The Human Figure Drawing with Donor and Nondonor Siblings of Pediatric Bone Marrow Transplant Patients

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Abstract

Although bone marrow transplantation (BMT) has become standard therapy for many life-threatening childhood disorders, there is little research on the psychological impact of BMT on family members. We recently found in a cohort of donor and nondonor siblings that donors had significantly more anxiety, lower self-esteem, and more adaptive skills than nondonors; nondonors showed significantly more school problems. In our investigation, we used the Human Figure Drawing (HFD) (Koppitz, 1968) to measure the siblings’ emotional distress toward BMT. In this paper, we report the quantitative and qualitative findings from the HFDs (n = 42, ages 6 to 18 years) including data from case vignettes of four siblings. Among the siblings, feelings of isolation, anger, depression, anxiety, and low self-esteem emerged as major themes. These findings indicate the importance of attending to siblings’ needs throughout the transplantation process. Siblings should be seen as an integral part of the family system and as important participants in the process.

Introduction

Bone marrow transplantation (BMT) has become standard therapy for many malignancies and hematologic and genetic childhood disorders. About 75% of the children who have bone marrow transplants each year receive marrow from a brother or sister. Parents, caregivers, and clinicians have expressed particular concern about the psychosocial effects on siblings (Sourkes, 1980, 1995). Because of the risk to siblings, we recently examined the psychological sequelae of BMT on donor and nondonor siblings (Packman et al., 1997). We found that the siblings of the BMT recipient indeed feel psychological stress, but donor and nondonor siblings manifest the stress differently. Donor siblings experienced more anxiety and lower self-esteem, but evidenced more adaptive skills in school than nondonors. Nondonor siblings had significantly more school problems than did donor siblings. In both groups of siblings, about one-third had moderate to severe levels of posttraumatic stress as measured by the Child Post-Traumatic Stress Reaction Index (Frederick, Pynoos, & Nader, 1992). Many of the donor siblings experienced the donation process as a bodily invasion.

In our investigation, a multimethod, multidimensional approach was used to assess psychosocial adjustment (Packman et al., 1997). Objective measures included the Children’s Depression Inventory (Kovacs, 1982), the Revised Children’s Manifest Anxiety Scale (Reynolds & Richmond, 1985), the Behavioral Assessment System for Children (parents and teacher versions) (Reynolds & Kamphaus, 1992), the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and the Child Post-Traumatic Stress Reaction Index (Frederick, Pynoos, & Nader, 1992). Projective measures included the Human Figure Drawings (HFD) (Koppitz, 1968) and the Kinetic Family Drawing-Revised (KFD-R) (Spindler, McLaren, Fox, & Sparta, 1981).

The KFD-R was scored by an objectively structured system designed by Spinetta, McLaren, Fox, and Sparta (1981) and assessed feelings and attitudes about the BMT process. Quantitative results did not show any significant differences between sibling groups; however, qualitative examination of the drawings yielded rich clinical results indicating that siblings of BMT patients experience many psychological stressors (Packman et al., 1998). HFDs were also collected for this same sample of children. The Koppitz (1968) system was used to objectively score the drawings. In the present article, we report the quantitative and qualitative findings from HFDs with donor and nondonor siblings of pediatric BMT patients. We expected that HFDs of siblings of BMT patients would reveal anxiety, posttraumatic stress reactions, low self-esteem, and feelings of depression.

Theoretical Framework

The theoretical framework of our study is Erikson’s developmental theory (Erikson, 1968) and the psychosocial model of posttraumatic stress (Green, Wilson, & Lindy, 1985). In Erikson’s theory, development proceeds through eight age-related psychosocial stages characterized by spe-
cific opportunities, demands, and vulnerabilities. Human development follows a universal epigenetic sequence with interplay between genetically based aspects of personality and the influence of family and culture that shape the personality. Green, Wilson, and Lindy used Erikson's theory as a foundation for their psychosocial model of post-traumatic stress reactions. They focused on the interaction of traumatic stressors, individual difference, and the social environment where the trauma is experienced and where the person recovers. The Green, Wilson, and Lindy inter-actional psychosocial model of posttraumatic stress seeks to explain the phenomenon of certain people experiencing poor adjustment upon exposure to trauma, while others experience personal growth as a result of the stressor. Our study draws upon these theories and uses a psychosocial-developmental framework to conceptualize the effects of the BMT stressor on sibling donors and nondonors.

