Feelings of guilt and embitterment in parents of children with burns and its associations with depression

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ABSTRACT

Objectives: The aim was to examine guilt and embitterment in mothers and fathers of children with burns and its associations with depression and burn severity.

Methods: Parents (N=61, mothers n=41, fathers n=20) completed self-report questionnaires on guilt and embitterment, 0.8-5.6 years after their child’s burn. Burn severity and sociodemographic variables were obtained from medical records and symptoms of depression were assessed with the Montgomery-Åsberg Depression Rating Scale (MADRS).

Results: The parents reported low levels of guilt, embitterment and depression. Burn-specific and general guilt were higher in mothers than fathers, but there were no differences in embitterment or symptoms of depression. General guilt was associated with depression, whereas burn-specific guilt and embitterment were not.

Conclusions: Parents with general guilt may suffer from symptoms of depression. An implication is that clinicians should address guilt feelings among parents in order to alleviate distress and to identify any need for further counseling.

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1. Introduction

Burns are one of the most painful injuries a child can experience. In high-income countries, burn injuries in children often occur at a young age, by scalding or hot contact, and it often occurs in the home with a parent nearby [1-4]. A child burn is also a very distressing experience for the parents, who are at risk of developing posttraumatic stress disorder (PTSD) and depression [5].

According to a review of previous studies, 19-44% of the parents have symptoms of depression during the first months after injury and 31-54% up to 5 years after the burn, while 0-36% fulfill diagnostic criteria for depression 0-5 years after burn [5].

A recent study suggests that levels of depression decrease more rapidly, from 22% of parents experiencing moderately to extremely severe levels of depression in the acute period after burn down to 14% after one month, and 7% at six months after injury, which is comparable to general population levels [6]. In addition, 16% of parents reported significant symptoms of depression five months after a child’s physical injury and the symptoms were associated with concurrent posttraumatic stress symptoms [7].

Parents often blame themselves for the burn injury because of their perceived lack of attention. Studies have reported that 27-81% of mothers experienced feelings of guilt after a child burn event [5]. Guilt feelings in general and about the burn injury have been correlated with...
posttraumatic stress symptoms (PTS) in parents of children with burn injuries [6,8,9]. De Young et al. [6] found that guilt, measured with the general self-blame subscale of the Brief COPE questionnaire [10], had a significant effect on parents’ PTS 6 months after burn injury in preschool children. Another study [8] reported that mothers who experienced feelings of guilt about the burn injury one year after burn had higher levels of PTS 10 years later. In addition, the child’s permanent scarring had a moderating effect on the relationship between guilt and PTS. The studies mentioned above have mainly included mothers; however, there is one study on couples with burn injury reporting an association between acute stress reactions and guilt [11]. Noteworthy is that excessive or irrational guilt is nowadays regarded as a symptom of PTSD and it is included in the DSM-5 [12] symptom cluster negative alterations of cognitions and mood.

Less is known about the association between guilt and depression in parents of children with burns. As general guilt is one of the nine core symptoms of depression, [12] feelings of guilt among parents may be an indication of a depressive health state rather than solely being a reaction to the burn injury. Thus, it is likely important to investigate both general and burn-specific guilt.

The aim of the study was to examine general guilt as well as burn-specific guilt and embitterment in mothers and fathers of children with burn injury and its associations with symptoms of depression as well as burn severity and socio-demographic variables.

2. Materials and methods

2.1. Participants and procedure

The sample of the present study consists of participants who had given consent to take part in a randomised controlled trial (RCT) [13] of a psychoeducational program for parents of children with burns. Recruitment was conducted through the two main Swedish burn centers with nationwide responsibility for treating patients with severe burns; the Uppsala Burn Center and the Linköping Burn Center. Parents of children admitted at the two burn centers between January 2009 and December 2013 were included in the study. Inclusion criteria for the parents were: (1) the child was under the age of 18 at the time of investigation, (2) parents were not being treated for a burn injury at the same time as the child, (3) the child’s burn injury was unintentional and there was no suspicion of neglect or abuse of the child as a cause of the burn, and (4) ability to comprehend the Swedish language. An information letter describing the study, a consent form and a pre-paid envelope was posted to eligible families. After one week, the families were telephoned and asked for consent by one of the investigators (JS), unless they had already returned the form by mail. Of 215 eligible families, 30 declined and 115 could not be reached or did not answer and 70 families agreed to participate (103 parents and 1 step-parent). There were no statistical differences between the children of the responding families (N=70) versus those who did not respond (n=115) or declined (n=30) with regard to gender, age and burn severity, i.e., length of stay (LOS) as inpatients at the burn center, Total Body Surface Area burned (TBSA burned), TBSA with full-thickness burns (TBSA-FT).

