Factors predicting distress among parents/caregivers of children with neurological disease and home enteral nutrition

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TITLE:

Factors predicting distress among parents/caregivers of children with neurological disease and home enteral nutrition

ABSTRACT

Background & aims. Caregivers of children with chronic diseases included in a home enteral nutrition (HEN) program are at risk of experiencing a feeling of burden, high level of anxiety and psychological distress. The aims of this study were: Firstly, to examine the prevalence of symptoms of anxiety-depression in caregivers of children with neurological diseases requiring HEN by gastrostomy tube (GT); secondly, to compare the characteristics of caregivers with high or low risk of exhibiting symptoms of anxiety-depression; thirdly, to investigate possible associations to child disease severity and nutrition support mode.

Methods. A cross-sectional observational study was performed in 58 caregivers of children (31 boys, aged 0.3-18 years) with neurological diseases and GT feeding. The characteristics of caregivers with high or low risk of presenting symptoms of anxiety-depression were compared regarding the following variables: socio-demographic characteristics, the primary caregiver's intrapsychic factors, anthropometric parameters of the child, length of HEN, type of nutrients delivered by GT and infusion regime.

Results. All primary caregivers were mothers. Fifty-three percent of them showed high risk of exhibiting symptoms of anxiety-depression. Mothers with high or low risk of presenting symptoms of anxiety-depression were comparable in age and family socioeconomic status. They were also similar in terms of age, anthropometric conditions, and length of HEN in their children. No differences were found between the two groups of mothers according to the level of the child's motor function impairment, type of nutrients delivered by GT and infusion regime. Higher levels of psychological distress and perception of burden overload were found in mothers with high risk of exhibiting symptoms of anxiety-depression.

Conclusions. This study found a high prevalence of symptoms of anxiety-depression, perception of burden overload and psychological distress in caregivers of children with HEN. Thus, greater practical and emotional support is required for these families.

ABBREVIATIONS:

BMI: Body mass index. CI: Confidence interval. GMFCS: Gross motor function classification system. GSI: Global severity index. GT: Gastrostomy tube. HEN: Home enteral nutrition. PD: Psychological distress. PSDI: Positive symptom distress index. SCL-90-R: Symptom Checklist 90 Revised**.**

INTRODUCTION

Home enteral nutrition (HEN) is a nutritional support technique that achieves improved growth and nutritional status (Kilpinen-Loisa *et al.* 2009) and reduces half- and long-term morbidity in children with serious chronic diseases (Sleigh & Brocklehurst 2004). In these children, half-term malnutrition increases the risk of infection, decreases physical activity and the reaction to external stimuli, and deteriorates the quality of rehabilitation. In the long term, this malnutrition may impede growth, generate orthopedic complications (such as hip dislocation), and disrupt cognitive development, among other effects. The use of HEN contributes to extend the survival rate, particularly of children that are highly dependent and require home support, as is the case of children and adults suffering from serious neurological diseases (Loeser *et al.* 2003). Furthermore, HEN may also enhance their quality of life (Daveluy *et al.* 2005) while reducing healthcare costs (Gómez-López *et al.* 2010).

However, undertaking HEN, especially in the context of gastrostomy tube (GT) placement, constitutes a stressful situation both for the children and for their parents/caregivers (Mahant*et al.* 2011, Petersen *et al.* 2006). Primary caregivers must be motivated to assume this treatment, because it requires specific training in the management of the child's particular disease, potential mechanical and infectious complications, metabolic issues, psychosocial problems and the devices used (Murphy *et al.* 2007; Sleigh & Brocklehurst 2004). This heavy emotional burden may adversely affect the physical and psychological health of primary caregivers (Petersen *et al.* 2006), especially the mother, who tends to assume the main role in the child's care (Heyman *et al.* 2004). In an earlier study by our group, caregivers of children with chronic diseases included in a HEN program were found to experience burden, high levels of anxiety and psychological distress (Calderón *et al.* 2011). In this study, the focus was set on the identification of the specific factors that are linked to stress (assessed by symptom checklist 90 revised) in caregivers of children with neurological diseases. In particular, the aims of this study were: Firstly, to examine the prevalence of symptoms of anxiety-depression in caregivers of children with neurological diseases requiring HEN by gastrostomy tube (GT); secondly, to compare the socio-demographic and intrapsychic characteristics of caregivers with high or low risk of exhibiting symptoms of anxiety-depression; thirdly, to determine its association with child disease severity and nutrition support mode (type of nutrients and infusion regime).

