

## GENDER ISSUES IN CARING FOR DEMENTED RELATIVES

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### Abstract

**Background:** The burden of providing care for dementia patients falls increasingly upon families and it has been identified as a chronic stressor that places family members at risk for physical and emotional problems.

**Aims:** To explore family burden in the care of patients with dementia in Cyprus and to look at gender differences in the area of caregiving and its consequences like burden, psychiatric morbidity and coping with caregiving difficulties.

**Methods:** This is a cross-sectional study, with a sample of 172 primary caregivers. The questionnaire included the Memory and Behavior Problem Checklist, the Zarit Burden Interview, the Center of Epidemiological Studies Depression scale, and the Ways of Coping Questionnaire. Several statistical methods were used for data analysis, such as independent samples t-tests. One-way ANOVA, chi-square tests of independence, reliability studies and factor analysis.

**Results:** The analysis revealed gender differences in the overall burden ( $p$ -value=0.048) and depression ( $p$ -value=0.011) where female caregivers experience higher levels compared to males. Women had a higher mean of burden in the questions included in relational deprivation (10.44 compared to 8.47 for men) and this difference is statistically significant ( $p$ =0.02). One-way ANOVA showed that, according to kinship, there exist some highly significant differences in burden ( $F$ =6.17,  $p$ =0.003) and marginal differences in depression ( $F$ =2.74,  $p$ =0.067) with the sons being less affected by the consequences of caregiving. Regarding the ways of coping, women use mostly emotional-focused strategies like denial ( $p$  =0.09).

**Conclusions:** The results of this study confirm gender differences for dementia family caregivers as regards burden and depression. The study clearly indicates the need for programs to help relieve the vulnerable caregivers especially in the area of coping so to alleviate the harmful effects of caregiving.

**Keywords:** Caregiving, burden, dementia, coping, gender

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## Introduction

The growing demographic and socioeconomic changes all over the world, as well as age-related medical conditions like dementia, have increased the need for informal health care. The number of people with dementia in Greece as a percentage of the total population is slightly below the EU average of 1.14% to 1.27% and in Cyprus is even lower (Ferri et al. 2005 and Eurodem - European Community Concerted Action Epidemiology of Dementia -). The burden of providing care for dementia patients all over the world falls increasingly upon families and it has been identified as a chronic stressor that places family members at risk for physical and emotional problems. In a European project for family caregivers with the participation of countries from several European regions, the report for Greece indicated that women were overwhelmingly the main providers of care, representing 80.9% of family caregivers. According to the report, caregiving in Greece as well as in the rest of Europe is related with several factors like poor health status and quality of life, financial constraints, inadequate resources and low psychological wellbeing (The National Survey for Greece, Eurofamcare, 2006). Similar data are not available for Cyprus but given the same ethnic origin and culture of the two populations, the aim of this research is to explore the issue of family caregiving and build on the Greek experience.

### *Definition of variables*

*Burden of care*, as the major variable of this study, is a complex, multidimensional construct (Zarit et al. 1980) that represents not only the physical tasks of caregiving, but also the affective and cognitive responses that exist simultaneously (DiBartolo 2000).

*Coping*: Coping is defined as the constantly changing cognitive and behavioral efforts to manage specific external or internal demands that are appraised as taxing and the way a person copes is determined by personal characteristics, resources, cultural values and beliefs (Lazarus and Folkman 1984). Gender differences in burden and

depression may result from the different way men and women are coping with the difficulties of caregiving (Tiegs et al. 2006).

### *Literature review*

The literature reports linkages between family caregiving and emotional and physical morbidity of caregivers, largely women who are expected to shoulder most of the burden of care (Papastavrou et al. 2007, Pinquart and Sorensen 2003, Pinquart and Sorensen 2006, Clyburn et al. 2000, Rose-Rego et al. 1998, Bell et al. 2001a). Many studies report that women suffer from high stress levels, anxiety and paranoid symptoms (Fitting et al. 1986, Parks and Pilisuk 1991) lower levels of life satisfaction (Collins and Jones 1997, Rose-Rego et al. 1998) and significantly higher level of strain when compared with men in caregiving roles (Lutzky and Knight 1994, Collins and Jones 1997, Gallicchio et al. 2002).