Scoring Systems for Human Figure Drawings

HFDs have historically been used in many child studies. There are many scoring systems for the HFD that are either geared toward or have a component that purports to indicate emotional distress. We undertook a comparison of scoring systems to determine which would be best suited to analyze our drawings from siblings of pediatric BMT patients. The first system we examined was the Goodenough-Harris system (Goodenough & Harris, 1963.) This is a prominent HFD scoring system, but its strengths are focused on providing an estimate of the cognitive abilities of the child. The Goodenough-Harris system is positively correlated with the WISC-R scores of intellectual ability (Abell, Briesen, & Watz, 1996). However, the Goodenough-Harris system has been used relatively few times with medically ill populations and the findings of emotional distress have been inconsistent.

Other systems common in the literature for rating HFDs were designed by Machover (1949) and Handler (1967). Machover’s system, like the Goodenough-Harris system, has been in existence for many years but was found to be too subjective for our purposes. The emotional indicators of distress were not clearly presented in a format that would be easily adaptable for scoring numerous drawings. In addition, the Machover system had few recent literature citations and has not been widely used with chronically ill children. Similarly, the Handler system also had not been utilized with ill children, and had been used primarily with adult and college populations. Moreover, the Handler system is not intended as a measure of general emotional distress.

The Draw-a-Person: Scoring Procedure for Emotional Disturbance (DAP: SPED) scoring system has good reliability and validity and is psychometrically sound with a national standardization sample (Naglieri, McNeish, & Bardos, 1991). However, to be able to norm the scores from our drawings, it would be necessary to give all three drawings (man, woman, and self) that are required for assessment. We did not want to overtax the siblings, so the DAP: SPED was not used.

The Koppitz system (Koppitz, 1968) was chosen for several reasons. First, it has been widely used to assess psychological stress in ill and bereaved children (Eng & Davies, 1991; Forrest & Thomas, 1991; Padwa, Evans, & Pillemer, 1991; Tharinger & Stark, 1990). Second, Koppitz’s scoring system is straightforward in that it includes examples of what would or would not qualify for each of the 30 emotional indicators. Finally, the Koppitz system has high inter-rater reliability as demonstrated in past studies (Fuller, Vance, & Awadh, 1997). The Koppitz scoring system is further described below.

Methods

Participants

Our participants were siblings of living pediatric BMT patients from the University of California Medical Center, San Francisco. The total number of participants included 44 siblings (21 donors, 23 nondonors). Of the 44 siblings, 42 completed HFDs (21 donors, 21 nondonors). The siblings were 6 to 18 years of age with a mean age of 11 years (SD = 3.2). Seventy-one percent of participants were female. The sample was ethnically diverse with 43% Caucasian, 27% Asian American, 11% African American, 6.8% Native American, and 4.6% Latino. Seventy-three percent of the siblings came from two-parent homes. Family income levels varied from under $10,000 a year to greater than $60,000 a year. Demographic variables did not account for any significant differences between donor and nondonor siblings.

Measure: Human Figure Drawing, Koppitz System

Clinicians often use projective drawings as vehicles for understanding children’s feelings and attitudes that are difficult for the children to verbalize (Sourkes, 1995; Spinetta, McLaren, Fox, & Sparta, 1981). The drawing process enables children to express anxieties and conflicts in a constructive, less threatening way. Further, projective drawings are an excellent means through which the experience of trauma can be revealed (Culbertsen, 1987; Koppitz, 1968).

The Koppitz (1968) system contains 30 scorable emotional indicators (EIs). The EIs are divided into three categories. The first subset of EIs is Quality Signs. There are nine signs that relate to drawing quality. They include poor integration of parts of the figure, shading in various places, asymmetry of limbs, and size of figure. The second subset of EIs is Special Features. This includes features such as under- or oversized head, crossed eyes, presence of teeth, arm length, genitals, a monster-like quality of the figure, and the number of figures. Omissions, the final subset of EIs, are the absence of certain body features including eyes, nose, mouth, body, arms, legs, feet, and neck.

