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Perceived Family Functioning Predicts Baseline Psychosocial Characteristics in U.S. Participants of a Family Focused Grief Therapy Trial

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Abstract

Context and Objectives.—Screening and baseline data on 170 American families (620 individuals), selected by screening from a palliative care population for inclusion in a randomized controlled trial of family-focused grief therapy, were examined to determine whether family dysfunction conferred higher levels of psychosocial morbidity. We hypothesized that greater family dysfunction would, indeed, be associated with poorer psychosocial outcomes among palliative care patients and their family members.

Methods.—Screened families were classified according to their functioning on the Family Relationships Index (FRI) and consented families completed baseline assessments. Mixed-effects modeling with post hoc tests compared individuals' baseline psychosocial outcomes (psychological distress, social functioning, and family functioning on a different measure) according to the classification of their family on the FRI. Covariates were included in all models as appropriate.

Results.—For those who completed baseline measures, 191 (30.0%) individuals were in low-communicating families, 313 (50.5%) in uninvolved families, and 116 (18.7%) in conflictual families. Family class was significantly associated (at $p < 0.05$) with increased psychological

distress (Beck Depression Inventory and Brief Symptom Inventory) and poorer social adjustment (Social Adjustment Scale) for individual family members. The family assessment device supported the concurrent accuracy of the FRI.

Conclusion.—As predicted, significantly greater levels of individual psychosocial morbidity were present in American families whose functioning as a group was poorer. Support was generated for a clinical approach that screens families to identify those at high risk. Overall, these baseline data point to the importance of a family-centered model of care.

Keywords

Family-centered care; psychological; RCT; psycho-oncology; family functioning; palliative care

Introduction

An advanced cancer diagnosis is a life-altering event that extends beyond the patient. Families must adjust to disruptions in roles and routines, while coping with the emotional turmoil brought on by the illness and its management. The trend toward longer survival rates and transfer of care from the hospital setting to the ambulatory or home setting has placed greater burden on families for caregiving responsibilities.¹ As families become more involved in patient care, it becomes increasingly important to learn about their psychosocial support needs and assess their capacity to work effectively as a caregiving system. Indeed, poor family functioning has been associated with deleterious psychosocial outcomes for both patients and their loved ones.²⁻⁴ An important clinical goal is, thus, to support the families of patients with advanced cancer and eventually assist them in bereavement.

To address this need, a family-centered psychosocial intervention called “family-focused grief therapy” (FFGT) was developed and tested to support patients and families coping with advanced cancer. The FFGT model uses a screening technique to identify families at risk for psychosocial morbidity due to family dysfunction (for families experiencing dysfunction demonstrate the majority of cases of psychosocial morbidity that occur in palliative care and bereavement).^{3,4} Families identified as high risk on the basis of this screening are offered a course of FFGT, an intervention described in detail by Kissane et al., 2003, which has a primary aim to prevent or offset psychosocial morbidity (e.g., prolonged grief disorder) during bereavement. A classification system that guides the screening procedures was first developed with Australian patients and families and served as the basis for the development of FFGT.² To extend this work, we screened a cohort of 1809 American oncology patients receiving palliative care and confirmed the ability to recognize families at risk. In contrast with two adaptive patterns of family functioning (supportive [45%] and conflict resolving [23%]), three problematic patterns of family relating were found: low communicating (21%), less involved (5%), and conflictual (6%).⁵ The latter three types are targeted for intervention.

FFGT previously received empirical support for its efficacy through a randomized controlled trial (RCT) with Australian patients and families.⁶ Another trial was recently conducted to examine the moderating impact of FFGT “dose,” or number of therapy sessions (i.e., six vs. 10 sessions or usual care), with an American sample of patients and families. Here,

we 1) present baseline demographic, disease, and psychosocial data from the 170 families (620 individuals) enrolled in the RCT and 2) delineate empirical associations between their reports of family functioning and psychiatric morbidity.

Methods

Participants and Procedures

Palliative care patients and family members ($n = 620$) from Memorial Sloan Kettering Cancer Center ($n = 540$) and related palliative care programs at Calvary Hospital ($n = 46$), Visiting Nursing Service of New York ($n = 22$), and Beth Israel Hospice Service ($n = 12$) were enrolled after screening with the Family Relationship Index (FRI)—a measure of perceived family functioning between January 2006 and December 2011. Patients had diagnoses of advanced cancer and expected survival of < 1 year. The protocol received approval from each site's institutional review boards. The study was registered with clinicaltrials.gov in December 2007. Only patients and families who completed informed consent for screening (and were permitted to be screened by medical staff) were screened. Exclusion criteria for screening included: recommendation by the medical staff that a patient or family should not be screened, prognosis that the patient would live > 1 year and poor English fluency. Of the 257 families who consented to screening, 74 families (29%) were classified as well functioning (and thus ineligible for the FFGT RCT); 183 families (71%) were classified as RCT eligible according to their responses on the FRI. Ultimately, 170 families (620 individuals total, with a mean of 3.6 individuals per family) were consented. Note that at no stage were families labeled and advised of their “presumed” dysfunctional status as this could be damaging.