Several reviews provide theoretical explanations for the observed gender differences and these suggestions were expressed in the gender-role socialization the gender-role expectation framework and in theories of labor market segregation and household labor (Pinquart and Sorensen 2003, Pinquart and Sorensen 2006). On the basis of these theories and the stress-coping framework (Lazarus and Folkman 1984) it is expected that, compared with men, women would provide more care, spend more hours providing care for individuals with greater physical, cognitive and behavioral symptoms and are less likely to institutionalize their ill relatives. Empirically, the increased vulnerability of female to burden (Donaldson et al. 1998, Yee and Schulz 2000, Sugiura et al. 2004, Pinquart and Sorensen 2006b) and depression (Wallsten 2000, Gallicchio et al. 2002, Pinquart and Sorensen 2006) is explained by the greater exposure of women to the demands of care, especially as regards the devotion of time, direct caregiving and other activities at home (Yee and Schulz 2000). Some researchers give a sociological interpretation in gender differences in that men are less likely to report that they experience emotional strain because of social pressures to hide their negative feelings (Gallicchio et al. 2002).

Gender differences in dementia caregiving can also be partly explained by different ways of coping. It is supported that women differ from men in all stages of the stress process and especially as regards their preferences in the coping strategies, as they are more apt to focus on emotions (Faison et al. 1999), whereas men are more likely to focus on problem solving (Sugiura et al. 2004). Most researchers explain these differences within the gender socialization framework, although different views are also published, supporting that there are no gender differences in coping strategies (Hooker et al. 1992). It is also interesting that in questionnaires examining personality characteristics promoting resistance to stress, men demonstrate much higher ratings than women (Thompson et al. 2004) and women score lower levels of mastery (Rose-Rego et al. 1998) suggesting that personality traits may mediate the conceptualization as well as the response to caregiving stress. Men probably have a more resistant and resilient personality and they tend to face life with a more tactic, predictable and systematic way, but it is also possible that men have the tendency to seek and receive external aid in care from formal as well as informal resources (Ingersoll-Dayton et al. 1996).

However, there are many inconsistencies and heterogeneity between studies and some reviews support that contrary to common perceptions, gender differences in caregiving variables like burden, depression, levels of subjective well-being and physical health, are small. A recent meta-analysis of 229 studies suggests that there are more similarities than differences between female and male caregivers and gender differences in burden and depression are mainly of practical importance (Pinquart and Sorensen 2006).

## Methods

The aims of this study were to investigate gender issues regarding burden of giving care to a relative with dementia and the consequences of care on the mental health of the primary caregiver as well as the strategies families use to cope with the

stress of care. The study was designed to answer the following questions:

1. Do men and women experience the stress of caregiving differently?
2. Are women caregivers more vulnerable than men to the negative impact of caregiving such as burden and depression?
3. Do male and female caregivers differ in the way they perceive stress of providing care and do they use different coping strategies?
4. Are there gender differences in burden or depression, between caregivers who care for their relatives at home and those who have the patients institutionalized?

## *Design and Sample*

It is a cross-sectional, descriptive study, where all the data were obtained from a questionnaire, administered to a sample of primary caregivers of patients with dementia. The sample was drawn from Neurology clinics in Cyprus with the collaboration of neurologists. Families were recruited from Neurology clinics and caregivers were interviewed at their home. The inclusion criteria for the primary caregiver were: to have frequent contact with the patient, responsibility for care for at least one year and absence of psychiatric illness or mental disability. The target sample size was 200, but finally 172 patient-caregiver dyads agreed to participate. The refusal of the 28 families, although does not introduce a bias, is indicative of the social prejudice for the disease, which is considered as a stigma in the Cyprus society. 130 patients with the diagnosis of Alzheimer's disease (AD) were community resided and 42 patients with the same diagnosis were selected from long-term institutions.