Of the 104 parents who agreed to participate, 62 (representing a response rate 59.6%) completed a baseline assessment for the RCT. One parent did not answer the items regarding guilt and was excluded from the present study, thus 61 parents are included in the analyses. The parents completed the baseline assessment before being randomised to either the intervention or the control group in the RCT (data from the RCT is reported elsewhere [14]). The data were collected via the internet using a secure web portal. The study was approved by the Regional Ethics Review Board in Uppsala (Reg. No. 2013:148).

2.2. Measures

2.2.1. Guilt

Parental guilt and embitterment were assessed with 4 items developed by the authors and inspired by the Guilt Scale [15] and Structured Clinical Interview for DSM-IV Axis I Disorders, the module for major depression [16]. Assessment comprised one item of burn-related guilt: (1) I usually feel guilt or see myself as being responsible to some extent for my child’s injuries, two items of generalised guilt: (2) I often feel guilt for things that I have done or failed to do. (3) I have felt guilt for no reason, and one item of embitterment: (4) I often feel bitterness toward some things or someone whom I feel, to some extent, feel is responsible for my child’s injuries. The items are rated on a 5-point scale ranging from 0-4 (0=never applicable, 4=always applicable) with higher scores indicating a higher degree of guilt or embitterment.

2.2.2. The Montgomery-Åsberg Depression Rating Scale (MADRS)

The MADRS [17] was used to assess symptoms of depression during the past three days. It contains 9 items rated on a scale from 0 to 6 covering the following symptom areas: (1) sadness, (2) inner tension, (3) reduced sleep, (4) reduced appetite, (5) concentration difficulties, (6) lassitude, (7) inability to feel, (8) pessimistic thoughts, (9) suicidal thoughts. A higher score reflects more symptoms of depression. The scale of the total score ranges between 0 and 54 (Cronbach’s α=0.87, M1MC=0.47). Scores from 12 to 19 are considered indicative of mild depression, and scores of more than 19 suggest moderate to severe depression.

2.2.3. Injury, child, and parent characteristics

Child and burn-related variables were obtained from the children’s medical records, including: age and gender of the child, length of stay as inpatients at the burn center (LOS), Total Body Surface Area burned (TBSA burned), TBSA with full-thickness burns (TBSA-FT). Data regarding the parents were obtained in the questionnaire including: age, gender, marital status (0=single, 1=married/cohabiting), working status (0=unemployed/parental leave, 1=working/studying), and education divided into low/medium (12years’ compulsory school or high school degree/upper secondary school), and high (university degree).
2.3. Statistical analyses

All analyses were performed with the statistical package IBM® SPSS® Statistical package version 23. The internal consistency of guilt was evaluated with Cronbach’s alpha coefficients and mean inter-item correlations (MIIC). A Cronbach’s alpha of >0.70 is regarded as satisfactory [18], while the recommended range of MIIC is 0.15-0.50 [19]. The MIIC is not affected by the number of items as opposed to Cronbach’s alpha and thus provides additional information. Test-retest reliability and associations between measurements were assessed with Spearman’s rho correlations. The test-retest analysis was conducted with the baseline line data and 3-month follow-up for participants included in the control group of the RCT study.

3. Results

Forty-one mothers and 20 fathers, 13 of whom were parents of the same child, were included in the study. Demographics and burn characteristics of the children and parents are summarised in Table 1. Of the 61 parents, 56 were married or cohabiting, 57 were working or studying and 29 had a higher education degree. There were no differences between responders and non-responders regarding age or gender of the child, time since injury, burn severity, i.e., total TBSA burned, TBSA-FT or LOS.

