately, despite a significant evidence base about the harms caused by neglect, there is persisting professional resistance to intervening in cases that are seen as more nebulous 'acts of omission' rather than the clearer 'acts of commission' seen in other forms of child abuse.

A recent review of systems to protect children from severe disadvantage found childhood abuse, neglect and other ACEs to have been precursors of a long list of subsequent psychosocial disorders. These include behavioural problems, attention-deficit hyperactivity disorder diagnosis in middle childhood, bipolar disorder, childhood autobiographical memory disturbance, chronic mental health problems, eating disorders, personality disorders, post-traumatic stress disorder, psychosis, self-harm, suicide attempts and uncontrollable anger (Walsh 2018: p. 20).

The importance of children's physical environment during their early years has long been known to health professionals, educators and parents. Although it was recognised that young children need caring attention and that neglect of their needs could be harmful, this was not reflected in child-centred hospital visiting practices for the first half of the 20th century. At that time, children

could be separated from their parents for weeks or even months for various medical and surgical procedures, with few if any visits from family.

In 1952, James and Joyce Robertson released filmed diary of the reactions of a child of 2 years and 5 months to a stay in hospital for an operation (*A Two-Year-Old Goes to Hospital*). When the images of a child overwhelmed by emotions of distress and anger at her mother's 'abandonment' were viewed by politicians and policy makers this helped lead to an eventual change in hospital visiting practices for children (Ministry of Health 1959).

In a written commentary to the film it was noted that 'a prerequisite of mental health and of the ability to get on with people is the experience in early childhood of a warm, intimate and continuous relationship to the mother (or to a mother substitute) and that severe deprivation of maternal care can result in serious personality disorders, particularly in the direction of impaired capacity to make relationships' (Robertson 1953: p. 2).

Studies by John Bowlby and Mary Ainsworth on the (then) new concept of attachment of the child to his or her primary caregiver proposed that a reliable caregiver allowed the child to develop a 'secure attachment' to the caregiver and build up an 'internal working model' (a sort of template) of what to expect from future childhood and adult attachment figures (Bowlby 1969).

In a ground-breaking longitudinal 'natural experiment' after the fall of the Ceaușescu regime in Romania, Rutter and colleagues compared the health and developmental outcomes of 144 orphaned, profoundly institutionally deprived and neglected children with 52 non-institutionally deprived and non-neglected UK children (Rutter 2007). The serious developmental and emotional problems noted by the research team were tracked at ages 4, 6 and 11 years. Encouragingly, for those children subsequently adopted in the UK, 'The developmental catch-up of the children from Romania following UK entry was spectacular'. The authors concluded, 'following profound institutional deprivation lasting up to 3½ years of age, there can be, and usually is, a huge improvement in functioning following removal to a generally well-functioning family home'.

A recent integrative review of the evidence on institutionalisation and deinstitutionalisation of children (van IJzendoorn 2020b) looked at the global literature on children's development across several domains of functioning before and after institutionalisation and compared these data with the findings from a 2014 randomised control trial on the Romanian orphans (Nelson 2014). Some overall key findings of the review include:

- attachment difficulties: in the sample of 471 children in 11 studies, a significantly lower proportion of securely attached children (24%) was found in the institution-based children compared with the normative proportion (62%); in addition, there was a much higher rate (57%) of the two most dysregulated types of attachment (insecure-disorganised and unclassifiable) compared with the normative proportion (15%);
- delayed physical growth, brain development, cognitive development and attention: within the institutionalised group of children at least 80% were below the mean for the comparisons;
- a dose–response association: larger developmental delays and atypical development were predicted by longer stays in the institution.

As mentioned earlier, the importance of secure attachment is emphasised by a study showing how the resilience of the most abused and vulnerable individuals can improve when they are linked to an ‘always available adult’ with whom a secure attachment is established (Bellis 2017). The central role of caring adoptive parents in promoting a child’s resilience and recovery from severe early neglect, deprivation and trauma was a notable feature in the Romanian orphanage studies (Rutter 2007).

In the light of the literature on the effects of institutionalisation on child development, researchers (including two authors of the above-mentioned integrative review) proposed a new category of child maltreatment within institutions called ‘structural neglect’ (Juffer 2017). Such a new category of child maltreatment could fit well within existing definitions of child neglect and would allow description of the cruelty and deprivation experienced by children in certain institutions. If identified, structural neglect could also provide a rationale for the safeguarding of children and any subsequent legal action initiated against the institution’s proprietors.

Not all neglect and emotional abuse occurs in early childhood. As noted earlier, online activities are usually a positive, educational or social experience for children and young people. However, even children in safe, caring homes need the support and guidance of adults to avoid risky online behaviours. Parental neglect of the adolescent’s needs for discussion and guidance in relation to gaming and pornography access as they engage with the online world may result in gaming or pornography addiction and subsequent social alienation, particularly in young males.

Those who seek help with giving up online pornography recount how ‘social anxiety improved drastically – including increased confidence, eye contact, and comfort interacting with women. [They] also

often reported more energy to get through their daily lives, concentration became easier, depression was alleviated’ (Zimbardo 2015: p. xvi). Similar social benefits were reported for young people who sought help with giving up compulsive gaming.

Discussion

The substantial literature relating to ACEs has demonstrated the cumulative and negative dose–response effect on both the physical and mental health of adults who have suffered many traumatic and adverse events during childhood (Asmussen 2020). At the same time, Asmussen et al (2020: p. 5) warn against overreliance on adversity scores derived simply from ACE inventories: ‘we should also recognise that such screening tools are unlikely to be a substitute for empathetic conversations by skilled and supervised practitioners’.