In the Koppitz system (1968), a drawing that is scored as having two or more EIs indicates emotional disturbance. Two art therapists used the Koppitz system to score the HFDs independently. Interrater reliability was determined.
by correlating the two therapists’ scoring for the 42 drawings. Interrater reliability was high for the drawings’ overall EI score ($r = .914$).

In our study, we used the HFD quantitatively in several ways. First, we compared the donor and nondonor siblings’ levels of emotional distress (EI score). Second, we assessed the relationship between the EI score and the siblings’ psychosocial adjustment score and between EI and the posttraumatic stress index score. Third, we assessed the relationship between EI and the siblings’ KFDs. In addition, we used the HFD qualitatively to indicate which siblings were able to mediate the traumatic stressor of BMT with minimal psychosocial effects and which siblings struggled with the BMT process and experienced resulting emotional distress. This process is illustrated through several case vignettes.

**Procedures**

After the receipt of parental informed consent and the assent of the children, as approved by the University’s Committee on Human Research, siblings were administered the HFD as part of a comprehensive battery of psychological tests. The HFD was the first projective measure presented to the siblings. The researcher presented the sibling with a blank sheet of paper (8-1/2” x 11”) and a Number 2 pencil with an eraser. The child was instructed to draw a whole person. “It can be any kind of person you want to draw, just make sure it is a whole person and not a stick figure or a cartoon figure” (Koppitz, 1968, p. 6).

**Results**

**Quantitative Analysis**

The $t$-test for independent samples (two-tailed) was used to compare donor and nondonor siblings on the HFD. There was no significant difference between the scores of donor and nondonor siblings on the HFD Emotional Indicator (EI) score ($t(40) = -5.05$, $p = .616$). It was noted, however, that 52% of donors and 67% of nondonors (60% of the total sample) had EI scores of 2 or more, possibly indicating psychological distress.

Further, for donor and nondonor siblings there was no statistically significant relationship between the HFD EI score and KFD-R score ($r = .125$, $p = .166$) or between the HFD EI score and the psychosocial adjustment score ($r = -.86$, $p = .582$). Overall, there was no significant relationship between the posttraumatic stress score and the HFD score ($r = .272$, $p = .081$). For donor siblings, however, there seemed to be significance in the relationship between their posttraumatic stress score and EI score on the HFD ($r = .529$, $p = .021$).

**Qualitative Analysis**

The art therapists who scored the drawings also provided qualitative assessments on each HFD, commenting when they noted certain features of the drawing that might not be detected by the Koppitz objective scoring criteria. Their descriptions of the drawings further elucidated the nuances and emotional content of the drawings and yielded many important findings. It is noteworthy that emotional disturbances are present in many of the siblings’ drawings, regardless of age. Many of the figures are tiny, empty-eyed, drawn with parts of the body missing, or grossly disproportionate. As indicated by Koppitz (1968), these distortions often indicate emotional distress and disorganization. There also seem to be themes of isolation, loneliness, and devaluation of self in many of the drawings. This is indicated by constricted use of space, isolated placement on the page, closed-body composition, low energy, few details, body parts missing, light line quality, and erasures (Furth, 1988; Gannt & Tabone, 1998; Oster & Gould, 1987).

Another salient qualitative finding was the detection of features suggesting trauma or abuse. In Culbertsen’s study (1987) of abused children, several significant indicators of physical abuse were noted in the children’s Draw-a-Person drawings. Common signs included large head size, missing arms, a more complex head than body, pressured lines, figures not placed in the center of the page, absent clothing, and vacant eyes (no pupils). The features noted by Culbertsen are prominent in many of our siblings’ drawings, donor siblings in particular. This suggests that in some donor siblings, the BMT process may have been experienced as a trauma. It is notable that in our sample, donor siblings often experienced the donation of bone marrow as a physical invasion. In interviews, donors remarked, “I felt like I was the one being violated,” and “I felt like I was the target.”