The average patient was middle aged, and female (60%), with spouses/partners relatively close in age. Most children were young adults. Approximately half were employed and 59% were married. The most common cancer diagnoses were upper gastrointestinal (including pancreatic, $n = 85$ [65%]; melanoma $n = 13$ [10%]; lung $n = 10$ [8%]; breast $n = 5$ [4%]; and other cancers $n = 17$ [13%]). Most patients had undergone at least one significant cancer-related surgery (90%) and been treated with chemotherapy (89%) or radiation therapy (40%). Additional detailed sociodemographic information for patients and family members is provided (see Table 1).

Measures

Perceived Family Functioning

Family Relationships Index.: Patients and family members reported perceived family functioning on the FRI, a 12-item short form of the Family Environment Scale.⁷ The FRI has three subscales: 1) cohesiveness, 2) expressiveness, and 3) conflict resolving; the subscales form a global measure of family interaction. It has been used extensively including in patients with heterogeneously staged cancers and in bereaved families of advanced cancer patients.^{2,6,8,9} The FRI has shown adequate sensitivity to detect family members affected by distress, depressive symptoms, and poor coping.^{8,9} “Low-communication” families have FRI scores 8–9, “low involvement” families 5–7, and “high conflict” families 0–4.¹⁰

Families were classified on the basis of the poorest perception of family functioning of any family member on the FRI. This approach is in keeping with the clinical wisdom that a single member may present as the “symptom bearer” for the family. It is possible that false positives may have occurred. However, we deliberately privileged sensitivity over specificity in our screening approach, taking care not to miss any “at-risk” family in the process.^{2,5} Our previous research conducted with Australian families indicated that family class—similarly derived from the FRI and classified on the basis of the poorest perception of functioning by any family member—was related to psychosocial morbidity which was attenuated by FFGT.³ We, thus, felt appropriately informed in using this same strategy with American families.

Family Assessment Device.: Patients and family members also reported perceived family functioning on the family assessment device (FAD),¹¹ a 60-item measure, based on the McMaster Model of Family Functioning. The scale distinguishes between healthy and unhealthy family functioning on its general functioning scale. Higher scores indicate lower levels of family functioning.¹² Cronbach’s alpha for its general functioning scale for the present study was 0.95.

Psychiatric Symptoms

Beck Depression Inventory—Second Edition.: Patients and family members reported depressive symptoms on the 21-item Beck Depression Inventory—Second Edition (BDI-II)¹³ by rating the extent to which they experienced each item on a scale from 0 (not experiencing the symptom) to 3 (experiencing the symptom severely).¹³ Cronbach’s alpha for the present study was 0.90.

Brief Symptom Inventory.: Patients and family members reported psychological morbidities with the 18-item Brief Symptom Inventory (BSI),¹⁴ brief form, a reduced version of the Hopkins Symptom Checklist-90.¹⁵ It yields global ratings of psychological morbidity, and we used scores from three of the nine subscales: somatization, depression, and anxiety. Each item was rated on a scale from 0 (not at all) to 4 (extremely). Cronbach’s alpha for the present study was 0.92.

Social Functioning

Social Adjustment Scale.: Patient and family members’ level of self-satisfaction with social functioning was measured using a 45-item version of the total Social Adjustment Scale (SAS),¹⁶ which assesses change in social adjustment in the domains of housework, work, social and leisure activities, relationships with children and extended family, and overall family functioning. Respondents rated the frequency they had experienced each item on a scale from 1 (not at all) to 5 (all the time). Cronbach’s alpha for the total SAS for the present study was 0.90.

Analytic Strategy—In this study, the FRI was used for family classification, the FAD as an independent family functioning outcome measure and the BDI, BSI, and SAS as psychosocial adjustment outcome measures. Mixed-effects modeling compared baseline assessment outcome data (FAD, BDI, BSI, and SAS) across patients and family members

based on the perceived family functioning classification of the family unit (FRI).^{17,18} Both fixed (group average effects) and random effects (within-individual variability) were estimated. First, to allow for correlated family data, a nominal variable containing values to represent each distinct family was retained as a covariate in all models. Second, clinically/theoretically relevant sociodemographic covariates (i.e., gender) were entered and retained in final models for each outcome as appropriate. Finally, depressive symptoms were entered as an additional covariate for the FAD and SAS models.⁶ All main effects were entered into each mixed-effects model. All statistical tests were two sided. The Statistical Package for the Social Sciences (SPSS): Release 22.0 was used (IBM SPSS, Chicago, IL).