METHODS

Design

A cross-sectional observational study was carried out between September 2008 and September 2009 at the Pediatric Gastroenterology and Nutrition Units of two Spanish public hospitals. The sample comprised voluntary caregivers of children in whom GT feeding had been indicated. The study protocol was approved by the Ethics Committee of each hospital in accordance with the Declaration of Helsinki of 1964, revised in Seoul in 2008. Written parental informed consent was obtained.

Participants

The participants of this study were caregivers of children presenting neurological pathology as the primary or secondary diagnosis. Sixty-one caregivers were included, 3 of whom declined to participate; thus, the final sample comprised 58 participants. Table 1 summarizes the characteristics of the children, primary caregivers, and family's socioeconomic status. This last parameter was calculated using the Hollingshead family's socioeconomic status scale (Hollingshead. 1975).

Child variables

In order to assess nutritional status, the weight and height of each child were measured and recorded using a standardized technique with age-appropriate material: clinical scale or Seca® baby scale (models 755/334) and infant measuring table or Holtain® stadiometer (Harpenden models). Other analyzed parameters included body mass index (BMI) [calculated as weight (kg) divided by height squared (m^2)], and weight/height ratio, for children under the age of five. Weight and height measurements, weight/height ratio and BMI were converted to z-scores for age and sex using WHO growth standards (De Onis *et al*. 2006) [WHO Anthro Software (version 3.2.2, June, 2010)] for children under five and WHO AnthroPlus Software (version 3.2.2, June, 2010) for children over five. For children over 10, the WHO standards lack z scores for weight/age. Moreover, the BMI z-score for classifying the nutritional status of some teenagers whose height could not be accurately measured due to deformities could not be calculated.

- A gross motor function classification system (GMFCS) was applied to categorize children with cerebral palsy based on self-initiated motor function (Palisano *et al*. 2006). Standardized, chronology-based descriptions of motor abilities were used to rate the child's abilities and limitations in gross motor function. Children were categorized into five functional levels where level I is equivalent to a higher voluntary motor control and level V to greater functional impairment. A dichotomous variable was created to classify the children into two groups: Those

with moderate limitations in motor function (levels I-III) and those with severe limitations (levels IV-V). The GMFCS has proven to be a valid, reliable, and stable classification system over time and in multiple studies (Gillick & Koppes 2010; Matsumoto *et al.* 2011).

- Nutritional support mode

In order to describe the nutritional support mode, the type of nutrients delivered by GT and the particular infusion regime were analyzed. Regarding the type of nutrients, the distinction between homemade meals and enteral formulas was made. Children were classified in the group of homemade meals when more than 60% of their intake was composed of natural food. With respect to infusion regime, the distinction was made between intermittent bolus feeding and cyclic or continuous infusion. Syringes were used when intermittent bolus feeding was administered, and pumps when cyclic or continuous infusions were indicated. The pumps used were compact and portable (Abbott Companion Clear Star® and Nestlé Nutrition Compat-Go®). Regarding tube type, a PEG tube (percutaneous endoscopic gastrostomy) was implemented in 48 children, a ball button was placed in 9 cases following surgical gastrostomy, and a gastrojejunal device was only used in one child.

Caregiver psychological assessment

- Symptom Checklist 90 Revised. To measure participants' psychological distress (PD), the Spanish version (Gónzalez de Rivera *et al*. 2002) of the SCL-90-R (Derogatis, 1994) was used. This inventory includes 90 symptoms to assess the degree of discomfort on a Likert-type five-point scale ranging from 1 (total absence of symptom) to 5 (full presence of symptom). The scale provides nine groups of symptoms: somatization disorder, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. A global severity index (GSI) and a positive symptom distress index (PSDI) were calculated. The test-retest reliability ranged from 0.78 to 0.90. Cronbach's alpha ranged from 0.81 to 0.90.

