Sibling Experiences after a Major Childhood Burn Injury

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The purpose of this research project was to understand, primarily from the sibling perspective, the effect of a child's major burn injury on his or her sibling. A mixed method qualitative dominant design was implemented using the life story method for the qualitative portion. Additionally, the Sibling Relationship Questionnaire – Revised (SRQ-R) was used as a structured interview guide and for calculating scoring data to explore sibling relationship factors of warmth/closeness, rivalry, conflict, and relative status/power. Participants from 22 family cases (one or multiple family members) and 40 individuals were interviewed. To capture impact on the family over time, interviews began a minimum of two years post-burn. The central thematic pattern for the sibling relationship in families having a child with a major burn injury was that of normalization. Two components of normalization were described: areas of normalization and the process of adjustment. Areas of normalization were found in play and other activities, in school and work, and in family relations with siblings. The process of adjustment was varied and often gradual, involved school and work re-entry, and in some instances, seemed to change life perspective. Clinical implications in providing family-centered care can focus on promoting normalization by assessing and supporting siblings who may only be occasionally seen in the hospital or clinic.

Little research has investigated siblings of the child with a burn injury. This study sought to determine the effect of a child’s major burn injury on his or her sibling.

Literature Review

Childhood Burn Injury Survivors

Siblings of children with a burn injury were the primary research focus in two studies (Mancuso, Bishop, Blakeney, Roberts, & Gaa, 2003; Phillips, Fussett, & Rumsey, 2007). In the study by Mancuso et al. (2003), 79 non-burned siblings participated; of those, 14% (n = 11) believed children with burn injuries received special treatment. Additionally, 55% (n = 43) of siblings believed parents were doing too much for the child with burns. When parents completed the Child Behavior Checklist (CBCL) regarding sibling behaviors, siblings scored below normal on overall competence when compared to the normative sample. These differences reached significance with the severe (n = 20; greater than 60% Total Body Surface Area [TBSA]) and moderate (n = 24; 30% to 59% TBSA) sibling sub-samples on the Total Competence and the Social Competence subscale of the CBCL.

In a second study with 15 non-burned siblings, siblings reported feeling upset by their sibling’s changed appearance, were concerned about their sibling being upset by their sibling’s changed appearance, and their parents for allowing their stories to be told.

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Cancer Survivors

Since there is little research regarding siblings of children with serious burns, literature related to parents and siblings of a child having cancer was reviewed for similarities on the impact on siblings with these life-altering events. These families also have a before and after picture of what their child was like prior to a life-altering event.

An adaptation, stress, and coping (ASC) model was often the framework chosen for research regarding the impact of a child with cancer on the family. Studies with healthy siblings of cancer survivors consistently reported changes in the family due to disruptions and separations related to treatment of the ill child (Ballard, 2004; Barbarin et al., 1995; Bender, 1987; Chesler, Allswee, & Barbarin, 1987; Cornman, 1993; Gogan, Koocher, Foster, & O’Malley, 1977; Koch-Hattem, 1986; Kramer, 1984; Lehna, 1998; Murray, 1998; Sloper, 2000; Walker, 1988). Specifically in the studies by Kramer (1984), Sloper (2000), and Walker (1988), disruptions in the family increased sibling expressions of stress (such as withdrawal, anger). Parents helped siblings cope by having open communications and providing information to them. Use of the Children’s Version of the Family Environment Scale for siblings of cancer patients showed that positive adaptation occurred more often when siblings were members of a family with more than four members (Madden-Swain, Sexson, Brown, & Ragab, 1993).

Studies investigated how the family’s micro-culture influenced sibling anxiety, fear, and behavior disturbances in siblings. Results demonstrated a range of findings from higher anxiety (Hamama, Ronen, & Feigin, 2000), no change (Horowitz & Kazak, 1990) and/or with positive changes (Asada, 1987; Bush, 1987; Cohen et al., 1994; Kramer, 1984). Siblings fared best when they participated in support groups, were included in decision making, and when families having a child with cancer were cohesive.

The coping model by Folkman, Schaefer, and Lazarus (1979) has been used most often to assess psychological adjustment of siblings. In this model, coping resources mediated the sibling’s adaptation, stress, and coping ability. These resources include physical and emotional well-being, problem-solving skills, social networks, general and specific beliefs, and resource utilization. Folkman et al. (1979) also used the CBCL to measure adaptation, stress, and coping behaviors.

