Patterns of change in marital relationships among parents of children with cancer
Yoav Lavee and Mali Mey-Dan

This study examined changes in marital relationships among parents of children with cancer. Data for both parents of 35 children treated for cancer for less than a year to more than five years showed changes in marital relationships across 10 dimensions of the relationship. The findings showed that some aspects of the relationship (for example, communication and trust) tended to be strengthened, whereas others (especially sexuality) were prone to deterioration. Second, changes in the marital relationship were examined in relation to the duration of illness. The data showed a slight decrease in relationship satisfaction within one year of diagnosis, an increase in marital strength in cases of children who had been ill for two or three years, and a deterioration in the marital relationship after more than four years of children's illness.

Key words
childhood cancer
illness duration
marital relations
parents
psychological distress

Notwithstanding the improved prognosis of the past two decades (Ries et al., 1996), cancer remains a life-threatening illness and typically is characterized by difficult treatment modes and their side effects. The families of cancer patients experience a series of stressful life events, giving rise to a continuous state of uncertainty and anxiety (Best, Streisand, Catania, & Kazak, 2001; Cohen, 1993; Kazak, 2001).

As several reviews show, the majority of research on family responses to childhood cancer (Grootenhuis & Last, 1997a) and children's other acute and chronic illnesses (Faux, 1998; Youngblut, 1998) focuses on individual family members' responses, especially mothers. Despite a growing awareness of the fact that a child’s illness is a family phenomenon (Broome, Knafl, Pridham, & Feetham, 1998; Kazak, 1997) and that parents' coping is an interactive process (Barbarin, Hughes, & Chesler, 1985; Dahlquist et al., 1993), relatively little attention has been given to the ways in which the child's illness affects the parents' marital relationship. Some evidence suggests that some relationships are adversely affected by stressful circumstances but that others appear to be relatively unchanged or may even be strengthened by the experience (Gaither, Bingen, & Hopkins, 2000).

This article focuses on changes in marital relationships among parents of children with cancer. For social workers in the health care system and for community and home health care social workers, knowledge about the marital experiences of such parents may enhance the provision of assistance to families in need and facilitate effective collaboration with medical teams (Lesser, 2000).

**Effect of Childhood Cancer on Marital Quality**

Studies of marital relationships among parents of children with cancer, using both quantitative and qualitative methodologies, have yielded mixed and somewhat conflicting findings. Some researchers found the marriages of parents of children with cancer to be more distressed than established population norms.
or comparison groups (Cornman, 1993; Fife, Norton, & Groom, 1987), whereas others found no difference in marital adjustment between parents of children with cancer and parents of children with more common illnesses, such as influenza (Wittrock, Larson, & Sandgren, 1994).

Estimates of the percentage of distressed couples with children who have cancer vary greatly. Whereas early reports estimated that 70 percent of such parents suffer serious marital problems (Kaplan, Grobstein, & Smith, 1976), later studies claimed a smaller proportion of distressed relationships. Dahlquist and her colleagues (1993) found marital distress in one-fourth of the parents two months after diagnosis, and a similar percentage was reported by other researchers (Barbarin et al., 1985; Greenberg & Meadows, 1991). In fact, these researchers found that parenting a child who is being treated for cancer may even bring about increased marital cohesion. Barbarin and his colleagues found that most parents in their sample had a more positive attitude toward their spouse. Likewise, 23 percent of the parents in Greenberg and Meadows’ study reported that their marital relationship had been strengthened. In a follow-up study 20 months after diagnosis, Dahlquist, Czyzewski, and Jones (1996) found that although the mean level of marital quality had not changed since shortly after diagnosis, considerable changes in the marital relationship had occurred for some respondents in positive and negative directions. No data were provided by these researchers as to the proportion of couples whose relationships had improved or deteriorated over time (Dahlquist et al., 1996).

Studies of marital quality among parents of children with cancer indicate that the marital relationship may be affected in different ways. However, because multiple conceptualizations and methodologies were used, the patterns of change are not well established. In our study, we focused directly on the parents’ perception of change in their relationship. Two questions were of particular concern: first, whether relationships changed equally across various aspects of the relationship; and second, whether change in the relationship varied across years of the child’s illness.