- Caregiver Burden Inventory (Zarit). The Zarit scale (Hanzawa*et al.* 2008), which was designed to assess the feeling of burden experienced by caregivers of patients with a high degree of dependence, was used. This scale was chosen as a common tool to evaluate the intensity of the caregiver's feeling of burden (Black *et al.* 2009). It consists of 22 items that assess the negative impact on certain everyday tasks associated with care-giving, the effects on the caregiver's expectations and beliefs, and the relationship between caregiver and patient. The caregiver was given a Likert-type scale of five frequency values ranging from 0 (not present) to 4 (always present). The scores obtained for each item were added up, and the degree of burden on the caregiver was given by the total sum. The possible results range from 0 to 88 points. Psychometric properties were satisfactory with Cronbach's alpha of 0.91 and good test-retest reliability of 0.91. In this study, we did not establish cut-offs; instead correlations between these scores and the other variables were analyzed.

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- Evaluation criteria for symptoms of anxiety-depression

Initial evaluation of all subjects was carried out via the individualized application of the two aforementioned tools, SCL-90-R and Zarit. The selection criterion proposed by Derogatis was used to determine the condition of the caregivers with high or low risk of presenting symptoms of anxiety-depression (Derogatis, 1994). Caregivers whose scores corresponded to the 90th percentile or above on the anxiety and/or depression SCL-90-R subscales were considered to present high risk to exhibitsymptoms of anxiety-depression; caregivers who scored within the normal range were considered symptom-free or <mark>presenting</mark> low risk to exhibit symptoms. Globally, results were stratified according to age and sex.

Data analysis

The characteristics of caregivers with high or low risk of exhibiting symptoms of anxiety-depression were described, in the case of quantitative variables, with means and standard deviations; frequencies and percentages were used for qualitative variables. In order to analyze the differences between both groups, the Student's t test for Equality of Means was applied to the following variables: socio-demographic characteristics (age and family socioeconomic status), primary caregiver's intrapsychic factors (somatization, obsession-compulsion, interpersonal sensitivity, hostility, phobic anxiety, psychotic behavior, paranoid ideation, GSI, PSDI and caregiver burden) and anthropometric parameters. Unifactorial logistic regressions were used to investigate the relationship between high/low risk of presenting anxiety/depression symptoms and the following variables: child disease severity (motor function impairment), type of nutrients, infusion regime, child's age and length of HEN. The *Statistical Package for Social Sciences* (SPSS) version 16.0 was used for data processing. In all cases, statistical significance was set at $p < 0.05$.

RESULTS

Socio-demographic variables of primary caregivers and children

The characteristics of the studied children and their caregivers are displayed on Table 1. Most children (70.7%) presented a primary neurological pathology. All primary caregivers were mothers. The application of Student's t test to maternal age, family socioeconomic status and anthropometric evaluation in relation to the low or high risk of presenting symptoms of anxiety-depression (Table 2) found no statistically significant differences. Mothers with high or low risk of exhibiting symptoms of anxiety-depression were comparable regarding age and family socioeconomic status. They were also similar in terms of anthropometric conditions.

Child disease severity and nutrition support mode

Table 3 shows the results for the odds-ratio analysis to describe the association between motor function impairment levels IV-V, type of nutrients delivered by GT and means of delivery, and

presence of anxiety-depression symptoms in mothers. No differences were found between the two groups of mothers according to the level of the child's motor function impairment (χ^2: 0.917, p: 0.338, OR: 1.909, IC95%: 0.508 – 7.172) and type of nutrients delivered by GT (homemade meals vs enteral formulas) (χ^2: 1.693, p: 0.193, OR: 0.470, IC95%: 0.151 – 1.465). The most common infusion regime was intermittent bolus feeding (35 cases), compared to continuous or cyclic feeding (23 cases). Comparable levels of caregiver anxiety-depression were found with both regimes, (χ^2: 0.350, p: 0.554, OR: 0.726 IC95%: 0.252 – 2.092), no statistically significant differences. Similarly, no statistically significant differences were detected in when comparing children's age (χ^2: 0.018, p: 0.893, OR: 0.917, OR95%: 0.257 – 2.267) and length of HEN (χ^2: 0.158, p: 0.691, OR: 1.021, OR95%: 0.920-1.14) with respect to mothers high or low risk of presenting symptoms of anxiety-depression.

Intrapsychic factors of primary caregivers

Mothers with high risk of exhibiting symptoms of anxiety-depression obtained significantly higher scores in five of the nine test scales of the SCL-90-R (Table 4): somatic complaints (p=0.001), obsessive-compulsive complaints (p=0.006), phobic anxiety (p=0.001), hostility (p=0.001), Global Severity Index (p=0.001), and Positive Symptom Distress Index (p=0.001). Overall, greater psychological distress was found among mothers with high risk of presentingsymptoms of anxiety-depression.