Authors of studies investigating sibling interactions with children with cancer used the CBCL to measure stress outcome behaviors (Bush, 1987; Cohen, 1985; Cohen et al., 1994; Evans, Stevens, Cushiway, & Houghton, 1992; Horowitz & Kazak, 1990; Tolley, 1987). In two studies, neither sibling knowledge about cancer nor age/gender of siblings predicted incidence of behavior problems (Evans et al., 1992; Tolley, 1987).

On siblings of a child with cancer, similar findings from qualitative and quantitative studies documented both little change and increased stress after the diagnosis (Ballard, 2004; Barbarin et al., 1995; Brett & Davies, 1988; Bender, 1987; Chesler et al., 1987; Gogan et al., 1977; Koch-Hattem, 1986; Kramer, 1984; Lehna, 1998; Murray, 1998; Rollins, 1990; Sloper, 2000; Walker, 1988). A unique finding from the qualitative studies was that positive sibling responses often emerged as an outcome of their brother or sister’s cancer. Described in several studies, positive findings involved increased sibling maturity, supportiveness, and independence (Barbarin et al., 1995; Kramer, 1984; Sloper, 2000). Kramer (1984) and Sloper (2000) also noted increased sibling sensitivity and empathy, greater cohesion, and understanding. Some experienced closeness, emotional growth, empathy, increased awareness, and the need to help others (Chesler et al., 1987; Iles, 1979; Lehna, 1998, 2009; Martinson, Gilliss, Colaizzo, Freeman, & Bossert, 1990; Murray, 1995; Sargenti et al., 1995).

Method

Design, Sample, Setting, and Procedure

A mixed-method, qualitative-dominant design (Creswell & Plano-Clark, 2007) was used to understand the experiences of the siblings of a child suffering burn injuries. The qualitative portion used the life-story method, a narrative process described by Atkinson (1998), Leininger (1984), and Tierney (2003). Narrative interviews consisted of open-ended and probe questions as recommended by Spradley (1979), such as, “Tell me about what it has been like in your family since your brother/sister was burned.” “What do you remember about the day ‘A’ was burned?” After Institutional Review Board approval, the family’s care coordinator approached family members at their child’s plastic surgery clinic visit regarding study participation. With verbal family approval, either the care coordinator identified the family to the principle investigator (PI), or the family contacted the PI. The PI verified inclusion criteria for each sibling were met: at least two years post-injury event, siblings lived together at the time of the burn injury, at least seven years of age post-injury at the time of the interview, and the children had no cognitive impairment. Following parental consent and child assent or consent, the parent completed the demographic information and severity of injury forms. Next, siblings were interviewed separately in a private examination or conference room, in the clinic. Interviews lasted from 15 minutes to one hour, with average length 35 minutes. When the uninjured sibling was not present at the initial contact, an assent or consent form was sent home with the parent to return signed by mail. Upon receiving sibling assent or consent, the PI contacted the sibling for the telephone interview. In this study, a case was composed of one or multiple family members (for example, a child with the burn injury, sibling, and/or parent). The primary study focus was to interview the siblings, especially the sibling without burn injury; however, sometimes the parents were the key informants.

Additionally, in second interviews, because siblings had not been talkative, the Sibling Relationship Questionnaire – Revised (SRQ-R) was added (Furman & Buhrmester, 1985). The SRQ-R was chosen because it was one of two instruments that looked specifically at sibling relationships and was developed with healthy school children. Though the CBCL had been used with siblings having a brother or sister with cancer, it was not chosen for this study due to high inter-item correlations and because it had been developed in children who had symptoms of clinical pathology.

As in the first interview, siblings were independently asked individual
interview questions (SRQ-R questions) by the PI, and then at the end of a response asked to rate their response (for example, from 1 to 5). Examples of SRQ-R questions include: “Who usually gets treated better by your mother, you or this sibling? How much does this sibling tell you what to do?” To obtain fuller responses, after they answered each question, the siblings were asked, “Tell me more about that, or please give me an example.”

**Instrument**

The SRQ-R is a 48-item instrument with parallel parent and child versions (Furman & Buhrmester, 1985). Respondents check answers to items describing their relationship from “hardly at all” to “extremely much.” Four factors (derived from the factor loadings from the initial instrument development factor analysis) were Warmth/Closeness, Relative Status/Power, Conflict, and Rivalry. Sixteen sub-scales composed of three items each make up the four factors. To determine participant scores, sub-scale scores were averaged except for the Relative Status/Power factor. For that factor, the sub-scale scores of nurturance of sibling and dominance of sibling are subtracted from the scale scores of nurturance by sibling and dominance by sibling. Participants are allowed to miss one item and still have sub-scale scores.