**METHOD**

**Participants**

This report is based on data from 35 couples whose child was treated for cancer. Couples were recruited by a letter sent to parents who participated in a family retreat organized by the Israeli Cancer Society. Criteria for inclusion in the study were that the parents were living together and jointly raising their children, had a child who was 18 years old or younger when first diagnosed with cancer, and were both willing to participate in the study.

Of the 35 couples, 33 were in their first marriage and two were remarried, with length of marriage ranging between five and 28 years ($M = 5.9, SD = 6.6$), and the majority of couples (71.4 percent) had three children or more. Both fathers and mothers had an average of 14.5 years of education. More than 94 percent of the fathers and 37 percent of the mothers were employed full-time, and an additional 29 percent of the mothers and 3 percent of the fathers were employed part-time.

Their children included 19 girls and 16 boys, with ages ranging from two to 16 ($M = 8.6, SD = 5.1$) and length of time since diagnosis ranging between one and seven years ($M = 3.5, SD = 2.2$). The medical diagnoses included, in nearly equal distribution, leukemia, brain tumor, and soft tissue or bone sarcomas.

**Measures**

“Marital quality” and “change in marital quality” were measured by two questionnaires based on ENRICH (Fowers & Olson, 1992; Olson, Fournier, & Druckman, 1982). ENRICH is a 10-item Likert-type scale assessing the respondent’s perceived quality of his or her marriage across 10 dimensions of the relationship: (1) spouse’s personal traits, (2) communication, (3) conflict resolution, (4) financial management, (5) leisure activities, (6) sexuality, (7) parenting, (8) relationship with the extended family, (9) division of household labor, (10) and interpersonal trust. (The dimension of religious practices, which was included in the original instrument, was found invalid in the Israeli population [Lavee, 1995] and was replaced by the dimension of interpersonal trust. Fowers and Olson reported good reliability estimates of the short ENRICH scale, as well as high concurrent and predictive validity. Similar estimates were found in the Hebrew version (Lavee). In the present sample, the internal consistency reliability (Cronbach alpha) of this scale was .84.

Participants were first asked to respond to the questionnaire in terms of their marital relationship before the child’s illness. The retrospective report of marital quality was not used in the analysis but served as an anchor point for assessing change.
in the relationship across the same dimensions. Changes in the marital relationship were then assessed by asking the respondents to rate each of the 10 relationship dimensions according to whether it had improved (+1), deteriorated (−1), or remained the same (0) since the child was diagnosed with cancer. A total marital quality change score was computed as a sum score across the 10 dimensions, thus providing a range between +10 (positive change in all dimensions) and −10 (relationship deterioration in all dimensions). The internal consistency reliability (Cronbach’s alpha) of this measure was .79.

RESULTS
Change across Dimensions of the Marital Relationship
To what extent is the marital relationship affected by the child’s illness? Are all aspects of the relationship influenced in the same manner? Is there a difference between mothers and fathers in how they perceive the relationship change? To examine these questions, data pertaining to marital relationship change were analyzed by examining husbands’ and wives’ perceptions of change in each of the 10 relationship dimensions and their total marital quality change scores. Figure 1 presents the mean values of mothers’ and fathers’ perceptions of change across the 10 dimensions of the marital relationship, ranging from +1 (representing an improvement in the relationship) to −1 (reflecting a deterioration in the relationship).

The largest negative effect of the child’s illness, reported equally by mothers and fathers, was on their sexual relationship (Figure 1). In nearly half of the couples, both spouses reported a deterioration in their sexual relationship, and only one couple agreed that their sexual relationship had actually improved. In contrast, other aspects of the relationship (that is, perceptions of spouse’s personal traits and behavior, communication, conflict resolution, and interpersonal trust) were reported to have improved during the child’s illness. Little change in the relationship was reported in leisure activities, parenting, and relationship with the extended family.

A multivariate analysis of variance (MANOVA) with repeated measure design was used to examine overall gender differences in reported marital change. This procedure was used to treat the dyad as the unit of analysis accounting for the dependence between husbands’ and wives’ perceptions.

Figure 1. Change in Marital Relationships across Dimensions of Marital Quality: Mean Values of Mothers’ and Fathers’ Perceptions
In general, husbands tended to perceive a more positive change in the relationship than did wives \([F(10, 25) = 2.46, p < .05]\).

