Published in final edited form as:

Psychooncology. 2009 September ; 18(9): 956–964. doi:10.1002/pon.1514.

The report of coping strategies and psychosocial adjustment in Korean mothers of children with cancer

Hae-Ra Han^{1,*}, Eun Joo Cho², Daehee Kim³, and Jiyun Kim¹

¹The Johns Hopkins University, School of Nursing, Baltimore, MD, USA

²Samsung Medical Center, Seoul, South Korea

³Seoul National University Hospital, Seoul, South Korea

Abstract

Objective—Parents of children with cancer must cope with multiple challenges over time. As most research on parental coping has been conducted in Western countries, little information is available on the parental experience of coping in non-Western countries. Using a new cultural sample of Korean mothers, this study describes their coping strategies. In addition, the association of particular coping patterns with mothers' report of psychosocial adjustment is investigated.

Methods—A total of 200 Korean mothers of children with cancer participated in the study. Coping strategies were measured by the *Coping Health Inventory for Parents* in the following three categories: Maintaining Family Integration and an Optimistic Outlook for the Situation, Seeking Social Support, and Seeking Information. Maternal psychosocial adjustment was measured by psychological distress, family relationship, and social relationship subscales from the *Psychosocial Adjustment to Illness Scale*.

Results—Korean mothers reported coping strategies related to Maintaining Family Integration and an Optimistic Outlook for the Situation as being most helpful. More frequent use of coping pattern, Maintaining Family Integration and an Optimistic Outlook for the Situation, and less frequent use of coping pattern, Information-Seeking were significantly associated with lower psychological distress and better family relationship after children's medical and maternal characteristics were controlled for. Coping pattern, Seeking Social Support was only predictive of social relationships.

Conclusions—This study suggests that culture may play a significant role in the report of coping among Korean mothers. Future studies should consider culturally preferred coping methods and available resources as they relate to different adjustment outcomes.

Keywords

coping; Korean; oncology; chronic illness; maternal; psychosocial adjustment

Introduction

Studies investigating the psychosocial outcomes of cancer seem to support the obvious: that cancer has a major impact on the lives of stricken individuals and families. Childhood cancer usually presents unexpectedly, giving parents little opportunity to prepare for the

demands of caring for their newly diagnosed child. They must acquire knowledge about cancer to develop the practical skills of cancer care and to learn how to respond to acute crises (e.g. fever or bleeding). Parents must cope with anxieties, fears, and frustrations brought about by interactions with the affected child, while integrating the child's needs into established family routines plus managing the strain in social and/or family life [1,2].

Lazarus and Folkman [3] defined coping as 'constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person (p. 141).' McCubbin and McCubbin [4] identified mechanisms that characterize the ways in which coping facilitates family adjustment to an illness: eliminating or reducing the number and intensity of demands created by the illness (e.g. placing a sick family member in a hospital rather than keeping him/her at home), acquiring additional resources not already available to the family (e.g. seeking medical services), managing the tension associated with ongoing strains (e.g. taking time out as a family for talking), and evaluating meanings related to a situation to make it more constructive, manageable, and acceptable (e.g. lowering home expectations of a family member spending a majority of time at the hospital).

Previous studies have indicated that most people use multiple coping strategies during the course of a stressful event [1,5–9]. For example, a qualitative study of Australian parents [1] reported having faith and trust in doctors as a common coping strategy used by parents of children with a brain tumor to cope with fear of loss of the child's life or vision, apprehension about brain damage, and feelings of helplessness. Information-seeking was another coping strategy cited by parents, which was associated with feelings of empowerment. Through a longitudinal qualitative investigation, McGrath *et al.* [5,6] found that the support of the healthcare team and the camaraderie of other parents experiencing a similar situation or support from friends, extended family, and church relationships made it easier for Australian families to cope with childhood cancer. Similarly, fathers of children with cancer in the United States reported getting support from healthcare professionals, extended family, and the church as being necessary and helpful for them to remain positive during their child's illness [7]. Using data from German parents of children newly diagnosed with either cancer ($n = 50$), juvenile diabetes, or epilepsy ($n = 58$), Goldbeck [8] compared coping strategies used by parents of children with cancer to those used by parents in the control group. Compared with the control group, parents in the oncology group used significantly more withdrawing or backwards-directed coping style, optimism, and information-seeking, and less social support-seeking. Finally, Patistea [9] surveyed 71 Greek parents of children with leukemia and found that the coping strategies aimed at maintaining family strength and an optimistic outlook were perceived as being the most helpful.