There were instances in which qualitative assessment of the siblings’ HFDs paralleled the findings of the siblings’ KFDs (Packman et al., 1998). It was not uncommon for both sets of projective drawings to contain numerous indicators of emotional distress. For example, if a sibling’s HFD exhibited signs of loneliness, depression, and distress (small figures, light and sketchy line quality, missing body parts, low energy, few details, sometimes small heads, and sad facial expressions), it was likely that the KFD-R drawing also indicated isolation, compartmentalization, and disturbance in the family system (Furth, 1988; Gannt & Tabone, 1998; Oster & Gould, 1987). Further, if the HFD drawing exhibited aggression—as indicated by spiky teeth and fingers, large figures and arms/hands, rotation, dangerous objects extended from the figures (Uhlin & Chiara, 1984)—or if it exhibited anxiety—as indicated by agitated line quality, disproportionate body parts, quick and poorly drawn figures, expansive use of space (Long, 1998; Oster & Gould, 1987)—then the KFD-R would likely reflect similar distress (Case One).

**Case Vignettes**

In this section we present four case vignettes. A brief excerpt of each sibling’s interview is followed by a qualitative interpretation of his or her HFD and then a brief statement on the KFD-R for comparative purposes. In the first two case vignettes, the siblings scored within the nor-
mal range on objective psychosocial assessments, but their HFDs showed substantial disturbance. This subgroup of siblings raises concerns about the likelihood of them not receiving psychological intervention in that their scores on objective measures fell within normal limits. The sibling in the third case vignette evidenced scores that indicated distress on both objective and projective measures (Packman et al., 1998). The final case vignette is a sibling who scored in the normative range both on the objective measures and projective drawings and provides an example of a healthy HFD drawing in our sample.

Case One

The first case is a 16-year-old female donor sibling. She lives with her mother, father, and the 10-year-old patient (her brother). She scored within the normal range on all measures of psychosocial adjustment, had no academic difficulties in school, and when assessed using objective measures appeared to be functioning fine. Her drawings, however, indicated that she was in substantial distress. She was seemingly able to express her pain only through the projective drawings. She was 13 at the time of the BMT. Excerpts from her interview reveal her pain and anger around the BMT process.

My dad came to me and said, “You’re doing this.” I told him I didn’t want to and he said, “Fine, then he’ll die (patient).” So it wasn’t my choice. I think I would have felt differently about it if he (Dad) had come to me and said this is the situation, and we need your help if you match…. I felt like I was the one being violated and I was mad…and I felt abandoned by my family. Ever since I was little my family treated me like an adult. This was totally reversed: “We’re treating you like a child, we’re not giving you a choice, we’re not talking to you about it. This is just what you’re going to do so live with it. And we’re not talking to you like a person.”

After her donation surgery was over she felt “mad at my brother (patient)…. It was like, what happened to me? Do you not love me any more?… I felt lonely because no one was home.” She did not want to talk to anyone about how she was feeling. “My mom tried to talk to me, but I was like, I’m sorry, you don’t even care enough to be home. I don’t see why I should talk about how much you are ignoring me.”

When thinking about the BMT experience she stated, “I was brought into the hospital against my will and they did this to me and I didn’t like it. I think people need to realize that there are other people involved other than the person that’s sick.” When asked what she would like to tell other families who were undergoing the stress of BMT she said, “Although you may want to spend all your time with the patient, you need to remember that you have another child.”

Her HFD (Figure 1) is a sophisticated drawing that indicates emotional distress. As stated by one of the art therapists, “The large eyes may be an indication of anger and aggressive acting out tendencies and possible anxiety [the line quality is sketchy and overdrawn (Uhlin & Chiara, 1984)]. The raised eyebrows suggest an attitude of disdain…and the long talon like fingernails suggest aggressiveness.” The other art therapist described it as “comic book style figure, supernatural in theme…perhaps an attempt by the girl to gain some power in the situation…. The ‘threatening power’ style of the figure is ‘undone’ by no legs, feet or top of head—she is incomplete, floating.” The large head is typical of children who have been traumatized (Culbertsen, 1987; Long, 1998)

Interestingly, this sibling’s KFD-R also had signs of emotional disturbance. Of note, family members were compartmentalized, the patient was drawn with his back to everyone, and she drew everyone in her family except herself.