## *Measures*

The first part of the questionnaire included general demographic information, such as age, gender, marital status, living arrangements, kinship tie to the person with dementia and employment status. Behavior problems experienced by the subject with dementia were assessed with the Memory and Behavior Problems check list (MBPC), a scale consisting of two parts, one for the

behavior of the patient and one for the relative's reaction on the behavior (Zarit and VandenBos 1990). In the first part, each item represents a behavior for which the caregiver gives a score according to its frequency the previous week on a 4-point scale, from 0 (never) to 4 (all the time). The second part represents the reaction of the caregiver to each type of behavior and is scored on how much this bothered or upset the caregiver when it happened. The MBPC was translated, blindly back translated and validated for this study, following permission by the authors. The reliability Cronbach's alpha coefficient for the MBPC was high, equal to 0.85.

Caregiver distress was operationalized as caregiver burden and depressive symptoms, using standardized tools. More specifically, the Zarit Burden Interview (ZBI) was used to evaluate the caregiver level of burden and the Center of Epidemiological Studies Depression scale (CES-D) was used to evaluate caregiver depressive symptoms. ZBI is a 22-item questionnaire. Each item represents a feeling for which the subject scores the frequency of occurrence on a 5-point scale ranging from 0 (never) to 4 (nearly always). A total score out of 88 was calculated. The ZBI was translated, blindly back translated and validated, following permission by the authors. The reliability Cronbach's alpha coefficient for the ZBI was as high as 0.93. The Greek version of the Center of Epidemiological Studies Depression scale (Madianos et al. 1992) was used to evaluate caregiver depressive symptoms. The sum across the 20 items represents the level of depressive symptomatology. Respondents are asked how they felt in the past month. The cut-off point score is 16, with higher scores representing greater depressive symptomatology. The reliability Cronbach's alpha coefficient for this instrument was equal to 0.69.

The Greek version of the Ways of Coping Questionnaire (Καραδήμας 1998) was used to assess the strategies used by caregivers to cope with the stressors of caregiving. This version consists of 38 statements and the respondents are asked to score the frequency of using each statement on a 0-3

Likert scale, where 0 indicates "never" and 3 indicates "often". The reliability Cronbach's alpha coefficient of this instrument was 0.85.

#### *Statistical Methods*

Several statistical methods were used for data analysis, in order to answer the research questions of the study. First, some descriptive statistics for all the variables in the study were calculated, both for patients and caregivers. Independent samples t-tests were used to see if there are gender differences in the level of burden, in depressive symptomatology and in the strategies used by caregivers to cope with the stressors of caregiving. Various other statistical methods were also implemented, such as one-way ANOVA, chi-square tests of independence and factor analysis. Different relations between our variables of interest were examined. A relation is considered statistically significant if the corresponding p-value is smaller than the level of significance,  $\alpha$ , where  $\alpha$  is usually taken to be 5%. The statistical package SPSS was used for all the analyses.

## **Results**

### *Sample characteristics*

Out of the 172 caregivers, forty caregivers (23.3%) were male and 132 were female (76.7%). Most of them were spouses (71 subjects, 41.3%) or daughters (83 subjects or 48.3%) and followed sons (10 subjects or 5.8%) or others (4.7%). Out of the 71 spouses, 28 were husbands (39.4%) and 43 were wives (60.6%). Most of the female caregivers lived in the community with their ill relative (73%) and only 36 women caregivers (27%) had their relative in a long-term institution. Similarly, most of the male caregivers cared for their relative at home (33 males or 83%), and only 7 males (17%) had their relative in a long-term institution.

### *Burden and depression in relation to gender*

From the t-test analysis for two independent samples, it was found that there are gender differences as regards the general level of burden ( $p=0.048$ ). More specifically, women had a higher level of burden ( $M=50.57$ ) in relation to men ( $M=44.45$ ). The t-tests also demonstrated that there is a statistically

significant difference in the level of depression among men and women caregivers ( $p = 0.011$ ). Again women reported higher levels of depression with a mean 19.54 for women and 16.25 for men. All the results are presented in table 1.