Certain coping strategies can be positively or negatively related to parental adjustment to childhood cancer. For example, in a longitudinal study of 50 mothers (92% Caucasian) of children with cancer who received hematopoietic stem cell transplantation [10], intrusion coping (i.e. active review of ideas, memories, and emotions) significantly contributed explaining mothers' anxiety, depression, somatic complaints, and sleep behavior with unstandardized regression coefficients (B) ranging 0.15–0.80, whereas avoidance coping (i.e. diverting attention from information and feelings related to the event) did not. A study from the Netherlands [11] with 163 parents of children with cancer found that regression models, including child characteristics and four coping strategies (i.e. having positive expectations, attributing power to the medical setting, relying on luck, and gaining knowledge), explained 31–58% of variances in emotional outcomes of depression, helplessness, and feelings of uncertainty among parents. Having positive expectations was the only significant coping strategy predictive of parental emotional outcomes, with standardized regression coefficients (β) ranging from -0.33 to -0.65 . Norberg *et al.* [12]

examined the relationship between anxiety and seeking of social support among Swedish mothers ($n = 103$) and fathers ($n = 81$) of children who successfully completed cancer treatment. Support-seeking was negatively related to anxiety, though the association was statistically significant only for mothers ($r = -0.22$, $p = 0.025$).

Despite its high priority in healthcare research, information of the degree of versatility of parental coping strategies is limited [9]. In particular, nearly all available studies on parental coping with childhood cancer have been carried out in Western countries, and minimal information exists on the coping experiences among families in different cultures. In order to enhance our understanding of parental coping experience with childhood cancer, it would be important to conduct studies among parents with different cultural backgrounds. To this end, we conducted a cross-sectional survey among Korean mothers of children with cancer.

Korea is one of the most homogenous countries in terms of ethnicity and language. Confucian tradition has dominated the country, along with contributions by Buddhism, Taoism, Korean Shamanism, and recently Christianity [13]. The cultural traditions are deeply rooted in a solid family system as the building block of society [14]. The Korean culture emphasizes the values of accepting the group's priority over that of individuals and of controlling emotions considered negative and disruptive to harmonious social interaction [15]. The spousal relationship is deemed secondary to the parent-child relationship and, within the parent-child relationship, the mother-child relationship is the closest [14]. Despite rapid industrialization since 1960, women's roles in Korea are traditional within a strong patriarchal society, taking primary responsibilities for domestic and nurturing tasks [16]. Using a new cultural sample (i.e. Korean mothers), the purpose of this investigation was to describe coping strategies perceived as most helpful among Korean mothers of children with cancer. We also examined the association of coping patterns with mothers' report of psychological distress and the level of impairment in the family and social relationships. In particular, using regression models, we investigated particular coping patterns in predicting maternal psychosocial adjustment, after controlling for several maternal and child characteristics.

Methods

Setting and sample

A convenience sample was drawn from three general hospitals in Seoul, Korea, which exclusively treat children with cancer. We chose mothers as our study participants due to their primary caregiver role in the Korean family [16]. Mothers were selected based on the following eligibility criteria: (1) aged 18 years or older; (2) whose child was diagnosed as having cancer at least 1 month prior to the study and had no additional diagnosis; and (3) whose child was undergoing cancer treatment. All of the mothers were biological mothers to the children. No mothers with self-reported psychiatric diagnosis precluding participation, such as schizophrenia or serious life-threatening medical problems, were included in the study. The staff of each hospital introduced the study to potential participants. Of 221 mothers approached, twenty-one refused to participate due to a lack of time or change of mind, resulting in 200 in the final sample (90.5% response rate).

More than half (56.5%) of the participants were in their 30s with an average age of 34.7 years ($SD = 5.2$). Most were married (97%), well educated (90% completed at least a high school level of education), and identified themselves as full-time housewives (85%). Although 26% left the question about household income blank, income levels ranged from \$318 to \$4545 ($M = \$1653$, $SD = \$857$). About 25% reported no religious affiliation. The mothers were also asked about a number of demographic and illness-related characteristics of the sick children. The age range for children was from 1 month to 18 years ($M = 6.9$, SD

= 4.4). About half (49%) of the children were diagnosed within the past 6 months prior to the study, with the most frequent diagnosis being leukemia (45%). Eighteen percent of the children experienced recurrences of cancer during their treatment (Table 1).

Procedures

Data collection began after approval was obtained from each institutional review board or ethics committee of the participating hospitals. Nurse coordinators in the in- and out-patient clinics at the hospitals briefly introduced the study to mothers. If the mother was interested in being part of the study, the first author explained about the study in greater detail and obtained informed consent. All participants had the option of choosing either interview or self-administration of a questionnaire. Most participants (70.5%) filled out the questionnaire independently. Completed questionnaires were collected hours or days later. Mothers at out-patient clinics either returned completed questionnaires while they were waiting for the treatment for their child, which often lasted 2–4 h, or on their next visit that was commonly scheduled a week later. About 30% ($n = 59$) of mothers completed the questionnaire through interview, which generally took 30 min to an hour. Mothers received a telephone card (\$5 value) at the completion of the survey for their time.