Because relationship change was measured on an ordinal scale, additional nonparametric analyses were conducted to more closely examine partners’ agreement and intradyadic gender differences in each of the 10 relationship dimensions (Table 1). More specifically, we examined the association between the spouses’ rankings of relationship change in each dimension by using Kendall’s tau-b statistic and the level of agreement between spouses in their evaluations of change (Cohen’s kappa).

The analyses again indicated reasonable levels of intracouple correlation and consensus in all of the dimensions except for financial management and division of household labor, in which there was no significant association between spouses’ ranking and no agreement regarding level of change (Table 1). In both these dimensions, husbands reported significantly more positive changes than their spouses. A relatively large number of couples reported no change in many areas of their relationship. However, both spouses in 10 couples (28.6 percent) reported a positive change in their communication, and some couples reported a positive change in attitude toward the spouse (20 percent) as well as in trust (17.1 percent). In contrast, both spouses in 16 families (45.7 percent) reported a deterioration in sexual relationship. Also, both spouses in three or four couples (8 percent to 11 percent) reported deterioration in parenting, conflict resolution, leisure activities, and attitude toward the spouse.

**Pattern of Marital Quality Change across Years of Illness**

Because the number of children who had been ill for more than five years was small \((n = 4)\), these

<table>
<thead>
<tr>
<th>Table 1. Husbands’ and Wives’ Perceptions of Marital Quality Change by Relationship Dimensions: Interspousal Agreement and Association</th>
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</thead>
<tbody>
<tr>
<td>Relationship Dimension</td>
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<tr>
<td>-------------------------</td>
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<tr>
<td></td>
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<tr>
<td>Personal traits</td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Conflict resolution</td>
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<tr>
<td>Financial management</td>
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<td>Leisure activities</td>
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<td>Sexuality</td>
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<tr>
<td>Parenting</td>
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<td>Relationship with extended family</td>
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<tr>
<td>Division of household labor</td>
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<tr>
<td>Trust</td>
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</table>

*Number of couples in which both spouses reported a positive (+), negative (−), or no (0) change in relationship dimension.
*Kendall’s tau-b is a nonparametric measure of association for ordinal variables. As in Pearson and Spearman correlation coefficients, values may range from −1 to +1.
*Kappa is a nonparametric measure of agreement between the evaluations of two raters. Values may range from 0 (agreement is no better than chance) to 1 (perfect agreement).

*p < .05, **p < .01.
cases were collapsed into a combined category (five years or more).

There was relatively little change in the marital quality of parents whose children had been ill for a year or less ($M = 0.01$ for fathers, $-1.1$ for mothers), and a positive change (improvement) in the relationship for those whose child had been ill for two or three years (Figure 2). However, the positive change in relationship diminished for parents of children who had been ill for four years, and a significant deterioration in the parents’ marital relationship is evident for those whose child had been ill for five years or more.

To test the effect of illness duration and gender differences, MANOVAs with repeated measures were conducted on marital quality change across years of illness, taking into account spouses’ nonindependence. The findings indicated a significant effect of illness duration on marital quality [$F(4, 30) = 3.68, p < .01$], but no gender difference and no significant interaction effect for gender and illness duration. These findings clearly reflect the pattern of fathers’ and mothers’ scores shown in Figure 2.

To further test the pattern of change across time, we estimated the curve fit of marital quality change across number of years of illness by examining linear and quadratic regression statistics (see Table 2). For both mothers and fathers a quadratic function fits the data better than a linear function, with a comparable significant increase in the explained variance of marital quality change: 19 percent of the variance for fathers and 39 percent of the variance for mothers. These findings statistically support the pattern of change in marital quality shown in Figure 2, reflecting the relation to number of years of illness.

**Discussion**

Research on family stress traditionally has been guided by deficit models, whereby stressful situations are assumed to create disruption in the family social system, but a recent trend in family stress theory has shifted focus toward understanding resiliency and growth in families under stress (Walsh, 1996). Thus, a focus on positive and negative change in relationships, rather than on marital distress, seemed to be more appropriate for these parents.