Table 1: Burden and Depression in relation to gender

Consequence of caregiving gender	N	Mean	Standard deviation	t	p-value
Burden					
Male	40	44.45	18.89	-	
Female	132	50.57	16.37	2.00	0.048*
Depression					
Male	40	16.25	5.75	-	
Female	132	19.54	7.43	2.57	0.011*

\* statistically significant difference, at  $\alpha=0.05$ .

The factor analysis of the Burden Interview (ZBI) revealed four dimensions of burden, namely personal strain, role strain, relational deprivation, and management of care (Papastavrou et al. 2007b). Additional results in the current article show that the third factor of burden (relational deprivation) is statistically different in the two genders ( $p = 0.002$ ). More specifically, women have a higher mean of burden in the questions included in relational deprivation (10.44 in relation to 8.47 for men). There is also marginal difference (at the 10% level of significance,  $p\text{-value}=0.09$ ) at the first factor, personal strain, where women again scored higher than men (23.45 in relation to 20.57 for men). Results based on independent samples t-tests showed that there is no statistically significant difference in patient's gender in terms of the frequency of behavioral problems, which are measured using the MBPC index ( $p\text{-value}=0.863$ ). However, there is an indication of difference (at the 10% level of significance) in the caregiver's gender in terms of the reaction of caregivers to the frequency of the patient's problems ( $p\text{-value}= 0.073$ ), where female caregivers had a slightly higher score on reaction ( $M=49.33$ ) compared to males ( $M=42.78$ ).

### Gender differences in relation to kinship and the patient's residence

One-way ANOVA showed that, according to the relation the caregiver has with the patient, there exist some highly significant differences in burden ( $F=6.17$ ,  $p\text{-value}=0.003$ ) and marginal differences in depression ( $F=2.74$ ,  $p\text{-value}=0.067$ ). Pairwise tests between husbands and wives showed significant differences in terms of depression ( $p\text{-value}=0.009$ ), where wives have a higher level of depression compared to husbands (mean 53.88 compared to 48.14). Similar differences were not found for burden ( $p\text{-value}=0.156$ ).

When we consider sons, there is a statistically significant difference in the level of burden of spouses and sons ( $p\text{-value}=0.001$ ), where spouses have a higher level compared to sons (means of 51.62 and 31.60 respectively). Similarly there is a statistical difference in the level of depression between spouses and sons ( $p\text{-value}=0.003$ ), where again spouses have a higher level of depression (means 19.48 with 13.80 respectively). More specifically, if we divide spouses in husbands and wives, we can see that there are highly significant differences between wives and sons, both in terms of burden ( $p\text{-value}<0.0001$ ) and depression ( $p\text{-value}<0.0001$ ) (wives have a mean burden of 53.88 and mean depression of 21.21). Interestingly enough, there exist significant differences also between husbands and sons, in terms of burden ( $p\text{-value}=0.015$ ), where husbands have a higher burden (mean 48.14) compared to sons. No differences exist in terms of depression ( $p\text{-value}=0.142$ ). Daughters also reported higher burden levels than sons caregivers at a mean of 49.45 ( $p\text{-value}=0.002$ ), in relation to 31.60 respectively and also higher depression levels compared to sons (mean 19.09,  $p\text{-value}=0.005$ ) (see also table 2). Daughters especially seem to score at a higher level in the burden scale in relation to sons both in relation to personal strain (22.6 for daughters and 12.3 for sons) as well as in relational deprivation (10.23 for daughters and 6.2 for sons). All the results are presented in table 3.

Table 2. Gender differences and kinship, in depression and burden

Kinship		N	Mean	Std. Dev.	p-value
Depression					0.137 (wife-daughter)
wife	43	21.21	7.26	<0.0001 (wife-son)*	
husband	28	16.82	5.75	0.009 (wife-husband)*	
daughter	83	19.09	7.65	0.153 (husband-daughter)	
son	10	13.80	4.47	0.005 (daughter-son)*	
				0.142 (husband-son)	
Burden					0.157 (wife-daughter)
wife	43	53.88	15.97	<0.0001 (wife-son)*	
husband	28	48.14	17.23	0.156 (wife-husband)	
daughter	83	49.45	16.90	0.726 (husband-daughter)	
son	10	31.60	18.75	0.002 (daughter-son)*	
				0.015 (husband-son)*	

\* Statistically significant difference, at  $\alpha=0.05$ .

