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Research

Measurement of Family Coping

Linda K. Birenbaum, RN, PhD

HOW FAMILIES COPE with childhood cancer is of theoretical and practical interest to nursing. While the individual coping literature is well established, family coping is a developing concept. Family coping differs from individual coping in that multiple persons at various developmental levels participate in the family's coping process. McCubbin et al¹ point out that cognitive psychological, normative sociological, and developmental theories have been used to bridge individual coping and family stress theory.

Shapiro's² discussion of family coping articulates two dimensions: coping strategies and coping resources. McCubbin and Patterson's definition of family coping incorporates Shapiro's discussion:

The behavioral responses of family members and the collective family unit to eliminate stressors, manage the hardships of the situation, resolve the intrafamily conflicts and tensions as well as acquire and develop social, psychological, and material resources needed to facilitate family adaptation.³

Munet de Vilaro expands the definition of family coping to include "... concerns and demands which are relevant to the adaptation of having a child with cancer."⁴

The operationalization of family coping has been difficult. Many nurse scientists have raised questions about what constitutes family measurement.⁵⁻⁷ Shapiro raises these same issues with respect to family coping: "Does family coping mean simply the aggregate of individual family members' styles of coping? ... Can the family unit function as a whole in such a way to produce 'family coping' at a structural and/or

process level?"² In spite of the recent emphasis on family as the unit of analysis, individual's perceptions remain the focus of family coping measurement.

Although Wegmann⁸ identified three family coping measurements, Family Inventory of Life Events and Changes, Adolescent-Family Inventory of Life Events and Changes, and Family Coping Strategies (F-COPES), a recent Medline search of the literature for 1980-1990 found only F-COPES was used in current research studies. Wegmann's review of 20 coping instruments does not address the issues of family coping conceptualization or measurement.⁹ Three family coping instruments were chosen for discussion in this article because they have been used in cancer nursing research (Table 1).

Family Coping Instruments

Coping Health Inventory for Parents

Description. The Coping Health Inventory for Parents (CHIP) is a 45-item parent self-administered questionnaire with three scales: (1) Family Integration, (2) Support, Esteem, and Stability, (3) Medical Communication.

Theory base. The CHIP was constructed using previous research and concepts from social support, family stress, individual psychology of coping, and family-medical support theories.

Scales. The three scales of the CHIP consist of Likert-scaled items scored from least to most helpful (0 to 3). A "not applicable" category is also available for each item.³ The Family Integration scale consists of 18 items; the Support, Esteem and Stability scale has 18 items; and the Medical Communication scale consists of 9 items. Coping scale scores are computed by means of an unweighed summing of a parent's "helpfulness" ratings across behavior items within each scale. Each scale is scored separately. These scales were identified by factor analysis using the varimax rotation and represented 71% of the variance.³

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TABLE 1
Family Coping in Cancer Research

CHIP	F-COPES	CICI:PQ
Birenbaum ¹⁰	Lewis, Woods, Hough, et al ¹⁴	Birenbaum, McCown, and Nunneley ¹⁹
Birenbaum ¹²	Musci and Dodd ¹⁵	Hymovich ¹⁷
Blotcky, Raczynski, Gurwitsch, et al ¹¹		Hymovich and Baker ¹⁸

Abbreviation: CICI:PQ, Chronicity Impact and Coping Instrument: Parent Questionnaire.

Psychometric properties. Construct validity was demonstrated by correlating the CHIP with the Family Environment scale and two indices of changes in the child's health: height and weight index and pulmonary functioning index. Criterion validity was demonstrated by using discriminant analysis to differentiate between low-conflict and high-conflict families who had a child with cerebral palsy.³

McCubbin et al³ report Cronbach's alphas of .79, .79, and .71 for the scales of Family Integration, Support, Esteem and Stability, and Medical Communication, respectively, in a sample of 308 parents. Birenbaum¹⁰ found Cronbach's alphas of .76, .84, and .78, respectively, for each of the three scales listed above in a sample of 82 parents of children with cancer.

Standardization and norms. A profile of mothers' and fathers' coping patterns is available in McCubbin et al.³

Evaluation. The CHIP has been used in two research studies of childhood cancer.^{10,11} The length, ease of administration and scoring, psychometric characteristics, and clinical utility of the CHIP favor its use as a research and clinical instrument.