**Change across Dimensions of the Marital Relationship**

The present study’s analyses of perceived change in the marital relationship indicated that some

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Figure 2. Change in Marital Quality as a Function of Child’s Illness Duration

![Figure 2](image)

Note: MQ = marital quality.
Table 2. Curve Fit Analysis of Change in Marital Quality and Emotional Distress across Years of Child’s Illness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Regression Estimates (SE)</th>
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<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>b1</td>
<td>b2</td>
<td>F</td>
<td>p</td>
<td>R^2</td>
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<tr>
<td>Fathers’ MQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Linear</td>
<td>.27 (.14)</td>
<td>-.07 (.04)</td>
<td></td>
<td>3.06</td>
<td>.09</td>
<td>.09</td>
</tr>
<tr>
<td>Quadratic</td>
<td>-.27 (.29)</td>
<td>.37 (.22)</td>
<td>-.07 (.03)</td>
<td>3.77</td>
<td>.03</td>
<td>.19</td>
</tr>
<tr>
<td>Mothers’ MQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear</td>
<td>.27 (.14)</td>
<td>-.09 (.04)</td>
<td></td>
<td>4.78</td>
<td>.04</td>
<td>.13</td>
</tr>
<tr>
<td>Quadratic</td>
<td>-.58 (.25)</td>
<td>.61 (.19)</td>
<td>-.11 (.03)</td>
<td>10.35</td>
<td>&lt;.01</td>
<td>.39</td>
</tr>
<tr>
<td>Fathers’ distress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear</td>
<td>4.92(1.21)</td>
<td>.07 (.35)</td>
<td></td>
<td>.04</td>
<td>NS</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Quadratic</td>
<td>8.17(2.60)</td>
<td>-.259(1.93)</td>
<td>.43 (.30)</td>
<td>1.01</td>
<td>NS</td>
<td>.06</td>
</tr>
<tr>
<td>Mothers’ distress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear</td>
<td>6.65(1.31)</td>
<td>-.09 (.38)</td>
<td></td>
<td>.07</td>
<td>NS</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Quadratic</td>
<td>8.03(2.90)</td>
<td>-1.24(2.15)</td>
<td>.18 (.34)</td>
<td>.18</td>
<td>NS</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note: MQ = marital quality. NS = not significant.

aspects of the relationship may be more affected than others. More specifically, sexual relationships appear to be affected most negatively. This finding supports those of other studies on parents of children with cancer (Hughes & Lieberman, 1990; Thoma, Hockenberg-Eaton, & Kemp, 1993), of parents who have lost a child (Lang & Gottlieb, 1993; Schwab, 1992), and of parents dealing with other sources of stress (Morokoff & Gilliland, 1993). The deterioration in marital satisfaction, especially in the area of sexual intimacy, may be accounted for by the tremendous investment of physical and emotional energy that leaves the parents with less time and energy available for leisure activities, as well as a depressed mood and long periods of feeling too drained for sex (Greenberg & Meadows, 1991).

In contrast, there appears to be an increase in satisfaction with marital communication and a more positive attitude toward the spouse. Parents may feel that their relationship is strengthened by sharing the intense emotions, taking on the joint responsibilities, and providing the mutual support required to meet the demands of this stressful period together.

Although a sizeable number of spouses reported some deterioration in or strengthening of their relationship, most reported that certain dimensions of the relationship had not undergone significant change since the onset of their child’s illness. In some respect, this finding corroborates those of other studies, which found that having a chronically ill child has no effect on the marital relationship (see Gaither et al., 2000, for a review). These small changes may also be a result of the retrospective reporting of marital change, whereby positive and negative changes throughout the years of illness may have balanced out to an overall perception that only small changes, if any, had occurred in selected areas of the relationship.

Illness Duration and Change in the Marital Relationship

The pattern of change in marital relationships across time indicates a greater deterioration in the marital relationship during the first year and in cases of long-term illness (four or more years), compared with a more positive change in the relationship among parents whose children had been ill for two or three years.

There are two ways to explain this form of change. First, it may reflect phases in the illness and in the child’s condition: the period following diagnosis and treatment; a period of remission; and prolonged illness with a possible relapse. From this point of view, it is likely that parents are extremely distressed and the marriage highly affected by the diagnosis as well as the period of hospitalization and treatment that follows. When treatment ends and the child moves into a phase of remission, the family may return to normal, with a sense of strengthened relationship following the period of upheaval.
(Brown et al., 1992). However, if the illness continues with additional hospitalizations or relapses, it again takes its toll on the marital relationship, leading to a further deterioration in marital quality (Barbarin et al., 1985; Grootenhuis & Last, 1997b).