Results

Perceived Family Functioning Classification and Group Sociodemographic Differences

As listed in Table 1, 170 families (or 620 individuals in total) were consented. The distribution of family functioning classification was: low-communicating ($n = 191$; 30.0%) individuals, uninvolved ($n = 313$; 50.5%) individuals, and conflictual ($n = 116$; 18.7%) individuals. Pearson Chi-square, Fisher's exact, and ANOVA tests (as appropriate) showed no statistically significant differences across the family classes with regard to sociodemographic and disease characteristics (age, gender, race [Caucasian vs. non-Caucasian], religious preference [Catholic, Jewish, other Christian, other], marital status [married or living with partner vs. single, divorced, or widowed], or cancer diagnostic site [gastrointestinal vs. other diagnostic site]). However, because it was clinically/theoretically justified, gender was included as a potential covariate in the mixed models.

Outcome Data

The rate of missing data was less than 13% across all outcome measures. However, mixed-effects modeling remains robust in the presence of missing data. This analysis does not impute missing data but uses what data are present for model estimation, allowing participants who are missing some outcome data to be included in the analysis.¹⁷ Estimates of Type III tests of fixed effects for each general/overall outcome measure are listed in Table 2. Here, we compared family-level classifications on measures of psychosocial adjustment. Mixed-effects modeling with post hoc tests (using the EMMeans command with least significant difference [LSD] post hoc tests) showed that individuals from conflictual families reported significantly higher mean levels of depressive symptomatology (mean [M] = 15.98) than those from low-communicating ($M = 12.06$; $P < 0.01$) but not less-involved ($M = 13.70$) families. Those from low-communicating and less-involved families did not show significant differences. For those with available data, 35.6% reported mild, moderate, or severe depressive symptoms in low-communicating families, as did 39.3% in less-involved families and 44% in conflictual families, illustrating how conflictual class families have members with heightened depressive symptoms.

The pattern of BSI somatic subscale mean scores was similar, confirming that families with conflictual relationships carried significantly more members reporting somatic symptoms ($M = 4.47$; relative to $M = 3.00$ for those in low-communicating families and $M = 3.65$ for those in less-involved families) and had higher global BSI scores ($M = 15.59$) than those in

low-communicating families ($M = 11.74$; $ps < 0.052$), although not less-involved families ($M = 13.46$). For those with available data, 12.5% met criteria for BSI “caseness” (i.e., a global BSI T -score ≥ 63)¹⁴ and 87.5% did not. By family classification, BSI “caseness” was met by 7.6% of those from low-communicating families, 13.24% of those from less-involved families, and 18.45% of those from conflictual families.

Even controlling for depressive symptoms, individuals from more dysfunctional families (i.e., conflictual and less-involved) carried poorer levels of functioning across a range of social domains—including relationships with partner, immediate family, and extended family and recreational functioning ($ps < .043$). Concurrent validity for the assignment of family to class was assessed using the FAD, providing further evidence for the predictive ability of the FRI to discriminate healthy from less healthy family styles. Mean FAD general functioning subscale scores for each family class showed the poorest functioning for individuals in conflictual families, followed by those in less-involved families, and finally those in low-communicating families ($ps < .001$).

Discussion

These data, derived from a new cohort of American families with dysfunctional interaction patterns, are consistent with earlier findings that showed greater psychosocial morbidity in dysfunctional families and demonstrate its generalizability.⁶ Findings reinforce the validity of the FRI as a family distress screening measure in the U.S., supporting data from our previous work on Australian families coping with advanced cancer,² other studies of families coping with cancer,^{8,9} and studies of other populations experiencing familial strife.¹⁹ Findings also bolster the existing body of literature underscoring the utility of the FFGT model in reaching, through screening, those families at risk of psychosocial morbidity. An additional, well-validated measure of family functioning, the FAD, provided concurrent validity for the FRI screening approach. The general functioning subscale of the FAD appears to discriminate between family classes, even when controlling for depressive symptoms, as it previously did for Australian families.⁶

Results showing a decline in family functioning from the low-communicating, to less-involved, to conflictual classes were generated. Conflictual families were characterized by poor cohesiveness, high conflict, and a low level of expressiveness of thoughts and feelings. In contrast, low-communicating families were characterized by their poor communication with one another and by a minor reduction in cohesion, but any reduction of this key family attribute proves predictive of concern. The less-involved families fall mid-range between these other family types, conflict being present, but less prevalent compared with its more dysfunctional counterpart. Even when differences were nonsignificant, scores on the BDI and BSI subscales were distributed in a manner escalating from low-communicating to less-involved to conflictual families. These psychological characteristics also corresponded to a similar result in social functioning revealed by the SAS.