Measures

Study instruments were translated from English into Korean, as they had not been used in any study involving Koreans. Following a procedure described by Brislin [17], an expert panel of three bilingual content experts verified the equivalence between the original and Korean versions of the instruments. A language expert (a bilingual PhD in linguistics) also participated in the verification process. Once consensus was reached among panel members in terms of equivalence between two versions, a non-professional bilingual individual was interviewed to assess the clarity and readability of the translated version. The translated instruments were then exclusively used for data collection.

Demographic and individual characteristics—A questionnaire was developed for the study to collect information on a number of sociodemographic variables pertaining to the mother and the sick child. These included age, education, income, marital status, working status, religion, maternal stress, and a number of child's disease-related characteristics such as time since diagnosis, type of diagnosis, and recurrence of the disease. Maternal stress was measured by a 100mm visual analogue scale to indicate the degree of stress that mothers had felt during the past month due to the child's illness. Only the first author scored scales to avoid any measurement bias.

Coping strategies—Coping Health Inventory for Parents (CHIP), a 45-item instrument, was used to assess mothers' perception of coping strategies they were using to manage family life when they had a seriously and/or chronically ill child [18]. Mothers were asked to record how helpful each coping strategy was in their family situation on a scale of 0–3, with 0 indicating 'not helpful' and 3 indicating 'extremely helpful.' The instrument measures three coping patterns. The first coping pattern, Family Integration, Co-operation, and an Optimistic Definition of the Situation, consists of 19 coping strategies that focus on strengthening family life and relationships and the parents' outlook on life with a chronically ill child (e.g. 'trusting my spouse to help support me and my child'). Coping pattern II, Maintaining Social Support, Self-Esteem, and Psychological Stability, is composed of 18 coping strategies that involve the parents' efforts to develop relationships with others, engage in activities that enhance feelings of individual identity and self-worth plus strategies to manage psychological tensions and pressures (e.g. 'engaging in relationships and friendships which help me feel important and appreciated'). Coping pattern III, Understanding the Healthcare Situation through Communication with Other Parents and

Consultation with the Healthcare Team, contains eight coping strategies directed at the parents' relationships with healthcare professionals and other parents of chronically ill children (e.g. 'talking with the medical staff when we visit the medical clinic'). Reliability and validity of the original CHIP have been established [19,20]. All subscales of the Korean translation had good reliability, with Cronbach's alphas yielding 0.83, 0.79, and 0.72 for coping patterns I–III, respectively.

Maternal psychosocial adjustment—Participants completed three relevant subscales of the Psychosocial Adjustment to Illness Scale [21]: a 7-item psychological distress subscale that covers the degree to which pertinent psychological difficulties have risen associated with the occurrence of the disease (e.g. 'feeling afraid, tense, nervous, or anxious'), an 8-item family relationship subscale that assesses illness-induced difficulties that arise primarily in the home or usual family environment (e.g. 'the child's illness resulting in a decrease in communication between family members'), and a 6-item social relationship subscale that assesses the degree to which the illness has impaired the mother's social activities (e.g. 'participating in social activities to the same degree prior to the child's illness'). Mothers were asked to indicate their level of agreement with each item on a 4-point scale (0–3). Higher scores indicate more psychological distress and greater impairment in family and social relationships. Evidence of reliability and validity of the original scale have been reported [21]. The alpha coefficients obtained from the Korean sample were 0.81 for psychological distress, 0.75 for family relationship, and 0.79 for social relationship subscales.

Analysis

Descriptive statistics were used to describe the most helpful coping strategies and to calculate sum scores for each subscale of the CHIP. Paired *t* tests were performed to determine which group of coping strategies in the three subscales of the CHIP was most helpful. Multivariate analysis of the data involved ordinary least-squares regression estimates of the effects of particular coping strategies on maternal psychosocial adjustment. Specifically, the data analyses were designed to examine the effects of various coping patterns on the mothers' psychosocial adjustment including psychological distress, family and social relationships. To look at the main effect of coping patterns on maternal psychosocial adjustment, we used multiple hierarchical regression models and controlled for other possible confounding variables of the relationship between coping and the listed maternal adjustment variables. These control variables included a history of relapse, time since child's diagnosis, maternal stress, and religion [11,22,23]. In addition, we included data collection method as a control variable due to a significant difference in the response between mothers who were interviewed and mothers who self-administered the instruments. Specifically, mothers who chose a face-to-face interview were more likely than self-completers to report greater levels of coping and psychosocial adjustment ($p < 0.05$ for both tests). All of the assumptions of regression analysis were met. Collinearity diagnostic statistics ranged from 0.41 to 0.96 for tolerance and from 1.04 to 2.42 for variance inflation factor (VIF), which were all within acceptable ranges (tolerance > 0.10 , VIF < 10) [24]. The criterion for statistical significance was set at $p = 0.05$.