The need for supervision and reflective practice in social work dealing with complex maltreatment cases has been repeatedly emphasised in serious case reviews. In reality, staffing resources for supervision are seldom allocated. A serious case review into the death of Baby V considered this absence of reflective supervision to have hindered action, highlighting (once again) lack of information sharing between adult and children’s services (Donovan 2016).

Lack of timely communication between practitioners in different agencies is particularly unfortunate, since there is abundant evidence that intervention by trained practitioners and carers with at-risk young children at early stages of their development is effective in terms of their physical and mental health outcomes (Walsh 2018: p. 90).

In addition to the timing of early intervention, the nature of the professional response to complex cases of child maltreatment must also be complex, multi-systemic and carefully thought out, perhaps with a ‘modular’ approach able to target specific needs within the range of comorbidities presented, while staying within national guidelines for work with maltreated children (Bentovim 2018).

Such children and families usually present with comorbid health and developmental problems in the children, substance misuse in one or both parents or carers, a history of domestic violence, multi-type maltreatment and polyvictimisation, as well as numerous other personal and systemic risk factors for child maltreatment (Price-Robertson 2013; Walsh 2018).

The report published by the Early Intervention Foundation cites 33 complex interventions to prevent ACEs. These programmes have been shown to have either level 3 evidence in which causality can be attributed, or level 4 evidence in which

MCQ answers

1 b 2 d 3 a 4 d 5 d

the evidence has been established in more than one study and there is clear evidence on long-term outcomes (Asmussen 2020: pp. 15–20).

Conclusions

Cost–benefit analysis shows that it is clearly more ‘cost-effective’ to prevent a maltreated child victim from becoming yet another tragic child death statistic. The failure of governments and local agencies to take remedial action in the light of this recent economic data on victim and death costs of child maltreatment is worrying and financially inexplicable (Conti 2017: p. 46).

A persistent level of political, professional and public denial of the very existence of child maltreatment, however, seems to continue despite the media outcries with every new, avoidable child death. Some 40 years later, the parallels with the community-wide denial of child maltreatment addressed in Kempe’s ‘six stages of community awareness’ model (Box 1) are striking.

Depressing as these fluctuating societal attitudes may seem, evidence also shows that children at risk of serious maltreatment can often be identified in very early childhood. Encouragingly, when these babies and young children are removed from risk and placed safely, their developmental catch-up can be ‘spectacular’ (Rutter 2007).

On balance, a great deal of progress has been made in the clinical and academic understanding of child maltreatment since 1962. In the words of two distinguished paediatricians, Leventhal & Krugman, ‘Much accomplished, much left to do’ (Leventhal 2012). It is also the case that a number of excellent services for maltreated children have been set up internationally (often with the support of children’s charities rather than government funding) and that children’s lives have been saved in many cases and improved immeasurably in other cases.

A welcome next step would be for governments of all countries to sign up to the four ‘general principles’ in the United Nations Convention on the Rights of the Child: non-discrimination; devotion to the best interests of the child; the right to life; and survival and development. These principles play a fundamental role in putting into practice all the other rights in the Convention (UNICEF 2020).

Author contributions

E.V. conceived the idea of the review and wrote the first, subsequent and final drafts of the paper. J.G. has read and edited every draft with emphasis on referencing and text correction. A.B. has read and edited every draft with emphasis on the broad

conceptual overview of the paper. All authors have read and approved the final manuscript.

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MCQs

Select the single best option for each question stem

1 ACE research studies:

- a suggest that early damage to a child's developing brain is irreversible
- b suggest that an ACE-type dose–response model best describes likely adult health outcomes for child victims of multi-type child maltreatment and polyvictimisation
- c confirm the presence of five well-known family risk factors for child maltreatment, excluding intimate partner violence
- d show that comorbid health problems are unusual in children with ACEs
- e show that screening for ACEs is widespread and reliable.

2 The most commonly occurring type of child maltreatment is:

- a physical abuse
- b sexual abuse
- c emotional abuse
- d neglect
- e witnessing or experiencing domestic violence or intimate partner violence.

3 The long-lasting impact of child maltreatment on children's mental and physical health includes:

- a poorer long-term adjustment and physical and mental health outcomes with multi-type maltreatment compared with single-abuse-type maltreatment
- b a significant, non-causal association with elevated adult inflammatory markers
- c somatic complaints in early adolescence (under 14 years old) associated with 2–3 ACEs
- d 10 times greater likelihood of having felt suicidal or self-harmed in adults with 4+ ACEs compared with non-ACE controls
- e presentation with intellectual disabilities, emotion dysregulation and antisocial behaviour, following an early experience of ACEs.

4 The limitation of the child's developing brain to recover from long-standing abuse includes:

- a continuing child maltreatment
- b a period of sustained 'toxic stress' in childhood without effective intervention
- c a history of severe traumatic brain injury/abusive head trauma
- d when maltreatment-induced chronic elevation of cortisol occurs in the context of toxic stress, damaging effects in the brain can include deficits in memory formation and recall and impaired cognitive control over emotion and behaviors, resulting in poorer later performance in school, workplace and relationships.
- e longitudinal research has not found significant biomarkers of inflammation in the brains of adults who were maltreated as children or who experienced abusive head trauma (AHT) as a consequence of witnessing or being involved in domestic violence.

5 Which of these is not a stage of community awareness of maltreatment proposed by Kempe?

- a recognition of battered child syndrome
- b denial of sexual or physical abuse
- c recognition of emotional abuse, neglect and deprivation
- d recognition of impact of this disturbing work on child health practitioners
- e guaranteeing that each child is wanted, loved and cared for, sheltered, fed, and receives first-class preventive services and healthcare.