The reliability of the guilt and embitterment items was examined by inter-item correlations and Cronbach’s alpha values. The inter-item correlation between the embitterment item and the burn-specific guilt item was very low, 0.10, and when the embitterment item was deleted, the Cronbach’s alpha of the remaining three items together increased from 0.79 to 0.84. The MIIC was 0.46 when including all four items and 0.65 when excluding embitterment. Hence the embitterment item was analysed separately. The remaining 3 guilt items were further scrutinised, and the inter-item correlation between the two general guilt items was high, 0.78, thus the average sum of the two items was analysed. The inter-item correlations between general guilt and burn-specific guilt were 0.63. This indicated that general guilt and burn-specific guilt did not overlap to a great extent and suggested that the two should be treated separately. In the remainder of the results section the burn-specific guilt item, the average of the general guilt items, and the embitterment items were reported as three separate variables. Test-retest coefficients were all significant, for general guilt it was 0.80, for burn-specific guilt it was 0.73, and for embitterment it was 0.68.

On a group level, the parents reported a low degree of general guilt (1.3), burn-specific guilt (mean 1.7), and embitterment (0.4), on a scale from 0 to 4 (Table 1). Of the 61 participants, 48 reported some feelings of guilt (scores of 1-3), the corresponding figures for burn-specific guilt and embitterment were 44 and 15, respectively.

Mothers had statistically significantly higher scores than fathers on general guilt, 1.6 (SD 1.2) vs 0.7 (SD 0.9) (Table 2). General guilt was positively associated with MADRS total score as well as the individual items 1 (sadness), 2 (inner tension), 8 (pessimistic thoughts) and 9 (suicidal thoughts), and the strongest correlation was with item 8, pessimism. General guilt was also associated with younger age of the parent. There were no associations between general guilt and burn severity or child characteristics.

Mothers also had statistically significantly higher scores than fathers on burn-specific guilt, 2.1 (SD 1.3) vs 0.8 (SD 1.1). Burn-specific guilt was also higher in parents of younger age and in parents of younger children at the time of investigation. It was not associated with symptoms of depression. The only burn severity variable that was associated with burn-specific guilt was LOS, indicating that parents whose children had stayed longer in hospital expressed less burn-specific guilt (Table 2).

There was no difference between mothers and fathers on embitterment, 0.5 (SD 0.8) vs 0.4 (SD 1.0). However, parents of girls had on average higher embitterment than parents of boys. Embitterment was associated with two MADRS items (no. 8, pessimism and no. 9, suicidal thoughts), but not the total score.

Overall, the parents reported low symptom levels of depression (MADRS mean 4.6) and there was no significant difference in MADRS scores between mothers and fathers, 4.5 (SD 5.3) vs 4.9 (SD 5.9) (p > 0.05, data not shown). Among the parents, 56 had scores from 0 to 11, three had scores from 12 to 19 indicative of mild depression, and two had scores of more than 19 which suggests moderate to severe depression.

4. Discussion

This is the first study focusing on parents’ feelings of guilt and embitterment after a child burn and its associations with depression. In addition, most previous studies including guilt in burn research has not included fathers. The results showed that parents, 0.8-5.6 years after their child’s burn, had low
levels of guilt and embitterment, and low symptom levels of depression. Both general and burn-specific guilt was more common in mothers than fathers, whereas embitterment did not differ between genders.

The measure of guilt and embitterment was developed for the purpose of this study and showed satisfactory reliability. Reliability analyses suggested that general guilt, burn-specific guilt and embitterment should be treated as three separate variables.

Burn-specific guilt was not associated with symptoms of depression, which is a difference in comparison with research into posttraumatic stress, which has been found to be correlated with burn-specific guilt. However, general guilt was associated with symptoms of depression, as expected. The strongest correlation was with the item (no. 8) on pessimism, which taps into guilt and self-confidence. In the Swedish version of MADRS, this item is introduced as follows: “The question is about how you see your future and how you appreciate your own value. Think about to what extent you blame yourself, if you are troubled by feelings of guilt, and if you have worried more than usual for your economy or your health”. The observed association suggests that the measure of general guilt has some concurrent validity. However, a more precise measure of guilt than the MADRS would have been preferred in order to ascertain concurrent validity. Altogether, these psychometric analyses suggest that there is an association between the current measure of general guilt and depression, implying that general guilt might be regarded as a symptom of depression, whereas burn-specific guilt and embitterment generally should not.