Results

Maternal coping behaviors

Table 2 summarizes top ten coping strategies perceived as being helpful by the mothers. More than 90% of mothers found 'believing that my child will get better' and 'having my child seen at the hospital on a regular basis' helpful or extremely helpful. Eight of the top ten strategies were related to positive definition of the situation and strengthening family life

(coping pattern I). Coping strategies ‘investing time and money in my job’ and ‘concentrating on hobbies (e.g. art, music, and jogging)’ were reported as least helpful, with only 11% of mothers perceiving them as being helpful. Item mean scores on the CHIP subscales were as follows: coping pattern I—maintaining family integration and an optimistic definition of the situation (mean = 2.07, SD = 0.49), coping pattern II—seeking social support (mean = 1.12, SD = 0.49), and coping pattern III—seeking information and understanding the healthcare situation (mean = 2.05, SD = 0.58). Pairwise comparisons between clusters of coping strategies revealed that the strategies related to coping patterns I and III were rated significantly more helpful than those related to coping pattern II ($p < 0.001$ for both paired tests; using Bonferroni’s correction, alpha values were modified from < 0.05 to < 0.017 to be significant for these pairwise comparisons). There was no difference between coping patterns I and III.

Relationships between coping strategies and maternal psychosocial adjustment

Three clusters of coping strategies were moderately interrelated (Table 3). Specifically, the use of coping pattern I was significantly related to more use of coping patterns II and III ($p < 0.001$). A greater use of coping patterns I and II was significantly correlated with less maternal psychological distress and less impairment in family and social relationships. Coping strategies directed at the mothers’ interactions with healthcare professionals and other parents of children with cancer (i.e. coping pattern III) were not significantly related to maternal psychosocial adjustment at bivariate level.

Coping strategies predicting maternal psychosocial adjustment

Using hierarchical regression, we examined three clusters of coping strategies that are predictive of maternal psychosocial adjustment, entering the children’s medical and maternal characteristics first and coping variables next (Table 4). The regression analysis showed an explained variance (R^2) ranging from 7.6% for an equation predicting psychological distress to 10.3% for social relationship and 13.4% for an equation predicting family relationship, after the children’s medical and maternal characteristics were controlled for. Coping patterns I and III were significant predictors of psychological stress and family relationship, whereas coping pattern II had a significant effect on social relationship scores only. The final models were able to explain 23.4% of the total variance of social relationships, 29.0% of psychological distress, and 31.1% of family relationships ($p < 0.05$ for all final regression models).

Discussion

Eight of the top ten coping strategies that Korean mothers perceived as being most helpful were related to coping pattern I: maintaining family integration and an optimistic definition of the situation. Parents in other studies on childhood chronic illness have also reported similar coping strategies such as ‘believing that my child is receiving the best medical care possible,’ ‘believing that my child will get better,’ or ‘believing that things will work out’ as being most helpful [9,25]. Positive outlook of the situation may help parents maintain hope for recovery from cancer [9]. At multivariate level, this cluster of coping strategies proved useful for better adjustment among Korean mothers, by predicting psychological distress and family relationship after controlling for relevant variables. The result is consistent with previous studies that found parental coping with childhood cancer was commonly focused on strengthening family life and relationships [9,26,27].

The mothers gave lower ratings to the coping behaviors of the support subscale (coping pattern II) when compared with the other clusters of coping strategies measured by the CHIP. The result is similar to a previous study of 51 parents of children with cancer in

England [28] in which coping pattern II received lower ratings than other coping patterns. Normative scores have been used to assess adequacy of parental coping with chronic life-threatening illness in children [9,20]. Using published normative scores for coping patterns I–III [20], we found the mean score for coping pattern II in Korean mothers was much lower than the norm (20.1 vs 28). For coping patterns I and III, Korean mothers scored 39.4 and 16.4, respectively, compared with normative scores of 40 and 15 [20]. Other studies reported scores of 49.8, 28, and 16.8 in Greek mothers [9], and 45.3, 33.3, and 18.1 in American mothers [29] for coping patterns I–III, respectively.