In the scale for the perception of burden overload (Zarit), mothers who suffered high risk of presenting symptoms of anxiety-depression scored higher (p=0.008) than those who did not have symptoms of anxiety-depression.

DISCUSSION

The results of this study confirm that caregivers of children with underlying neurological diseases and HEN support by GT are at high risk of psychological distress. Considering the sample globally, 53% of mothers presented high risk of exhibiting symptoms of anxiety-depression. These findings agree with previous studies on the emotional impact of a child's severe illness on care-providing mothers (Calderón *et al.* 2011; Murphy *et al.* 2007; Davis *et al.* 2010), probably due to stress associated with daily life (i.e., time dedicated to care, caregiving itself, child feeding) (Rentinck *et al.* 2009). Some authors have indicated that this type of stress is the greatest predictor for the appearance of emotional and health problems, especially among caregivers of children suffering from progressive illnesses (Brown *et al.* 2008); and is strongly supported in the literature that mother of children with chronic illness, experience higher rates of depression, burn-out and anxiety (Coffey 2006; Twe et al. 2010; Wiedebusch et al. 2010).

The results of this study showed that the mothers who obtained higher scores for symptoms of anxiety and/or depression also scored higher for somatic and obsessive-compulsive complaints, phobic anxiety, hostility, psychological distress, and positive symptomatic unease. That is, they showed greater psychosomatic symptomatology, greater presence of unwanted obsessive thoughts, more negative affectivity (such as anger and irritability), and greater disproportionate fear in relation to stimuli as well as more symptoms producing uneasiness. This conclusion agrees with other studies performed on mothers of children with cerebral palsy, where caregiving mothers showed significantly higher levels of emotional uneasiness in comparison to control mothers with healthy children (Lim & Zebrack 2004, White-Koning *et al.* 2007).

The two groups of mothers in this study were comparable in terms of age and FSS. Participants' educational level and unemployment rate were higher than that of the average Spanish female population. (National Institute of Statistical, 2004). These results lead us to hypothesize that women who are responsible for the care of highly dependent neurological disease children suffer not only emotional repercussions, but also social, personal, and work-related consequences (Beneken Genaamd Kolmer *et al.* 2008). Future studies are necessary to further investigate these aspects.

Regarding children's anthropometric parameters, no significant differences were found between the two groups. Hence, it seems the child's nutritional status was not the determining factor of stress level in caregivers. This finding may be explained by mothers' perception that their children are already receiving adequate nutritional support. Besides, GT feeding eases their daily life by decreasing necessary feeding times and feeding-derived stress (Sullivan et al. 2004).

Regarding the level of the child's motor impairment, no differences were found between the two groups of mothers, although it would also be reasonable. This could be a consequence of the sample size, too small for differences to be noted. However, it is also suggested that other factors such as communication difficulties or the child's emotional characteristics are more related to the caregiver's stress. More research is needed in these grounds to make a reach a decision in this matter. Other studies have reported an association between stress levels parents of children with GT feeding and children's illness/disability due they care demanding (Pedersen *et al.* 2004).

Concerning the type of nutrients, the authors' clinical experience indicates that many mothers, especially those having very young children, have a preference for food that is liquidized at home. This option enables them to quantitatively feed their children as much as they would a "normal child". Routine practice has not revealed significant clinical or biochemical differences in children nutritional status with respect to the type of nutritional support (unpublished data). The initial hypothesis was based in the fact that mothers that relied on homemade meals would surely present a higher degree of anxiety/depression due to the greater burden derived from the

necessary shopping, cooking, and liquidizing required to avoid GT blockage. It was also considered that this increased workload, close to being a full-time job, would also result in social isolation and an additional economic burden (bearing in mind that, in our country, HEN formulas are thoroughly financed by the National Health Service). However, the present study revealed no significant differences in the probability of presenting anxiety-depression symptoms between mothers who fed their children with homemade food and those who did not. Thus, our recommendation is that, in the near future, relying on homemade meals for the child's feeding is a decision that should be taken by the patient's mother, unless it represents a risk for the child's nutritional status. Future studies are still needed to examine these aspects more deeply.