**Data Analysis**

All transcripts from the 22 cases (N = 40 participants) were used for this analysis. Qualitative data were examined for recurrent themes; narrative analysis was ongoing from the beginning of the study as recommended by Atkinson (1998) and Miles and Huberman (1994). Written summaries were completed after each transcription was reviewed line by line while listening to the tape recording. Verbatim responses were grouped along an injury time line (such as before burn injury, burn injury, hospitalization, after hospitalization). Other relevant information and analytic field notes were added to the right margin. Research notes were added to the end of the case summary detailing other questions or issues to address during the next interview. Narrative analysis occurred within individual summaries, first across members within one family (case), and then across family cases for commonalities and differences (such as looking at family and individual issues). Further notes were added in the journal. A schema with categories describing data was developed through discussion and debriefing with a senior researcher and through interpretation by the PI. Major thematic perspectives followed developmental and injury perspectives (for example, normalization of the injury event within family and outside, examining appearance issues, and warmth/closeness). From early in the analysis, categories were refined as the study progressed and subsequently applied to the entire data set. Concurrent with the analysis, additional literature was examined related to emergent themes (Atkinson, 1998; Miles & Huberman, 1994).

**Findings**

Participants from 22 cases (N = 40) were interviewed, and participants from 11 cases (n = 19) were re-interviewed to clarify information. Interviewed the first time were burn survivors (n = 19), siblings (n = 16), mothers (n = 4), and one father. Interviewed the second time were burn survivors (n = 11), siblings (n = 7), and mothers (n = 3). See Tables 1 and 2 for gender, age, pair relationship, income, and race information. Using the Mancuso et al. (2003) system, those with severe injury (n = 10) had their total body surface area (TBSA) greater or equal to 60% burned. Those children (n = 7) who reported they were moderately burned had a TBSA burn 30% to 59%, and those children (n = 5) who reported they were minimally burned had a TBSA burn less or equal to 29%. Time from burn injury to the interview for the child with burns was 7.5 years of age + 5.3 years of age + 5.73 years of age. The range from burn injury to interview for both groups was from 2 to 21 years.

The central thematic pattern for the sibling relationship in families having a child with a major burn...
Normalizing siblings experiences after a major childhood burn injury involves understanding the process of normalization and its components. Normalization refers to the process of establishing a pattern of daily living that minimizes the consequences of the chronic illness (such as burn injury). It is the application of age-appropriate expectations by parents and others, promoting age-appropriate activities to support growth and development, and supporting routine patterns of daily living. A central focus is parental expectations that children with burn injuries attend school, are disciplined, and do chores and homework. In these findings, two components of normalization were described: a) areas of normalization and b) the process of adjustment.

Areas of Normalization

Because 17 of the 22 children in this study received burns classified as moderate or greater, frequent trips back to the hospital for reconstructive surgery were required. In many cases, the child’s appearance was altered, and scarring of joints limited motor activity. However, study participants did not focus on activity changes after the burn injury (for example, amputations or scarring). They generally resumed age-appropriate activities.

Play and activities. Play helps children accomplish age-appropriate developmental skills, deal with stress-ful events, and move on to the next stage of development. Pre-burn, school-aged children described playing sports (such as football, soccer, baseball, basketball), riding bikes, and jumping on a trampoline outside their home. They also described inside activities, such as watching TV and listening to music, and playing video games, Legos®, and house. Remarkably, play and activities between the siblings after the burn injury were often the same or similar as those prior. One teen boy with a moderate burn injury said, “I play football, baseball, and sports. I play a lot of Nintendo™ or computer games, like Edge Block, killing games, basketball games, and football games.”

Only once did a sibling pair mention needing to adapt their play to accommodate the child’s disability. This child had a severe burn injury resulting in bilateral leg amputations. The boy with the burn injury said, “We would take turns being in my wheelchair and race around the house, or we had a paved driveway, and we would race up and down the driveway.” Note how both of the boys pushed the wheelchair even though the one with the burn injury had a bilateral amputation and wore leg prostheses.

Demonstrating typical female activities, girls played with dolls, read, and occasionally participated in sports (for example, rode bicycles, played soccer). One teen girl with a severe burn injury (more than 60% TBSA) said, “I’m in drama, on the drama team, and in choir. I’m not a big sports person. I have a boyfriend. We usually go the movies or just hang out. We have been dating for two-and-half years.”