Although it is difficult to directly compare the results due to varying sample characteristics, it is evident that Korean mothers reported deficient coping, particularly in support-seeking. One possibility might be that mothers may have chosen to withdraw from social interactions in response to the child's illness that required constant vigilance and care. Evidence seems consistent to suggest that the existence of a child's disability tends to return the family to the traditional pattern of gender relations with mothers taking more responsibility in the medical referral process, being responsible for the child's behavior, and dealing with the child's educational problems [30,31]. Although more Korean women are taking professional opportunities outside the home, it is a common belief that a sick child is the mother's primary responsibility to fulfill a largely traditional gender role [22]. Lower ratings given to coping pattern II might have been a reflection of limited utility of simple reporting of support-seeking and not considering the quality of support. In multivariate analysis, coping pattern II was only predictive of better social relationship. Several researchers have also failed to find a significant association between support-seeking and parental adjustment [12,32,33]. Taken together, these findings appear to suggest a questionable utility of simple reported use of support-seeking coping strategies in explaining parental adjustment with childhood cancer. Subjective perceived support may be of more importance for parental adjustment [12].

More use of coping pattern III was associated with worse maternal psychosocial adjustment at multivariate level. Although we could not find any published study investigating the three coping patterns in relation to parental adjustment in the context of childhood cancer, it is important to point out that the adaptivity and the effectiveness of coping strategies need to be determined by the 'fit' of the particular coping strategy to the demands of situational and personal factors [8]. For example, information-seeking coping behaviors were effective only when the level of information was congruent with the individual's preexisting coping style [34,35]. As such, highly attentive coping strategies (e.g. seeking information) might not have been beneficial to Korean mothers due, in part, to culturally determined coping styles by which avoidance or minimization coping strategies have been more effective, as shown in other Asian sample studies [36,37]. Further research is needed to find out whether the result can be replicated in another Korean sample. Our finding of coping pattern III being negatively reflected in maternal psychosocial adjustment may also indicate the need for personal space. The guidance and information from the healthcare team and the camaraderie of others experiencing a similar situation are critical for parents of children with cancer to successfully manage the diagnosis and treatment of their child's illness [5]. Yet, studies have indicated that the period immediately after cancer diagnosis is the time of significant distress, having to deal with overwhelming information, following complex protocols, and facing the fear of being overwhelmed by difficulties other families face [2,5,38,39]. Indeed, our sample included a large proportion of mothers whose children were diagnosed relatively recently (i.e. less than 6 months ago), which might have led to an increased need for personal space before actively seeking information and interacting with the healthcare team and other parents. Another relevant explanation might be that at least one dominant coping pattern (e.g. coping pattern I) was already taking an effect, while confusion in information gathering was stressful. A grounded theory study [40] of parents of children with cancer

found that parents usually modify their coping strategies as clinical events occur (e.g. diagnosis, side effects, relapses, or death). In-depth interviews with parents at varying points of cancer treatment could offer helpful insights into trajectories of parental use of coping and how certain coping strategies are related to better or worse adjustment outcomes at these varying points.

When interpreting the results, study limitations should be considered. First, our data collection involved self-report measures from a single respondent. Hence, response bias is likely on measures that all reflect the perceptions of one family member. The entire family system may need to be the target of study to adequately address the complex set of coping with childhood cancer. Second, the mothers were recruited from large hospitals in a metropolitan city using non-random sampling. The medical characteristics of their children might have been different from those in local hospitals (e.g. sicker, more recently diagnosed). Therefore, responses from mothers in this study may not be generalizable to other parents of children with cancer. Third, researchers have found that modes of data collection could result in different responses, especially when asking sensitive information such as sexual behaviors [41], though we could not find any literature that specifically investigated the effects of mode of assessment on the quality of responses to coping or psychosocial adjustment surveys. Korean mothers who chose a face-to-face interview reported greater levels of coping and psychosocial adjustment than those who self-administered the questionnaire. It is unclear if the difference was an artifact of any methodological bias (e.g. sampling bias, as this study used a convenience sample) or a result of any true systematic difference in the response between two groups. More parental coping studies need to be done to find out if similar trends can be observed. Fourth, coping is considered as a process [8]. The cross-sectional design of this study limits our ability to assess changes in maternal coping. In addition, true causal relationships among study variables cannot be established. Longitudinal studies could provide more comprehensive understanding of coping patterns at different time points since the diagnosis. Together, these considerations in design may restrict generalizability of the findings.

To the best of our knowledge, this is one of the first studies on the coping patterns among Korean mothers of children with cancer. This study confirms the importance of evaluating preferred coping methods and available resources as they relate to maternal psychosocial adjustment. By understanding the characteristics of Korean mothers' coping responses and how different coping strategies impact their adjustment, healthcare professionals can plan appropriate intervention. For example, given the positive influence of support-seeking on social relationship in the sample, interventions aimed at enhancing the family's potential for social development can be provided. Previous studies found that a program combining parent education to build competence about aspects of the child's condition with a children's program [31], or a longer time of support directed toward the sick children [42] improved mothers' well-being by providing time for relaxation as well as for social and physical activities. The findings also suggest that clinicians should pay more attention to the manner in which information is provided because certain groups (e.g. Korean mothers) may experience negative effects due to their culturally determined coping styles. Future studies should address coping strategies in terms of the degree to which they facilitate intra-familial, social, and psychological adjustment to the chronic stress resulting from childhood cancer within a certain cultural context.