A second explanation for the pattern of change in marital relationships over time follows the general adaptation syndrome (Selye, 1978) and the notion of roller-coaster in family crisis and adaptation (McCubbin & Patterson, 1983). From this point of view, the curvilinear pattern of change reflects an initial crisis reaction in which established patterns of the relationship are disturbed. As time goes by, the couple establishes new ways of relating to each other, including new patterns of communication, conflict resolution, parenting, and family roles, thus evoking an increased sense of partnership and satisfaction with the relationship. If the illness continues, however, resources are depleted and the prolonged state of heightened stress gradually leads to a “state of marital exhaustion,” with impaired functioning, intensified interpersonal strain, and overall deterioration in the relationship.

Despite the plausibility of these explanations, they only tell part of the story. A close examination of the pattern of change indicates that although it describes an average trend, not all couples fit the pattern. More specifically, a number of parents among both newly diagnosed and chronically ill children reported an increase in closeness, whereas other parents of children who had been ill for two or three years showed a marked deterioration in the relationship. These “outliers” suggest that although certain phases are generally more stressful than others, in each phase some parents may find their relationships strengthened, yet others may find them deteriorated. These findings lead us to suspect that whereas most couples are affected negatively by higher stress levels, others become closer, more intimate, and experience a stronger sense of commitment and cooperation under stressful circumstances.

Limitations
The findings of the present research are based on a small sample and a cross-sectional design, which pose some limitations on generalization and causal interpretation. More specifically, comparisons were made between parents of children who had been ill for different periods of time and with different diagnoses, including only a small number of cases in each illness period. Not having a random sample and including only intact marriages may have also affected the findings. For example, the curvilinear relation found between marital relationship change and illness duration may be true for the couples who remained intact throughout the duration of the child’s illness. However, couples for whom the child’s illness resulted in marital dissolution were excluded from the study. Likewise, the self-selection of respondents may have excluded from the sample the couples who did not volunteer to participate.

Implications
Despite these limitations the findings suggest a number of implications for researchers, social workers, and other health care professionals. One implication is that studies should examine the effect of children’s illness on the parents’ marital relationships over a long period of time. The majority of previous studies followed parents for 12 to 18 months (Grootenhuis & Last, 1997a). Although this is the most intense period, the present study suggests that studying the parents’ marital relationships years after first diagnosis may be of value.

For social workers in medical settings as well as those in the community, this study directs attention to the needs and strengths of families of children with serious illness. The medical team’s attention is focused on the child’s health status, but social workers are trained in and dedicated to a more holistic and systemic approach, focusing on the child’s family. The present study provides a more in-depth look at the parents’ marital state, which has major significance for the functioning of the whole family, the psychological well-being of all family members, and the child’s adjustment to the illness (Cummings, 1994; Varni, Katz, Colegrove, & Dolgin, 1996). It is therefore recommended that social workers and other health professionals be attuned to the parents’ marital relationship to detect signs of deterioration. Social workers may also use the information provided in this and related studies to inform parents about the changes that they might anticipate.

The findings further suggest that attention be paid and support be given to parents not only shortly after diagnosis, which is normally considered to be a point of major stress, but also—and perhaps even more so—after an extended period of time, when many of these parents may find that both their internal and external resources are depleted. The chronic nature of the illness may bring to the surface a more pessimistic outlook, greater
skepticism about and less trust in the medical staff, reduced social support, a decline in the amount and helpfulness of spousal support, and increased financial strain. Over time, these changes may lead to a state of “marital exhaustion.”

As much as we focused on the deterioration in marital relationships, it should be emphasized that the findings of this study also highlight “the other side of the coin,” namely, that some couples experience a strengthened and more flexible relationship, a more cohesive marital unit with increased communication and emotional intimacy, and a stronger sense of mutual trust and support. Therefore, it is recommended that greater attention be paid to marital strengths as important resources on which to build in helping marriages and families under stress.

REFERENCES


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