Table 3. Gender differences and kinship, in the dimensions of burden

Kinship		N	Mean	SD	p-value
Personal Strain					0.103 (spouse-daughter)
spouse	71	24.68	7.72	<0.0001 (daughter-son)*	
daughter	83	22.60	7.91	<0.0001 (spouse-son)*	
son	10	12.30	9.36		
Role Strain					0.485 (spouse-daughter)
spouse	71	14.10	6.00	0.100 (daughter-son)	
daughter	83	13.42	5.97	0.052 (spouse-son)	
son	10	10.10	6.04		
Relational Deprivation					0.822 (spouse-daughter)
spouse	71	10.39	4.33	0.013 (daughter-son)*	
daughter	83	10.23	4.71	0.006 (spouse-son)*	
son	10	6.20	4.80		
Management of Care					0.005 (spouse-daughter)*
spouse	71	2.45	1.30	0.761 (daughter-son)	
daughter	83	3.19	1.94	0.215 (spouse-son)	
son	10	3.00	1.33		

\* Statistically significant difference at  $\alpha=0.05$ .

Chi-square ( $X^2$ ) tests of independence were used in order to examine if there is any relation between various demographic variables and the patient's place of residence. Some interesting results were obtained. It was found, for example, that neither the patient's gender nor the caregiver's gender has a significant role in terms of the decision to institutionalize the patient (p-values 0.429 and 0.113 respectively). In general, the patient's place of residence does not seem to make any difference in terms of caregiver burden or depression, since there are no statistical differences between caregiver depression (p-value=0.850) or burden (p-value=0.185), if the patient is at home or institutionalized. A t-test analysis examined if caring for a patient at home increases burden compared to caring for a patient who is institutionalized. Results showed that there are no statistically significant differences between females who care for their relative at home and those whose relative is institutionalized, either in burden (p-value=0.173) or depression (p-value=0.682). Since, intuitively we expected that caring for a patient at home increases burden, we further examined if there are gender differences when caring for patients at home. To investigate this we control for the effect of patient's residence and examine if there are any significant differences between males who care for their relatives

at home compared to females who care for their relatives at home. Results are marginally significant (at the 10% level of significance), and imply that there are some differences in burden (p-value=0.071) and depression (p-value=0.079), which could be validated with a larger sample. Finally, if we consider the four dimensions of burden, we can see that female caregivers experience burden differently from men (p-value=0.035 for relational deprivation and 0.003 for the management of care); burden scores are higher in the questions of relational deprivation (M=10.4 for women and 8.69 for men), but the opposite is observed regarding the management of care. In the case when the patient is home bound, both men and women scored at a lower level (M=2.67 for women and M=3.54 for men), but they are not statistically different.

*Gender and coping*

It was also examined with t-tests if there are differences in men and women regarding the use of coping mechanisms. The results showed that women use more than men the seeking of social support (p-value=0.03) and an indication of a difference also appears for strategies of denial (p-value=0.09), which could be detected with a larger sample. A smaller gender difference is also observed in the use of avoidance/ denial strategies with women using them more often than male caregivers (t = -1.72), (table 4).

Table 4: Gender differences in the use of coping strategies

Factor	Gender	N	Mean	Standard deviation	T	p-value
Positive approach	male	39	2.03	0.46	-0.49	0.62
	female	132	2.07	0.52		
Seeking social support	male	39	1.65	0.67	-2.74	0.01*
	female	132	1.98	0.65		
Wishful thinking	male	38	1.65	0.67	-2.20	0.03*
	female	132	1.92	0.64		
Avoidance/ Denial	male	39	1.59	0.47	-1.72	0.09
	female	132	1.75	0.50		
Problem solving approach	male	39	1.24	0.50	0.11	0.91
	female	132	1.23	0.62		

\* Statistically significant difference, at  $\alpha=0.05$ .