In analyzing other factors that might contribute to increasing the level of maternal anxiety-depression, such as the infusion regime (intermittent bolus feeding versus continuous or cyclic infusion), children's age and length of HEN no significant differences were found between the two mother groups.

In agreement with other authors (Grootenhuis *et al.* 2009), the results of the present study emphasize the importance of psychological well-being of mothers of children with neurological diseases that require prolonged HEN by GT. The group of mothers with anxiety-depression symptoms showed increased scores on the subscales that measure psychological distress. Hence, not only is this a population that is vulnerable to developing anxiety and/or depression; other psychopathological domains may become involved as well.

Regardless the importance of this study's findings, several limitations must be acknowledged: Firstly, the sample comprised mothers only; hence, results may not be applicable to fathers or other caregiving family members. Nevertheless, it is a fact that mothers are usually the primary caregivers of children with GT feeding. Secondly, the transversal nature of this study limits the ability to withdraw causational or directional conclusions. Thirdly, since the sample is comprised by mothers of children suffering from neurological diseases, results may not be readily applicable to mothers of children with other underlying diseases. Finally, the relatively small sample size imposes an overall limitation to result extrapolation.

Despite these limitations, the authors believe that results powerfully illustrate two key points: 1) The magnitude of the psychological impact of caregiving on parents of children with neurologic disabilities who require GT feeding, and 2) The importance of integrating the child's family into routine paediatric practice. It is absolutely essential that the mothers of this particular type of children undergo continued psychological evaluation, and, if needed, multidisciplinary support must be provided in order to mitigate the repercussions of caregiving. If this psychological burden is ignored and untreated, there is a high risk of adverse effects on mothers' personal, social and professional lives, and in their global quality of life (Fortin *et al.* 2004). Indeed, this study provides valuable information about an understudied issue in a specific context. Not only does it intend to estimate the prevalence of psychological symptoms in caregivers, but it also

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puts forward specific variables that may potentially act as risk factors. Future research should further investigate possible factors of personal and family protection, such as family background, economic and health support, and other variables linked to the health and psychological well-being of parents of children with HEN.

In conclusion, taking into consideration the limitations of the study, we found a high prevalence of anxiety-depression symptoms and psychological distress in caregivers of children with HEN. Increased efforts should be aimed at improving practical and emotional support for these families.

KEY MESSAGES

- A high percentage (53%) of caregivers of children with neurological diseases and home enteral nutrition support showed a high risk of presenting anxiety-depression symptoms.

- Higher levels of psychological distress and perception of burden overload **w**ere found in mothers with high risk of presenting anxiety-depression symptoms.

- These families are in the need for greater practical and emotional support.

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Table 1

Characteristics of children and their caregivers (N= 58)

Children	n	%	Mean	SD	Range
Age (years)					
< 2 years	12	20.7	1.29	0.56	0.3-2.0
≥ 2.1 years	46	79.3	9.19	4.8	2.1-18
Gender:					
Boys	31	53.4			
Girls	27	46.6			
Length of home enteral nutrition (years)			6.93	4.98	0.7-17
Main diagnosis					
Neurological disease[a]		70.7			
Secondary neurological disease[b]		29.3			
Educational level					
Elementary school		5.9			
High school		3.9			
Special education		54.9			
No schooling		35.3			
Primary caregiver		**%**	**Mean**	**SD**	**Range**
Maternal age (years)			38.22	6.28	24-54
Higher education		32.1			
Not working		46.4			
Working part-time		26.8			
Working full-time		26.8			
Family		**%**	**Mean**	**SD**	**Range**
Familial socioeconomic status			33.82	13.56	11-58.5
Caregivers living with a partner		86.2			
Only one child in the family		54.9			
Two children in the family		37.3			
Three or more children in the family		7.9			
Residency					
Large city		29.6			
Outskirts of a large city		11.1			
Small city		33.2			
Town		26.1			

[a]Cerebral palsy (n = 16), sequelae of infections or trauma to the central nervous system (CNS) (n = 3), CNS malformations (n = 3), neuromuscular diseases (n = 3), neurodegenerative diseases (n = 3), chromosomopathies (n = 3), epileptic encephalopathies (n = 3), other diagnoses (n = 7).
[b]Metabolic disease (n = 6), cardio-respiratory disease (n = 4), oncologic disease (n = 4), swallowing disorder (n = 2), digestive disorder (n = 1).

