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Depression: An Antecedent and Consequence of Burn-Injuries to Children

Heath J*
Centre for Appearance Research, The University of the West of England, UK

***Corresponding author:** Heath J, Centre for Appearance Research, Faculty of Health and Applied Sciences, University of the West of England, Frenchay Campus, Bristol, BS16 1QY, UK

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Abstract

Accidents are inevitable but burn injuries can be traumatic and distressing for the affected individual and their family, with a prolonged period of recovery. In this short review, emotional difficulties in parents (particularly depression) as both anantecedent and a consequence of burn injuries to children will be discussed, as well as intervention considerations to help families to cope with such distress.

Keywords: Burns; Depression; Children; Parents; Review

Introduction

Children are particularly vulnerable to burns; they are the 11th leading cause of child death between ages one to nine years, and the fifth most common cause of non-fatal childhood injuries. Common causes of burn-injury are hot fluids and surfaces, flames, chemicals and electrical sources. While a major risk is improper adult supervision, a number of burn-injuries in children result from child-maltreatment [1]. The prevalence of abusive burns is estimated to be 10%-14% of children admitted to burns units [2,3].

Studies suggest that burn-injuries occur more often in families that are already experiencing more stress than the general population, or where emotional disturbance (especially depression) is present in parents, or in families in which the child has emotional or behavioural difficulties [4-6]. One study found that 36% of parents whose child suffered a burn-injury exhibited at least one of: a history of substance abuse (18%), parental incarceration (18%), and involvement of child protection services (17%), history of psychological disorder (15%), and almost half of the sample had low socioeconomic status with limited financial resources [7]. More than 50 years ago, Long and Cope [8] found a heightened incidence of psychopathology in the family unit prior to a child's injury and, more recently, low health literacy has been associated with parental depression and with family behaviours related to child-injury [9].

Regardless of premorbid factors and family dynamics, burn-injuries can have dramatic and devastating consequences for patients and their families. This summary is part of a larger review on the biopsychosocial impact on parents when their child suffers a burn-injury. The larger review is being conducted as part of a PhD exploring support for parents of people with burn-injuries by the author. Emotional distress, particularly depression, is the focus of the current article for this depression-focused burns special edition.

Methods

A literature search was conducted using Web of Knowledge with the following keywords; "burn$", "depression", and "parent$" producing 39 papers. Twelve papers were relevant to this review and have been included. Their reference lists were also searched to ensure older research was cited.

The psychological impact of burn-injury to children

When a burn-injured child is hospitalized, they suffer enormous pain, fear, helplessness and anxiety in response to the burn-event and also to the painful and intrusive medical procedures required to treat them [10-12]. The psychosocial consequences for children include: nightmares and enuresis [13], fears of anaesthesia, surgery and social rejection, which have been related to post-injury depression [14], and symptoms of post-traumatic stress [15]. Children may also appear insecure and withdrawn when they are experiencing more psychological difficulties in adjusting to their injuries [10,16].

Despite the fact that burns are incredibly painful [11], physically threatening and psychologically and socially intrusive [17], and often result in increased family disruption, trauma and distress [4,11], evidence suggests that 95% of children maintain optimism, are outgoing and friendly [16], and are psychologically well adjusted to their burn-injury [18]. This statistic sheds a more positive view than that proposed by Woodward and Jackson [19] who found that 80% of children in their 1961study showed emotional disturbance following a severe burn-injury. Perhaps this positive shift is due to improved psychological support within burns services, alongside advances in medical treatment, to address distress and adaptation to appearance and functional changes.

Bakker et al. [20] surmised that depression may be a long-term problem for a small number of survivors, particularly those with larger burns. It has also been suggested that when young-adult survivors of childhood burn-injuries display indicators for psychopathology and worse psychosocial adjustment, they are more likely to perceive their family to be less cohesive and less independent, emphasising a need for committed familial support systems that encourage autonomy, expression of conflict, active mastery of the environment and self-sufficiency [21-23].

The impact on parents of burn-injury to their children

Injuries in children can have a significant impact on the health and mental well-being of parents. Symptoms of depression have been found to be more pronounced in the parents of burn-injured children than in parents of children hospitalised for other reasons [24,25]. Rates of depression reported have ranged from 15 to 44%

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among parents of burn-injured children [26-29], rising significantly at the time of hospital interview compared with retrospective pre-injury ratings [30]. High levels of clinically significant anxiety are also exhibited during the inpatient phase and are strongly associated with depression, which is suggestive of a global impact of the burn-event on parental well-being [28].

De Young et al. [31] found that during the acute post-burn period, 22% of parents experienced moderate to extremely severe levels of depression. After 1 month, this fell to 14%, and similarly, Cella et al. [24] also noted that depression dropped between 72 hours of injury and the six-eight week follow-up. Parents report that seeing their children respond to the injury with a stress reaction, such as disturbed sleep, heightened anxiety, and depression, heightens their own anxiety [32].

Fluctuating levels of anxiety and depression at different time-points following discharge from hospital have been noted [28,33]. Early in the outpatient phase parents have reported higher levels of general anxiety and moderate depression; parents at the mid-term stage reported general anxiety and the highest level of depression and for the sample of parents more than two years post-burn, it seems that again they report general anxiety as the dominant adjustment issue [28].