After the burn, children talked about resuming pre-burn play and activities, whether quiet, inside activities or outside activities. This is significant because despite the visible and physical injuries that could influence physical function, they normalized their activities and play.

School and work. Attending school for school-age children and adolescents, and working for the older adolescents and young adults were important normalizing activities. Children repeatedly talked about going back to school, graduating, getting a job, or going to college. A teen girl with a severe burn (over 60% TBSA) injury related to a motor vehicle accident nine years ago said, “I’m filling out one (college application) at my house right now. It’s in Arizona, the one I’m filling out right now. It’s about three hours from home. I’ll be living there.” One teen boy with a moderate burn injury (30% to 60% TBSA) said, “I’ll be in the military by then (after graduation).”

In follow-up interviews, children with burn injuries and their siblings progressed along a developmental timeline. Siblings previously in junior high school or high school described graduating from high school, junior college, or college, or had plans for getting their GEDs, going into the military, or going to college. Some described working full time as a nurse’s aide, a receptionist, a human relations director, being married or separated, and having one to two children. Adolescents and young adults were engaged in very normal developmental activities despite their moderate to large burn injuries. One college student 12 years after her severe burn injury (over 60% TBSA) said, “Neither of us is now living at home. As I said, I am at college, and I live in a sorority.”

Two sisters, one with the childhood burn injury, strove to achieve normalization through attaining developmental milestones expected in young adulthood despite adversities. The 21-year-old sister with the severe burn injury said of her 30-year-old sibling, “Because she’s come a long way in her life, and she’s had a lot of obstacles. She’s gotten her master’s degree, and she has two children she takes care of on her own. Her children are 12 and 10 or 11.” She continues, talking about herself:

In certain areas of my life, I would say she is very proud of me in the way I deal with what I’ve gone through [the severe burn injury], and that I don’t let being burned bother me. I don’t let it bring me down, and the way I’ve overcome certain situations in my life. She respects...the way I deal with certain issues. My second child will be born this week, I’ve completed my prerequisites to getting into a nursing program, and I’m waiting to hear about admission this fall.

Family relations. Sibling relationships were assessed in 21 participants (13 cases) who completed the SRQ-R. In 16 of 21 participants (10 cases), scores were above a 3 on the 5-point scale on the Warmth/Closeness construct, indicating respondents perceived the sibling relationship was close.

An excellent illustration of sibling closeness is revealed by the older 30-year-old female sibling whose sister experienced a severe burn injury, “We are just really close. We talk on the phone a lot. We are very in touch and
in tune with what's going on in each other's lives and...she's always there if I need her, and I'm always here if she needs me.” These siblings share secrets with each other, feel proud of each other, and have admiration and love for each other.

Another teenage girl, who had a moderate burn injury, talked about her brother, who is 23 years old and married with children of his own, as being close.

"He comes over to my house and just stays there to talk. I told you before, he's very responsible, and he's protective, and he's sweet... Like, if he's sick or if I'm sick, we're always there for each other, like to comfort each other, or I mean, if he's sick, I'm always there like, 'Oh, do you need anything?' Or he's always there for me asking me if I need anything to make me feel better.

No change in their relationship was described in a few cases. One 19-year-old girl with a severe burn injury said: "I guess it was the same. I have...four brothers, so it was about the same." Another male/female sibling pair, an 18-year-old with the severe burn injury and a 16-year-old sibling said, "We each had our own group of friends. So there was no change." The last sibling pair included two boys, a 16-year-old with a burn injury and his 19-year-old brother. They stated, "There was no change. We just like to argue and fight but not as much because we are maturing – hitting puberty and stuff like that." This further illustrates the trend of normalization within families and specifically the siblings.

A finding unique to this study was warmth and closeness between the siblings, whether they were two brothers, two sisters, or a brother and a sister. Even though siblings lived in different parts of the country, they stayed close through frequent telephone calls and often spoke daily.

**Equal parental treatment.** From the structured responses on the SRQ-R, 15 of 21 participants described the mother's treatment of the siblings as being the same. Six participants did not have fathers in the home, so they did not answer the question. Eight of 15 participants with fathers in the home described their father's treatment of the siblings as the same. Equal parental treatment was an important thematic pattern and was supported with narrative data. Again, this is important in light of the frequent trips made by the child and one parent for reconstructive surgery. Parents would have had to work hard to achieve equal sibling treatment. In one example, a 15-year-old girl with a minimal facial burn injury described her mother's treatment of her children: “Neither of us is favored. She tries to always, like she gives us the same amount of attention. I mean we've never felt like one of us was liked more.”