Case Two

This sibling is a 12-year-old male nondonor sibling. He lives with his mother, father, two younger sisters, and the 4-year-old patient. This child scored within the normal range on objective measures but, similar to the prior case study, showed emotional distress on the projective drawings. This child struggled emotionally with the BMT and internalized many emotions, which often played out in his school life.

When he [patient] was in the hospital, I was really worried and I wasn’t doing well in school. So my dad got the homework from my teacher and my mom helped me with my work. My dad talked to me about it, and he figured out that I was doing poorly in school because I was worried about my brother.

The sibling felt detached from the BMT process due to his being a half-brother of the patient. “I didn’t have one [a blood test to determine bone marrow compatibility] because...
I'm a half-brother... I was kind of sad because I couldn't do anything to help... and I was afraid it [the BMT] wouldn't take.” This sibling displayed several memory gaps regarding the BMT and could not remember if he was at the hospital at the time of the BMT or if he talked to anyone about his feelings. He seemed to take on household responsibilities saying, “I have a lot of chores around the house. I watch my siblings. I sometimes help with the cooking.”

He was particularly impacted by the absence of his mother in the household while the patient was in the hospital and recovering. He said the hardest part of the BMT was “not being able to see my mom as much because she went up with my brother, and she's like the backbone of the family.”

His HFD (Figure 2), states one art therapist, is “developmentally regressed to the age of 6” (Kellogg, 1970; Lowenfeld & Brittain, 1975). Further, the omission of the neck suggests a disconnect between his feelings and cognitions and his hidden hands “suggest feelings of inadequacy.” While the drawing is too large to qualify for a tiny figure classification in the Koppitz system, it appears small and isolated in the center of the page.

His KFD-R is done only in pencil even though he was given the choice of using colors. He thus avoids the expression of affect by not using color. There is compartmentalization and isolation of family members. He has omitted the father from the picture completely, and the mother is portrayed as a grotesque monster-like figure. Robotic, grotesque figures often portray parents who are emotionally absent (Uhlin & Chiara, 1984) or indicate feelings of depersonalization (DiLeo, 1973; Koppitz, 1968).

Case Three

This participant is a 16-year-old female nondonor sibling who lives with her mother and the 14-year-old patient (her sister). She scored poorly on both objective and projective measures of psychosocial adjustment. The feelings of helplessness and isolation that are portrayed in her drawings are found in her interview as well.

When speaking about the BMT process, she said:

I felt ignored or left out of the whole thing because they were worried about my sister [patient]. They really didn't have time to be with me. I understand that now. I was scared that something would happen to her. I thought she could die.

When asked if she talked with anyone regarding her feelings around the BMT, she stated, “No. Because everyone was busy with my sister. Most people asked about her and no one was caring about me. I tried to keep my feelings to myself.” She stated that one of the hardest parts of the BMT occurred after the patient came home.

It was a relief that she was here, but it was hard that she can't do anything. She can't go into stores or restaurants... It's harder for everybody. We're stuck here all the time. When I go to do something it causes conflict.

This sibling drew a picture that, according to one art therapist, “is developmentally regressed to the age of 6 years old” (Kellogg, 1970; Lowenfeld & Brittain, 1975; Rubin, 1978) (Figure 3). Noting the figure’s empty eyes, both art therapists stated that they “suggest an introversive style and self-absorption and a tendency or inability to per-
ceive the environment around her." The large head and empty eyes may be an abuse indicator (Culbertsen, 1987). The figure's undifferentiated feet and hands "suggest being out of touch, feelings of immobility, and a lack of skillfulness." The tiny figure drawn in this picture is indicative of feelings of discontent, inadequacy, low self-esteem, withdrawal, and isolation (Ogden, 1982; Oster & Gould, 1987; Urban, 1963). According to both therapists, "This is an impoverished drawing that is crying out for psychological intervention."