Parents of younger children had more guilt feelings, which might be explained by closer proximity between parents and young children as compared to older children, and a greater sense of responsibility for the security of a younger child. In addition, many young children’s scald injuries occur with a parent nearby, though the parents may experience more guilt as they possibly feel that they should have been able to prevent the injury compared to parents not being around the child. Unfortunately, this study did not include questions about parents’ whereabouts during the burn event. Burn severity of the child was not associated with parents’ guilt or embitterment, except that a longer length of stay in the hospital was associated with lower burn-specific guilt. A tentative interpretation is that parents who stay longer have more time to process the event and more opportunities to get emotional support from staff and family members before discharge. An implication could be that clinical staff should address guilt feelings among parents in order to alleviate distress or identify needs for further counseling.

As this is the first study focusing on guilt in both mothers and fathers after a child burn, the results cannot be compared to previous studies. However, research has shown that women have higher levels of guilt than men, which is consistent with our results. Women have also been shown to feel more

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<th>Table 2 – Guilt and embitterment correlations with parent symptoms of depression, child and parent characteristics (Spearman’s rho)</th>
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<tr>
<td><strong>Guilt general</strong></td>
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<tr>
<td>Parent characteristics and symptoms:</td>
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<tr>
<td>MADRS 1 sadness</td>
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<td>MADRS 2 inner tension</td>
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<td>MADRS 3 reduced sleep</td>
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<td>Child characteristics:</td>
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<td>Child’s gender (1=boy, 0=girl)</td>
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<td>TBSA-FT (%)</td>
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<td>Length of stay in hospital (days)</td>
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TBSA=Total Body Surface Area burned, TBSA-FT=Total Body Surface Area Full thickness burns.

Categorical variables were analysed with t-test.

* p < 0.01.

** p < 0.001.
blamable for undesirable outcomes [23], which could be linked to the finding of more burn-specific guilt in mothers in the present study. One could speculate that as most injuries occur at home and at young ages, the tradition of women taking the major responsibility for young children during parental leave may increase their feelings of responsibility and guilt.

A limitation of the present study is the small sample size, which limits the generalisability of the study. It could also be considered a limitation that guilt and embitterment were assessed with only a few items and not with a more elaborate or well-known instrument such as the test of Self-Conscious Affect (TOSCA) [24] or Guilt and Shame Proneness Scale (GASP) [25]. However, these examples are designed to assess trait guilt, and not state, which was the purpose of this study. Instead we chose to be inspired by the Guilt scale, as it was developed with the intention to increase the knowledge about psychopathological states, and the SCID, which is developed to assess major depression. A strength is that there were no missing responses on any of the measures, i.e., there was no internal attrition and the raw data held a high quality. A large majority of the parents were married/cohabitating and working/studying, indicating stable social and economic circumstances, thus the findings may not be generalizable to families with lower socioeconomic status or single parents. Also, the study sample was mostly parents of children with small to moderate injuries, and the results might have been different in a sample of children with more severe burns.

In summary, parents of children with small to moderate burns had low levels of guilt and embitterment after burn injury, and general guilt was associated with depression, whereas burn-specific guilt and embitterment were not. The severity of burn was not related to parents’ feelings of guilt, but mothers expressed more guilt than fathers and parents of girls expressed more embitterment than parents of boys.

Clinical implications: Based on the present data clinical staff should be attentive to parents who display guilt feelings as that might be indicative of a depressed mood and may warrant clinical attention. Burn-specific guilt and embitterment are less likely to indicate depression, but previous studies have seen associations with symptoms of posttraumatic stress [6,8,9]. In general, parents who express any form of guilt or embitterment should be met with empathetic listening and given the opportunity to reflect on their experiences. Such a brief intervention of active listening might be sufficient support in most cases, and also gives clinical staff information as to whether a clinical referral is necessary or not.

Conflicts of interest and source of funding

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REFERENCES