Acknowledgments

This study was partly supported by the Center for Collaborative Intervention Research at the Johns Hopkins University (P30 NR008995). We gratefully acknowledge the mothers who participated in this project; nurse coordinators Yongmi Kim, Ilsoon Sung and Sunhee Lee for their assistance with sample recruitment; and Brandon Johnson for editorial comments on this paper.

References

1. Jackson AC, Tsantefski M, Goodman H, Johnson B, Rosenfeld J. The psychosocial impacts on families of low-incidence, complex conditions in children: the case of craniopharyngioma. *Soc Work Health Care* 2003;38:81–107. [PubMed: 14984250]
2. Dolgin MJ, Phipps S, Fairclough DL, et al. Trajectories of adjustment in mothers of children with newly diagnosed cancer: a natural history investigation. *J Pediatr Psychol* 2007;32:771–782. [PubMed: 17403910]
3. Lazarus, RS.; Folkman, S. *Stress, Appraisal, and Coping*. New York: Springer Publishing Company; 1984.
4. McCubbin, MA.; McCubbin, HI. Families coping with illness: the resiliency model of family stress adjustment and adaptation. In: Danielson, CB.; Hamel-Bissell, B.; Winstead-Fry, P., editors. *Families, Health, and Illness: Perspectives on Coping and Intervention*. St. Louis, MO: 1993. p. 21-63.
5. McGrath P, Paton MA, Huff N. Beginning treatment for paediatric acute myeloid leukaemia: diagnosis and the early hospital experience. *Scand J Caring Sci* 2004;18:358–367. [PubMed: 15598243]
6. McGrath P, Paton MA, Huff N. Beginning treatment for pediatric acute myeloid leukemia: the family connection. *Issues Compr Pediatr Nurs* 2005;28:97–114. [PubMed: 16006383]
7. Brody AC, Simmons LA. Family resiliency during childhood cancer: the father's perspective. *J Pediatr Oncol Nurs* 2007;24:152–165. [PubMed: 17475981]
8. Goldbeck L. Parental coping with the diagnosis of childhood cancer: gender effects, dissimilarity within couples, and quality of life. *Psycho-Oncology* 2001;10:325–335. [PubMed: 11462231]
9. Patistea E. Description and adequacy of parental coping behaviours in childhood leukaemia. *Int J Nurs Stud* 2005;42:283–296. [PubMed: 15708015]
10. Nelson AE, Miles MS, Belyea MJ. Coping and support effects on mothers' stress responses to their child's hematopoietic stem cell transplantation. *J Pediatr Oncol Nurs* 1997;14:202–212. [PubMed: 9322394]
11. Grootenhuis MA, Last BF. Predictors of parental emotional adjustment to childhood cancer. *Psycho-Oncology* 1997;6:115–128. [PubMed: 9205969]
12. Norberg AL, Lindblad F, Boman KK. Support-seeking, perceived support, and anxiety in mothers and fathers after children's cancer treatment. *Psycho-Oncology* 2006;15:335–343. [PubMed: 16106491]
13. Barringer, H.; Gardner, RW.; Levin, MJ. *Asians and Pacific Islanders in the United States*. New York: Russell Sage Foundation; 1993.
14. Howard JY, Berbiglia VA. Caring for childbearing Korean women. *J Obstet Gynecol Neonatal Nurs* 1997;26:665–671.
15. Hwang HJ, St James-Roberts I. Emotional and behavioural problems in primary school children from nuclear and extended families in Korea. *J Child Psychol Psychiatry* 1998;39:973–979. [PubMed: 9804030]
16. Choi EC. A contrast of mothering behaviors in women from Korea and the United States. *J Obstet Gynecol Neonatal Nurs* 1995;24:363–369.
17. Brislin, R. *Translation: Application and Research*. New York: Wiley; 1976.
18. McCubbin, HI.; McCubbin, M.; Nevin, R.; Cauble, E. *CHIP: Coping Health Inventory for Parents*. St. Paul, MN: Family Social Sciences; 1979.
19. McCubbin HI, McCubbin MA, Patterson JM, Cauble AE, Wilson LR, Warwick WCHIP. Coping Health Inventory for Parents: an assessment of parental coping patterns in the care of the chronically ill child. *J Marriage Fam* 1983;45:359–370.
20. McCubbin, MA. CHIP: Coping Health Inventory for Parents. In: McCubbin, HI.; Thompson, AI., editors. *Family Assessment Inventories for Research and Practice*. Madison, WI: University of Wisconsin; 1987. p. 173-192.
21. Derogatis LR. The psychosocial adjustment to illness scale (PAIS). *J Psychosom Res* 1986;30:77–91. [PubMed: 3701670]