In a similar vein, the sibling's KFD-R is an excellent example of depression. All of the figures are tiny, and there is a poverty of detail in the drawing, extreme isolation of each person in the drawing, and no feeling of connection among family members.

Case 4

This child is a 12-year-old female nondonor sibling who lives with her parents, patient (her younger brother), and two other siblings. She scored within the normal range on both the objective and projective measures of psychosocial adjustment.

She said about her not being chosen as a donor, "I really didn't want to, but then I knew it would help my brother…. I was scared because I didn't want him to die and he had a real good chance of dying." She stated that she visited her brother often after the BMT. When asked if she spoke to anyone about her feelings during the BMT process she stated, "No. I tried to keep my feelings to myself. I was worried about upsetting my parents. I was concerned about my brother—it shouldn't be my problem; they should concentrate on my brother…. People didn't understand what I was feeling. It was hard but people don't think it was hard.

She emphasized several times during the interview her concern for her brother and how much she worried about him during the process.

This sibling displayed knowledge of her parent's inner motivations and said, "My mom wanted to have another child in case my brother didn't live. I was worried that he might not live, but he did." She suggested that "maybe if you prayed for the person, maybe it would help…. During that time you should be with your family more and be together." Her parting piece of advice for others that would go through the BMT experience was, "It's going to be tough and everybody has to stick together. Even when he's sick, you should still be there for him and try to be there as much as you can."

Her HFD (Figure 4) score was below the indicated level for distress. However, one art therapist commented that the slanted figure might suggest "a need for security and stability" (Ogden, 1982; Urban, 1963). The emphasized belly button suggests dependency and a need for connection (Rubin, 1978; Uhlin & Chiara, 1984). Overall, however, the drawing is developmentally appropriate and lacks the necessary emotional indicators to meet criteria for distress. Her KFD-R also had no indicators of emotional distress.

Discussion

The HFD technique as developed by Koppitz (1968) was used in this study to assess siblings' emotional adjustment. No significant differences emerged between donor and nondonor siblings in emotional adjustment as measured by the Koppitz EI score. Of importance, however, is that 60% of the siblings had EI scores of 2 or more, which highly suggests psychological distress. This finding is consistent with research that has found psychological disturbances among well siblings of children with chronic illnesses (Chesler, Allswede, & Barbarin, 1991; Sourkes, 1980; Sourkes, 1991; Sourkes, 1995; Spinetta, McLaren, Fox, & Sparta, 1981) and suggests that all children involved should receive psychological support.

Furthermore, for donor siblings, there seemed to be significance in the relationship between EI scores and posttraumatic stress as measured by the Child Post-Traumatic Stress Reaction Index (Frederick, Pynoos, & Nader, 1992). This result reinforces our earlier reported objective findings of moderate-to-severe levels of posttraumatic stress in one-third of the donors (Packman et al., 1997).

Culbertsen (1987) found the Draw-a-Person (DAP) task, which parallels the HFD, to have identifiable predicting characteristics of sexual abuse, and thus likely predictors of trauma. Similar to our findings, Culbertsen also found that the DAP revealed many qualitative findings that were indicative of the child's stress reactions that are specific to his or her experience.

The qualitative findings of our drawings indicate that many of the siblings (donors and nondonors) were experiencing emotional distress. In two of the four case vignettes, the sibling's HFD exhibited feelings of isolation, helplessness.
ness, inadequacy, aggression, anger, and anxiety. And in both the HFD and the KFD, these siblings seemed to have a disconnect between their experience and emotional affect. While seemingly able to express their pain only through projective techniques, both of these cases scored within the normal range on objective measures. In the third case, both objective and projective measures were in the maladaptive range indicating isolation, emotional instability, and depression. The fourth case showed a child who had come through the BMT experience without lasting emotional distress, and her drawings were by and large developmentally appropriate and indicative of healthy emotional adjustment.

Despite the importance of this study, the results should be interpreted in the context of the study limitations. Potential limits to the generalization of findings may arise because all participants were drawn from only one BMT center. In our study, the sibling participants were ethnically diverse and 71% female. Other transplant centers may draw patients from populations with different demographics. In addition, other centers may provide different predonation and postdonation BMT psychosocial services for siblings.