As described in “Methods” section, one of the main limitations of this study was that only families who consented to screening (and were permitted to be screened by medical staff) were screened. However, this would not be the case if the procedure were routinely applied

clinically. The clinical utility of this model is premised first and foremost on the acceptance of screening as a routine approach to care provision. Families who did not provide informed consent were, in fact, only declining involvement in research, which should not be seen as resistance to screening alone. Recall that at no stage are families labeled and advised of their “presumed” dysfunctional status.

Moreover, some families who initially register as low-communicating on FRI screening can show rapid improvements, with their teamwork improving following a single family meeting. In other cases, a single family member’s FRI score brings them into care, where serious issues are revealed (e.g., suicidality). Screening may be pragmatically applied through accessing those family members that are readily available at initial presentation and, therefore, can consist of just some members’ perception about aspects of their family’s life. Screening should not, therefore, be viewed as diagnostic until a comprehensive assessment of the family has been completed. This constructive process identifies strengths alongside concerns in a manner carefully designed to avoid deleterious effects.

The continuity of family support that begins for families during palliative care and can be readily continued into bereavement (as needed) offers a preventive approach to care provision for those families who are found at screening to carry some risk of morbid outcomes. Palliative care services have as one of their goals the delivery of family-centered care. By showing the high correlation, as we have in this study, between psychosocial morbidity and family functioning, we underscore the importance of screening to identify at-risk families and we establish the evidence base for this model of care. Future research should continue to examine the impact of family functioning on psychosocial morbidity in other cultural contexts.

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Table 1

Sociodemographic Features of 620 Study Participants

Sociodemographic Characteristics	Total <i>n</i> (%) ^a
Families (individuals)	170 (620)
Patients	130 (21.0)
Partners	112 (18.1)
Other relatives	378 (60.9)
Gender	
Female	372 (60.0)
Male	248 (40.0)
Marital status	
Married/cohabitating	369 (59.6)
Single	202 (32.6)
Separated/divorced	32 (5.2)
Widowed	17 (2.7)
Ethnicity	
Hispanic	68 (11)
Non-Hispanic	549 (88.5)
Race	
White	507 (81.8)
Black	61 (9.8)
Asian	20 (3.2)
Other	11 (1.8)
Religious status	
Catholic	243 (39.2)
Jewish	145 (23.4)
Christian	141 (22.7)
Other	39 (6.3)
None	50 (8.1)
Employment status	
Employed	313 (50.5)
Unemployed	89 (14.4)
Retired	89 (14.4)
Student	77 (12.4)
Disabled	52 (8.3)
Family type	
Low communicating	191 (30.8)
Less involved	313 (50.5)
Conflictual	116 (18.7)

^aNumbers do not add up to full sample size in some categories due to missing data.

Table 2

Tests of Type III Fixed Effects for Outcome Variable Models With Post Hoc Tests

Outcome	<i>df</i>	<i>F</i>	<i>P</i>
BDI total			
Intercept	(1, 161.77)	688.29	***
Family class ^a	(2, 155.75)	3.57	*
Gender	(1, 481.12)	6.02	*
Global BSI			
Intercept	(1, 159.20)	417.23	***
Family class ^b	(2, 153.30)	1.94	
Gender	(1, 479.02)	5.31	*
FAD general functioning			
Intercept	(1, 158.62)	1326.07	***
Family class ^c	(2, 153.90)	28.55	***
Gender	(1, 455.87)	0.70	
SAS total			
Intercept	(1, 165.53)	7077.66	***
Family class ^d	(2, 159.74)	7.34	***
Gender	(1, 478.32)	0.08	

* $P < 0.05$;** $P < 0.01$;*** $P < 0.001$.

^aPost hoc comparisons showed that individuals from conflictual families reported significantly higher mean levels of depressive symptomatology according to the BDI total ($M = 15.98$) than those from low-communicating ($M = 12.06$; $P < 0.01$) families. No other significant post hoc differences were shown across family class.

^bPost hoc comparisons showed that individuals from conflictual families reported significantly greater global distress on the global BSI ($M = 15.59$) than those from low-communicating families ($M = 11.74$; $P = 0.05$). No other significant post hoc differences were shown across family class.

^cPost hoc comparisons showed that those in each family class to have significantly different means on the FAD general functioning subscale compared with those in each other family class with the poorest functioning in conflictual families ($M = 1.31$), followed by less-involved families ($M = 0.98$) and low-communicating families ($M = 0.75$; all $ps < 0.001$).

^dPost hoc comparisons showed that those in conflictual families to have significantly different means on the SAS total compared with those in each other family class with the poorest social functioning in conflictual families ($M = 108.55$), followed by less-involved families ($M = 101.90$) and low-communicating families ($M = 99.91$; all $ps < 0.04$).