22. Han HR. Korean mothers' psychosocial adjustment to their children's cancer. *J Adv Nurs* 2003;44:499–506. [PubMed: 14651698]
23. Dahlquist LM, Czyzewski DI, Jones CL. Parents of children with cancer: a longitudinal study of emotional distress, coping style, and marital adjustment two and twenty months after diagnosis. *J Pediatr Psychol* 1996;21:541–554. [PubMed: 8863463]
24. Miles, J.; Shevlin, M. *Applying Regression and Correlation. A Guide for Students and Researchers*. London: Sage Publications; 2001.
25. Ray LD, Ritchie JA. Caring for chronically ill children at home: factors that influence parents' coping. *J Pediatr Nurs* 1993;8:217–225. [PubMed: 8410642]
26. Last BF, Grootenhuis MA. Emotions, coping and the need for support in families of children with cancer: a model for psychosocial care. *Patient Educ Couns* 1998;33:169–179. [PubMed: 9732657]
27. Shapiro J, Perez M, Warden MJ. The importance of family functioning to caregiver adaptation in mothers of child cancer patients: testing a social ecological model. *J Pediatr Oncol Nurs* 1998;15:47–54. [PubMed: 9473893]
28. Eiser C, Havermans T, Eiser JR. Parents' attributions about childhood cancer: implications for relationships with medical staff. *Child Care Health Dev* 1995;21:31–42. [PubMed: 7697833]
29. Birenbaum LK. Family coping with childhood cancer. *Hosp J* 1990;6:17–33. [PubMed: 2276715]
30. Gray DE. Gender and coping: the parents of children with high functioning autism. *Soc Sci Med* 2003;56:631–642. [PubMed: 12570979]
31. Dellve L, Samuelsson L, Tallborn A, Fasth A, Hallberg LR. Stress and well-being among parents of children with rare diseases: a prospective intervention study. *J Adv Nurs* 2006;53:392–402. [PubMed: 16448482]
32. Norberg AL, Lindblad F, Boman KK. Parental traumatic stress during and after paediatric cancer treatment. *Acta Oncol* 2005;44:382–388. [PubMed: 16120547]
33. Hoekstra-Weebers JE, Jaspers JP, Kamps WA, Klip EC. Risk factors for psychological maladjustment of parents of children with cancer. *J Am Acad Child Adolesc Psychiatry* 1999;38:1526–1535. [PubMed: 10596253]
34. Greenhalgh R, Slade P, Spiby H. Fathers' coping style, antenatal preparation, and experiences of labor and the postpartum. *Birth* 2000;27:177–184. [PubMed: 11251499]
35. Ludwick-Rosenthal R, Neufeld RW. Preparation for undergoing an invasive medical procedure: interacting effects of information and coping style. *J Consult Clin Psychol* 1993;61:156–164. [PubMed: 8450101]
36. Bjorck JP, Cuthbertson W, Thurman JW, Lee YS. Ethnicity, coping, and distress among Korean Americans, Filipino Americans, and Caucasian Americans. *J Soc Psychol* 2001;141:421–442. [PubMed: 11577844]
37. Jose PE, Huntsinger CS. Moderation and mediation effects of coping by Chinese American and European American adolescents. *J Genet Psychol* 2005;166:16–43. [PubMed: 15782676]
38. Lahteenmaki PM, Sjoblom J, Korhonen T, Salmi TT. The life situation of parents over the first year after their child's cancer diagnosis. *Acta Paediatr* 2004;93:1654–1660. [PubMed: 15841776]
39. Poder U, Ljungman G, von Essen L. Posttraumatic stress disorder among parents of children on cancer treatment: a longitudinal study. *Psycho-Oncology* 2008;17:430–437. [PubMed: 17847123]
40. Yeh CH, Lee TT, Chen ML, Li W. Adaptational process of parents of pediatric oncology patients. *Pediatr Hematol Oncol* 2000;17:119–131. [PubMed: 10734654]
41. Durant LE, Carey MP. Self-administered questionnaires versus face-to-face interviews in assessing sexual behavior in young women. *Arch Sex Behav* 2000;29:309–322. [PubMed: 10948721]
42. Hendriks AH, De Moor JM, Oud JH, Savelberg MM. Perceived changes in well-being of parents with a child in a therapeutic toddler class. *Res Dev Disabil* 2000;21:455–468. [PubMed: 11153829]

Table 1Sample characteristics ($N = 200$)