Another excellent example from a 19-year-old girl with a severe burn injury sums up why equal treatment was important to her in the normalization process:

"My best advice is to act like you're normal because you are and don't let your parents, brothers, or sisters act like you're different than you are because that would have handicapped me more...my whole family acted like I was normal, and I think that made me feel like I was normal more than anything, so I don't walk around with it on my shoulders. I think that had a lot to do with it; no one treated me like I was special because of it; it wasn't like, 'Oh well, she's burnt, so we got to give her special treatment,' so it was never like that.

Seven participants' scores on the SRQ-R revealed their perception that their father treated one or the other sibling differently. In one case, the 30-year-old sibling stated about her sister with a severe burn injury:

"Dad treats my sister better... My father and I have a rather stormy relationship. So it's very hot and cold, and he definitely does have a soft spot for her although they have their moments as well. But I think he's a little more amicable to her.

This 30-year-old sibling had left home when she was 16. At that time, she reported her father to Children's Protective Services because of his abusive behavior toward her when he was drinking.

In summary, striving to treat children the same seemed to help the children over the rough spots in their adolescence and was described by these siblings as extremely helpful in their normalization.

**Process of Adjustment**

Adjustment to a life-altering injury, such as a childhood burn injury, can vary according to many factors (including type of injury, age, experience, gender, and type of family event, such as death or divorce). The burn injury alone may interfere with adjustment, or the different events may be cumulative in their effects on adjustment. Family members might be gradual or occur quickly. After the life-altering burn injury, many participants said little about this adjustment process. In other families, members spoke about its difficulty.

**School and community re-entry.** Initially, some children had to overcome staring, teasing, embarrassment, and ridicule when they re-entered school, played in the neighborhood, or went out into public places. This change in appearance was often a major issue. During initial interviews, it was not the children with the injury who talked about re-entry. It was their brother, sister, or parent who talked about how they overcame this by themselves or through help from other family members or professionals. School re-entry was an especially difficult time for some children. A boy with a severe burn injury said:

"When I first came back, I'd get in a lot of fights and get in trouble. After I was at the school for a while, they just got used to me and didn't make fun of me. When I got stronger, because I was in football, I didn't get teased anymore.

A 20-year-old woman with a severe childhood burn injury said:

"Some people [called me names or made fun of me], but I used to handle it by being mean and wanting to fight everyone. However, here lately it does not matter, I just keep on walking. They still do stare sometimes. Mainly kids more than adults.

**Adjustments after other life-altering events.** For other families, the child's major burn injury was one of several major life events (such as divorce, death of a family member) during the process of normalization. These family members described how personal value systems changed. Sometimes, they reported becoming more spiritual after these challenges. In one family, the mother described how she changed her values and increased her church participation to reflect her inner change after her son's burn injury and then her husband's sudden death. She believed that her inner change was role modeled for her son, a 17-year-old male with a moderate childhood burn injury. He
said, “I hope to go to a Christian college. I want to be a youth minister just like my brother.” He shared his hopes. “He [older brother] is doing what I want to do, and that is work with kids.”

A 19-year-old girl with a severe burn injury revealed the injury seemed to change her life priorities and help her focus on what was important. She describes her spiritual life by saying, “I go to church every Sunday and every Wednesday. I would say I’m very spiritual. It’s very important to me.” She goes on to talk about her brother, who she admires, and how his life changes further strengthened her spiritual beliefs. “Well, he’s had a lot of things go wrong in his life, and I’ve seen him overcome them, and it’s made me see him in a new light than the way I used to see him.”

In conclusion, adjustment to the major burn event could be gradual and uneventful or result in increased spirituality. A close sibling relationship seemed to occur after the injury and was described by a majority of the participants. Sharing secrets with, being proud of, and having love and admiration for each other manifested warmth and closeness. Several participants, including non-burned family members, described their adjustment to staring and teasing.

### Discussion

Accounts were examined from 2 to 21 years after the burn event, with an average age of 7.5 years for the child with the burn injury and 6.38 years for the sibling. These findings are similar to those of other studies examining burn survivors. Findings from one interview study of children and adult childhood burn survivors support findings from this study in that the child with burn injury needed maternal warmth: “I need to have my family say the scars are there but it’s OK” (Holaday & McPhearson, 1997, p. 350). In the same study, an important area of normalization was that parents insist the child with burns do chores, follow house rules, and do their homework, which again supports findings from this study.