Clinical Implications and Future Research

The findings of this research suggest that siblings (donors and nondonors) of pediatric BMT patients are experiencing considerable emotional distress including posttraumatic stress reactions. To lessen stress-related symptoms, it is suggested that these children be given opportunities to express their feelings concerning the transplant experience. In addition, these findings indicate that siblings of pediatric BMT recipients would benefit from opportunities to meet regularly with mental health professionals to discuss their feelings about the procedure and the changes that have ensued in their family. Moreover, it is suggested that family members be educated as to the stress that the siblings of the BMT recipients feel and helped to make appropriate decisions that also take the siblings' mental health and emotional well-being into consideration.

This study supports the work of Sourkes (1980, 1982, 1991, 1995) by noting the BMT siblings' need for social support both from mental health professionals and from family and friends. Siblings in particular may need social support during this time due to feelings of isolation. A possible avenue of research could involve pairing a donor or nondonor sibling who is going through the BMT experience with another donor or nondonor sibling who has already been through the BMT process. The experienced peer could act as a mentor and a valuable social support to the siblings who are currently experiencing the stress of the BMT both on themselves and their family.

Since our findings indicate that siblings of BMT patients manifest considerable emotional distress as indicated by their drawings, future research could target specific areas in siblings' lives that are affected by the BMT process and the emotional distress that they experience. This type of emotional stress affects the child's experience at home, in school, and with peers, as well as his or her ability to cope effectively with other stressful situations. These areas of research need to include family communication around support, isolation, anger, depression, anxiety, and low self-esteem in siblings of BMT patients.

Longitudinal studies may indicate to what extent such emotional distress is present in the siblings' lives, how long the distress affects the different aspects of their lives, and what influences may have an impact on the distress experienced by these siblings. Longitudinal studies may also assist professionals in identifying moderating variables that either decrease or increase the stressful effects of the BMT on the sibling. With this knowledge, researchers can then begin to design interventions that can help increase variables that serve to lessen emotional distress resulting from the BMT experience.

Implications for Art Therapy

Importantly, this research found that although siblings may score in the normative range on objective measures of psychosocial adjustment, their drawings often manifest indicators of emotional distress. To get a richer view of the lives of siblings and their families, researchers in this study recommend the use of both quantitative and qualitative methodologies such as projective drawings. Art therapy techniques such as projective drawings can be powerful tools to facilitate the child's expression of complex experiences such as BMT (Sourkes, 1995).

Given the findings that many siblings tend to exhibit psychological distress only on projective measures as opposed to objective ones, would BMT patients and their parents show a similar discrepancy between their projective and objective measures? It is possible that, like the siblings, parents and patients are not receiving the psychological interventions from which they might well benefit? This may be due to a reliance solely on objective measures that may not indicate the level of emotional distress parents and patients experience. A multimethod assessment approach, including art therapy techniques such as projective drawings, may be able to assist family members who might otherwise fall through the cracks of a conventional objective assessment.

The Pain Management/Complementary Medicine Clinic at Children's Hospital, Oakland, California is one urban clinic engaged in working with such children and their families using a multidisciplinary approach to assessment and treatment. The HFD and KFD-R have been used for 12 years to assist in determining the level of distress felt by all members of families. Art therapy is then used as a treatment modality to help reduce pain, stress, anxiety, and depression (including feelings of isolation and helplessness). This model has been presented at national and international conferences (Long, 1995, 1997, 2001, 2002; Long, Black-Keenan, Chapman, & Council, 1999; Long & Sedberry, 1994).

As we learn more about the effects of BMT on siblings and family members, we note that a comprehensive, multimethod assessment and treatment approach that takes into account the overall presentation of the siblings' and other
family members’ psychosocial functioning in projective drawings has important clinical utility (Tharinger & Stark, 1990). Art therapy is a therapeutic modality that can be beneficial to the better psychosocial adjustment of all family members coping with the stress of life-threatening illness.

References


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