Variables	Frequency	%
Married	194	97.0
Employed (full- or part-time)	30	15.0
Education		
Less than high school	18	9.0
High school or more	180	90.0
Monthly household income		
Less than \$1000	36	18.0
\$1000–\$1999	75	37.5
\$2000 or more	37	18.5
No religion	49	24.5
Time since child's diagnosis		
Less than 6 months	98	49.0
More than 6 months	102	51.0
Mother of a child with		
Leukemia	90	45.0
Neuroblastoma	31	15.5
Brain tumor	17	8.5
Lymphoma	13	6.5
Other	49	24.5
Mother of a child who had been treated for a relapse of the disease	36	18.0
	Mean	SD
Mother's age (23–46 years)	34.7	5.2
Child's age (1 month–18 years)	6.9	4.4
Maternal stress (7–100)	66.2	25.5
Coping pattern I—Family integration and an optimistic definition of the situation (0–55)	39.4	9.3
Coping pattern II—Seeking social support (0–53)	20.1	8.8
Coping pattern III—Seeking information and understanding the healthcare situation (0–24)	16.4	4.6
Psychological distress (0–21)	9.3	4.7
Family relationship (0–22)	8.9	4.3
Social relationship (0–18)	12.4	4.5

Table 2

Top 10 most helpful coping strategies

Coping pattern	Coping strategies	n (%)
I	Believing that my child will get better	186 (93.0)
I	Having my child seen at the hospital on a regular basis	184 (92.0)
I	Believing that things will work out	179 (89.5)
III	Talking with other parents in the same type of situation and learning about their experiences	172 (86.0)
I	Trusting my spouse to help support me and my child	172 (86.0)
I	Believing that the hospital has my family's best interest in mind	170 (85.0)
I	Doing things with my child	168 (84.0)
III	Talking with other parents in my same situation	166 (83.0)
I	Believing that my child is getting the best medical care possible	163 (81.5)
I	Telling myself that I have many things I should be thankful for	162 (81.0)

Table 3Correlations between coping and maternal psychosocial adjustment ($N = 200$)

Variable	Coping pattern I	Coping pattern II	Coping pattern III	Psychological distress	Family relationship	Social relationship
Coping pattern I	—					
Coping pattern II	0.65***	—				
Coping pattern III	0.65***	0.50***	—			
Psychological distress	-0.23***	-0.18*	0.03	—		
Family relationship	-0.42***	-0.26***	-0.14	0.39***	—	
Social relationship	-0.25***	-0.31***	-0.05	0.28***	0.32***	—

Notes:

* $p \leq 0.05$,** $p \leq 0.01$,*** $p \leq 0.001$.

Table 4

Correlates of maternal psychosocial adjustment^a ($N = 200$)

Variables	<i>B</i>	Beta	R^2	R^2 change	Test of significance
<i>Dependent variable: psychological distress</i>					
Step 1			0.214	0.214	$F(5, 194) = 10.55^{***}$
Time since diagnosis	-0.82	-0.09			
Relapse	0.47	0.04			
Maternal stress	0.72	0.39 ^{***}			
Religion	0.47	0.04			
Data collection method	1.64	0.16 [*]			
Step 2			0.290	0.076	$F(8, 191) = 9.75^{***}$
Coping pattern I	-0.15	-0.30 ^{**}			
Coping pattern II	-0.05	-0.09			
Coping pattern III	0.18	0.18 [*]			
<i>Dependent variable: family relationship</i>					
Step 1			0.177	0.177	$F(5, 194) = 8.37^{***}$
Time since diagnosis	-0.66	-0.08			
Relapse	0.43	0.04			
Maternal stress	0.36	0.22 ^{***}			
Religion	0.24	0.02			
Data collection method	-1.89	-0.20 ^{**}			
Step 2			0.311	0.134	$F(8, 191) = 10.78^{***}$
Coping pattern I	-0.21	-0.45 ^{***}			
Coping pattern II	-0.03	-0.06			
Coping pattern III	0.22	0.24 ^{**}			
<i>Dependent variable: social relationship</i>					
Step 1			0.131	0.131	$F(5, 194) = 5.84^{***}$
Time since diagnosis	1.71	0.19 [*]			
Relapse	-0.05	<0.01			

Variables	B	Beta	R ²	R ² change	Test of significance
Maternal stress	0.26	0.14*			
Religion	-1.28	-0.12			
Data collection method	-1.03	-0.10			
Step 2			0.234	0.103	<i>F</i> (8, 191) = 7.30***
Coping pattern I	-0.07	-0.14			
Coping pattern II	-0.16	-0.30***			
Coping pattern III	0.23	0.24**			

^aMultiple hierarchical regression models were used. Time since diagnosis was coded as 0 = 6 months or less, 1 = 6 months or more; Relapse was coded as 0 = no and 1 = yes; Religion was coded as 0 = no and 1 = yes; data collection method was coded as 0 = self-administered, and 1 = face-to-face interview.

* $p \leq 0.05$,
** $p \leq 0.01$,
*** $p \leq 0.001$.