De Young et al. [31] found that at 6 months, 93% of parents were in the normal to mild range for depression which, similar to their results relating to anxiety, was comparable to the normal population in Australia. This supports Cella et al.'s [24] earlier finding that depression continued to decline in the subsequent months to a normal level. It seems from these studies that depression remits spontaneously six-eight months post burn-injury. Kent et al. [34] and Mason [30] also showed a decrease in depression up to six months, although 17.5% of mothers in Mason's study reported that at some stage during the initial six months post-injury, they had contemplated suicide or felt their life was not worth living.

The difference between Mason's results [30] and those of the other studies it that depression ratings at six months were still twice that rated for pre-injury. Recall bias may mean that retrospectively collected data is not an accurate estimate of pre-injury depression. Should this result be accurate, it demonstrates persistent symptoms of depression and, compared to a random community sample of women, the pre-injury scores of mothers of burn-injured children refutes the suggestion that parental psychiatric morbidity, particularly maternal depression, is a contributing factor to childhood thermal injury [30].

Contrary to this, in a recent population-level epidemiological study that addressed some of the limitations of previous research in terms of small sample sizes, selection bias, outcome measurement and limited follow-up; Enns et al. [6] found that although parents of burn-injured children have higher rates of mental and physical disorders in the two years' post-injury, a significant component is related to pre-injury morbidity. These findings support the hypothesis that family characteristics that predispose families to mental and physical health problems may also be risk factors for child-burn-injuries.

Blakeney et al. [21] explored depression over a longer follow-up period and found that symptoms of depression changed significantly from year to year for parents of children recovering from a burn-injury. However, it should be noted that this study was cross-sectional in design rather than providing a true longitudinal examination of parental adaptation. Parents assessed at two years' post-burn were significantly more depressed than all other parents. Those assessed at year three appeared to 'normalize', and those assessed at years four and five reported significantly less depression than either the normative sample or the group of parents with recently burnt children.

Blakeney et al. [21] proposed that higher parental depression at two years suggests that the time when the treatment regime is most involved for parents, and the child is most affected by the burn event, is the time when parents are least able to find the energy to persist and comply with such a demanding regime; this will result in a positive feedback loop which could lead to more depression and guilt. However, this can also correspond with scar maturation, and therefore discharge from services, which can be a difficult time for parents who are then faced with the reality that their child's scarring is no longer likely to improve.

Meyer et al. [35] found that parents reporting greater problems with their child's behaviour post-burn also reported statistically more depression than those reporting fewer problems with their children. Although parental stress and depression are related to a child's behaviour problems, this correlation does not enable us to determine whether the stress of the parent is causing the behaviour problems or vice versa.

In addition to the emotional consequences of burn-injuries, such traumatic experiences can also trigger intense physiologic reactions in those affected [36,37]. There are many psychosocial consequences of parenting a burn-injured child and studies have linked negative effect, which may manifest itself as depression, anxiety, anger, or hostility, with hypertension [38-43].

Interventions for families

Simons, Ziviani, & Copley [44] concluded that parental features on admission more consistently predict outcome for children six months after their injury than injury, child or familial factors. Therefore, patients and their caregivers need to be screened periodically by burns services for difficulties using an efficient screening process [45]. This will allow pre-existing morbidity and disturbance, grief over losses, and parental depression experienced during at least the first two years following a child's injury to be considered in care-planning to help parents cope with their child's injury in conjunction with the treatment plan of the child [4,6].

Such a care-plan would include assistance for caregivers in managing their own emotions and coping with the stressful demands of parenting a recovering child, without destroying the parent-child bond [4]. This calls for the whole family to be considered as the 'patient' during the post-burn period [35,46,47]. In the post-burn period, families may have limited time and resources that makes attending multiple appointments difficult; thus, coordinating appropriate appointments to address the injury as well as the psychosocial needs can reduce this strain.

A perceived lack of support is associated with parents' symptoms of general anxiety, depression and injury-related fear avoidance, as well as parents' perceptions of their child's health [48]. Structured sessions for parents and group therapy may be useful in facilitating

coping skills and reducing stress [49]. Peer support may also be valuable [50]. In a description of group meetings for families of burned children, Cahners and Bernstein [5] describe the apparent comfort gained from talking to those who have been there, and more recently Kornhaber et al. [51] found that peer support had a significant impact on burn-survivors' psychosocial rehabilitation, providing encouragement, inspiration, hope and reassurance.

However, burns-specific peer support can be a difficult support provision to access due to challenges surrounding recruitment and the maintenance of interest and enthusiasm [52]. The apparent success of some structured programmes for burn survivors and those in other healthcare domains [53,54] suggests that more research is needed in order to provide acceptable and practical ways of facilitating it; perhaps the availability of the internet can help facilitate this process for parents and survivors today.

Conclusion

A significant number of families experience psychosocial difficulties as a consequence of burn-injuries. Sometimes this traumatic event exacerbates previous difficulties, and the event itself can highlight on-going difficulties. The provision of psychosocial support for the whole family is important to aid the adjustment of the burn-injured child, as well as aiding parents to cope with and accept the occurrence of the traumatic event and its consequences. Healthcare providers should screen patients and families for psychosocial difficulties and be vigilant for parental depression, anxiety, and parental concerns about a child's risk of future harm and general health, as this may signify a perceived lack of support.

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