Table 2

Comparison between mothers with low or high risk of presenting symptoms of anxiety-depression regarding socio-demographic variables and child anthropometry: Mean and SD, t-test for Equality of Means, and 95% CI.

Variables	Mothers with low risk of presenting symptoms of anxiety-depression (n =27)		Mothers with high risk of presenting symptoms of anxiety-depression (n =31)		t-test for Equality of Means[a]		95% CI of the difference.	
	Mean	SD	Mean	SD	t	Sig	Lower	Upper
Socio-demographic variables								
Primary caregiver age (years)	38.04	5.66	38.35	6.81	-0.18	0.857	-3.77	3.14
FSS	34.70	15.28	33.14	12.28	0.42	0.676	-5.88	9.01
Child anthropometry (z-score)								
Weight/age [b]	-3.01	1.90	-2.29	1.79	-1.29	0.204	-1.84	0.40
Height/age [c]	-2.64	1.87	-2.37	1.43	-0.58	0.559	-1.21	0.66
Weight/height [d]	-2.03	2.10	-1.14	1.98	-1.31	0.200	-2.35	0.51
BMI/age [e]	-1.81	1.93	-1.50	2.15	-0.53	0.594	-1.48	0.86

CI: Confidence interval.
FSS: Familial socioeconomic status; HEN: Home enteral nutrition.
[a]Before t-test analysis, Levene's Test for Equality of Variances was applied.
[b]Number of children: 44 (Applicable only to children < 10 years old)
[c]Number of children: 51
[d]Only for children below 5 years of age, totaling 34 cases
[e]Number of children: 51

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Table 3.

Unifactorial logistic regressions between high/low risk of presenting anxiety/depression symptoms in mother and the following variables: motor function impairment, type of nutrients, infusion regime, child age and lenght of HEN.

Variables in the Equation	Wald	sig	Odds ratio	OR lower 95%	OR upper 95%
Motor function impairment (GMFCS)[1]	0.917	0.338	1.909	0.508	7.172
Type of nutrients[2]	1.693	0.193	0.470	0.151	1.465
Infusion regime[3]	0.350	0.554	0.726	0.252	2.292
Child age (years)[4]	0.018	0.893	0.917	0.257	3.267
Length of HEN (years)	0.158	0.691	1.021	0.920	1.134

Dependent variable encoding: 1 mothers with high risk of presenting symptoms of anxiety-depression and 0 mothers with low risk.

[1]**Motor function impairment (GMFCS)** is coded 0,1 (Level I-III vs Level IV-V).

[2]**Type of nutrients** is coded 0,1 (Formula vs Homemade meals).

[3]**Infusion regime** is coded 0,1 (Continuous or cyclic vs Intermittent bolus).

[4]**Child age** is coded 0,1 (< 2 years or ≥ 2.1 years).

Table 4.

Comparison between mothers with low or high risk of presenting symptoms of anxiety-depression regarding psychological variables (SCL-90-R)

	Mothers with low risk of presenting symptoms of anxiety-depression (n =27)		Mothers with high risk of presenting symptoms of anxiety-depression (n =31)		t-test for Equality of Means [a]		95% Confidence Interval of the Difference	
	Mean	SD	Mean	SD	t	Sig	Lower	Upper
SCL-90-R								
Somatic	58.74	24.01	80.81	19.17	-3.88	0.001	-33.43	-10.70
Obsessive-compulsive	49.37	32.50	71.90	27.02	-2.88	0.006	-38.44	-6.62
Phobic anxiety	35.07	20.22	60.48	27.13	-3.99	0.001	-38.15	-12.66
Hostility	41.78	29.11	67.90	28.11	-3.47	0.001	-41.19	-11.05
Interpersonal sensitivity	37.30	24.83	40.13	27.11	-0.41	0.681	-16.58	10.92
Psychotic	32.22	25.20	44.16	26.30	-1.75	0.084	-25.54	1.66
Paranoid ideation	32.96	23.38	40.48	27.79	-1.21	0.233	-20.01	4.97
GSI	54.48	23.64	77.97	19.97	-4.10	0.001	-34.95	-12.01
PSDI	56.59	21.59	78.65	20.24	-4.01	0.001	-33.06	-11.04
Zarit								
Caregiver overload	51.41	19.98	65.07	17.22	-2.77	0.008	-23.53	-3.78

[a]Before t-test analysis, Levene's Test for Equality of Variances was applied.