Birenbaum,¹⁰ after reviewing the childhood cancer literature, identified two family coping strategies: encapsulation and at-risk behaviors. Items from the CHIP were used to measure these coping strategies. The internal consistency of these derived scales ranged from .46 to .74 and show promise for future measurement of family coping with childhood cancer. In addition, Birenbaum's¹² findings are similar to those of McCubbin et al³ and Blotcky et al.¹¹

F-COPES

Description. The F-COPES is a 29-item, five subscale inventory administered to family

members above 12 years of age. It is aimed at identifying problem-solving behaviors in families as they respond to difficulties or crises.

Theory base. F-COPES operationalizes the coping dimensions of the Double ABCX model of family stress theory and focuses on two levels of interaction: (1) the ways in which the family handles difficulties and problems that arise between family members, and (2) the ways in which the family handles problems or demands that come from the social environment, but that affect family members.³

Scales. The five subscales measure: (1) Acquiring Social Support; (2) Reframing; (3) Seeking Spiritual Support; (4) Mobilizing Family to Acquire and Accept Help; and (5) Passive Appraisal. These scales consist of 9, 8, 4, 4, and 4 items, respectively. A summary score can be obtained for each subscale and a total score by simply summing the items.

Psychometric properties. Internal consistency (Cronbach's alpha) of the five factors ranges from .63 to .83 with the total scale being .86. Test-retest reliabilities (after 4 weeks) for the five factors range from .61 to .95 with the total scale being .81. Construct validity was assessed through factor analysis.¹³

Standardization and norms. Norms are available for male and female adults and adolescents.

Evaluation. Two recent nursing studies of adult cancer have used the F-COPES to measure family coping.^{14,15} Use of standardized measures in clinical studies allows nurses to compare family coping and to develop models of family coping during an episode of illness. Musci and Dodd¹⁵ reported their families coped as well as the normative families. Lewis et al¹⁴ used the F-COPES in a path-analytic model to help better explain the complexities of family coping. Two advantages of the F-COPES are (1) a total score can be computed, thus reducing the sample size required in multivariate studies, and (2) the F-COPES can be administered to adolescent family members.

CICI:PQ

Description. The CICI:PQ is a 167-item parent self-administered Likert-scaled questionnaire.

Theory base. The theoretical basis for the CICI:PQ derives from Hymovich's¹⁶ conceptual

TABLE 2
Family Coping Instruments: Research and Clinical Utility

Instrument	Reliability	Validity	Clinical Utility	Research Utility
CHIP	Internal consistency	Construct, criterion	Yes	Yes
F-COPES	Internal consistency, test-retest	Construct		Yes
CICI:PQ	Internal consistency	Content	With modifications	Yes

framework and addresses (1) variables that influence the effect a child's chronic condition has on the family, and (2) coping strategies used by family members to manage stresses imposed by the child's illness. The CICI:PQ has six sections: (1) the child with the condition, (2) parent completing the questionnaire, (3) spouse, (4) other children, (5) hospitalization, and (6) other.¹⁷

Scales. The CICI:PQ consists of five major scales, three subscales, and additional information in three areas. The Self Cope scale consists of 40 items, the Spouse Cope scale has 15 items, the Communication with Siblings scale and the Beliefs scale consist of 9 items each, and the Stressors scale has 54 items with subscales Help, Self Concern, and Spouse Concern. In addition, the instrument measures demographic data, the parents' relationship, and hospitalization experiences.¹⁸

Psychometric properties. Hymovich and Baker¹⁸ report internal reliability coefficients for the following scales: Self Cope, .80; Spouse Cope, .80; Communication with Siblings, .84; Beliefs, .43; and Stressors, .72. No validity has been reported.

Standardization and norms. None have been reported.

Evaluation. No research studies were identified in the literature review as using the CICI:

PQ. However, Birenbaum et al¹⁹ adapted 11 items for parents to define their needs with respect to healthy siblings of children dying of cancer from the child section of Hymovich's tool. A Parent Concern scale was adapted for use with parents of children dying of cancer and consisted of 27 items. Birenbaum et al's¹⁹ sample size was small and these data have not yet been analyzed. This adaptation was a useful tool for transition nurses to quickly assess parents' needs and concerns in a nursing intervention research study.²⁰

The research and clinical utility of the three family coping instruments is summarized in Table 2.

Summary

Three family coping instruments that have been used in cancer nursing research have been discussed and their usefulness for nursing research and practice have been presented. While all three instruments use the parents as the source of information about family coping with cancer, the F-COPES was designed for use with adolescents as well. Use of these instruments with families coping with childhood cancer can increase nursing's knowledge base for practice and provide scientifically sound and clinically relevant measurement.

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