**Warmth and closeness** was described in other studies of siblings experiencing a life-altering event. Researchers have described siblings in a family with a child with cancer having more adaptive coping when the family was more cohesive (Asada, 1987; Cohen et al., 1994). In other research with siblings of a child with cancer, higher scores on cohesion were associated with fewer sibling behavior problems (Horowitz & Kazak, 1990). Kramer (1984) reported families experienced more cohesion after having a child diagnosed with cancer.

Families in a classic, multi-center study examining sibling adaptation to childhood cancer, unlike the families from this study, described siblings who were distressed about the family separations and disruptions, and lack of attention (Sargent, 1995). Some siblings in the same study, similar to siblings in this study, described becoming more compassionate (15%) and families becoming closer (16%). Unlike this current study where age or birth order did not determine feelings of warmth and closeness, older siblings from Sargent’s (1995) study reported becoming more caring, compassionate, and closer, and having experiences they otherwise may never have had.

During first interviews, many children did not mention the teasing, staring, and ridicule they received. However, in some second interviews and when other family members, such as parents, were interviewed, the frequency of this occurrence became evident. Lawrence, Fauerbach, Heinberg, and Doctor (2004) found a negative correlation between visible scarring and self-satisfaction with appearance, and perception of others’ reaction to appearance for 361 burn survivors. Further, visible scarring had low but significant correlation with perceived stigmatization. In addition, Blakeney and colleagues (1988) reported moderate to severe problems in appearance for children who received 80% to 95% TBSA burned between the ages of 0.8 to 12.4 years. Although children in this study did not often talk about staring and teasing, it did occur and required adjustment on the part of the child with the burn injury and/or his or her sibling. This adjustment happens every time they enter a new social situation, but as time goes on, the survivor with burns gives it little emphasis. Lack of focus on this topic might be related to length of time between the burn event and the interview. The child or adolescent’s focus could have been more on achieving developmental goals at this point in their lives.

### Limitations

Study limitations included that children and adolescent participants in this sample were not very talkative. Strategies used to overcome this reluctance to be interviewed were varied: seeking a sample of both males and females, pair types (for example, male-male, female-male, and female-female) and ages; interviewing more than one family member whenever possible; and using a multi-method approach (for example, narrative interviews, structured interview with the SRQ-R, calculating SRQ-R scores). Interview questions were also changed to help gather more probing data.

Conducting interviews by telephone was a limitation but necessary because siblings and children with burn injuries often lived in distant states. This sample was an available, invited sample of participants. It is possible siblings who were not close may not have been chosen or may have refused to participate. Because a minimum of two years elapsed before the first interview occurred in this study, issues in sibling experiences more proximal to the burn event may not have been captured. However, this distance may have also illuminated the predominance of the normalization process.

### Trustworthiness

The four criteria for maintaining trustworthiness in qualitative research, credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985) were met in this study. Credibility was supported through prolonged engagement with participants and by persistent observation. Individuals (N = 40) were interviewed a first time, and of those, 19 participants had second interviews. Triangulation of methods using the SRQ-R as a second interview guide and to calculate scores further supported credibility. Source triangulation occurred by interviewing more than one family member. Peer debriefing, another way to establish credibility, began after first interviews and continued during final article development. Member checks occurred where data, thematic categories, and interpretations were tested with participants in ongoing interviews. **Transferability** of findings from this study is possible in other settings where families have a child who has a life-altering illness. Some findings were supported in research about healthy siblings where childhood cancer had been diagnosed. Thick descriptions using participant voices further support the transferability of the findings to other settings. **Dependability** occurred through detailed description of procedures and through discussions with two senior researchers. **Confirmability** includes the confirmability audit, from pre-entry into the field to the writing of the articles, and continued use of a reflexive journal.
Implications

Findings of the study represent new knowledge through participant stories and add to the body of knowledge that can be applied to clinical practice. Children with burn injuries, siblings, and other family members were willing to describe the sibling experience after a major burn injury. In many instances, participants spoke with the researcher more than once.

A major life event, such as a severe burn injury, changes the way a family acts to support their social environment. As noted earlier, changes in one part of the family social system affects all the other sub-systems in the social environment, especially the sibling relationship. Those families who succeed are able to use this major life event in a positive way to promote normalization and to overcome the significant issue of change in appearance due to burn injury.

Clinical implications from this study highlight the importance of clinicians assessing and supporting family sub-systems during lengthy initial hospitalization, the many hospitalizations during the reconstructive phase, and during other major life events. One way of supporting family sub-systems is by promoting normalization.

References