## Discussion

### *Gender differences in burden and depression*

The results of this study expand our understanding of gender differences in caregiving in a small Mediterranean region. The role of a family care giver is traditionally viewed as the responsibility of women and multiple socio-cultural factors provide the moral basis for caregiving that is socially demanded by wives and also daughters as a filial obligation, and not as a matter of personal choice (Hooker et al. 1992, Rudd et al. 1999). Caring as a role obligation, produces higher levels of role strain, role conflict and social limitations as indicated by the gender differences observed in the dimensions of burden (Stoller 1990, Kramer and Kipnis 1995). The majority of caregivers in this study were wives and daughters at their 50's and probably this is because men feel that undertaking a caregiving role is not imposed on them but it is their own choice or they may simply reject a caregiving role because they believe that it is not according to the male model with which they have grown up, something especially true in the Cypriot culture. Gender differences in caregivers' outcomes exist because, when compared with male caregivers, female ones may face higher levels of stressors, have fewer social resources and report lower levels of psychological and physical health.

The findings of this study suggest that there are gender differences in the caregiving population with respect to burden and depressive symptomatology and are consistent with previously published literature (Schulz et al. 1995, Collins and Jones 1997, Sparks et al. 1998, Faison et al. 1999, Wallsten 2000, Croog et al. 2001, Gallicchio et al. 2002, Thompson et al. 2004).

A first assumption that possibly explains gender differences found in burden in this study is that female caregivers as "traditional nurturers, are more likely than men to have more extended daily contact in caring for a patient and may be more affected by the continued volume of

stressors imposed on them" (Croog et al. 2001). Although the exact amount of time devoted to care was not asked, this is supported in our study because most caregivers were female spouses who lived with their husbands and thus had extended contact with the patient. Another interesting observation during the data collection, related to the issue of women delivering more direct care than men, was that in most cases of men caregivers there was always a family member or a friend near by, ready to provide help and support. Although social support was not within the purposes of this study, it seems that the availability and the use of such support to male caregivers might have contributed to the better management of care and consequently to lower burden and psychiatric morbidity. This finding is supported by studies claiming that differences between male and female care givers are determined mainly by the availability of additional helpers than by gender differences in socialization, identity or caregiving motives as has been previously suggested (Pinquart and Sorensen 2006).

A second possible reason why women scored higher burden levels in relation to men caregivers is that female and male caregivers differ in their conceptualization of the caregiving role and respond differently to it (Croog et al. 2001, Thompson et al. 2004). The burden interview used in this study relies on self-report of caregivers about their experiences with the patient, so interview scores reflect the caregivers' perception of burden rather than the degree of load that caregiving causes.

There is also the possibility for gender differences to be a result of response bias according to which females and males have similar levels of psychological morbidity, but males are less likely than females to report that they are experiencing emotional discomfort (Borden and Berlin 1990, Gallicchio et al. 2002, Pinquart and Sorensen 2006). It is also possible for these differences to be due to the greater resiliency on behalf of men and their tolerance for the behavioral and cognitive

problems of their wife, an argument held by other researchers (Gonzalez-Salvador et al. 1999, Thompson et al. 2004, Wallsten 2000). Lower levels of burden in men can also be explained by men's personality characteristics that may constitute a strong mediating factor promoting resistance to stress (Thompson et al. 2004).

If we consider kinship differences, in the current study highly significant differences were found in burden between wives and sons, as well as between husbands and sons, where both husbands and wives have a higher burden compared to sons. Studies comparing spouses and children caregivers found either no significant differences in caregiver burden between adult children and spouses (Chumbler et al. 2003) or spouses reporting higher levels of burden and lower quality of life (Nagatomo et al. 1999, Vellone et al. 2002). Similar to other studies daughters reported higher burden levels than son caregivers, especially in terms of personal strain and relational deprivation (Coen et al. 2002, Faison et al. 1999, Sparks et al. 1998). These findings can be explained by the filial obligation (Chou et al. 1999) the increased family responsibilities women have or the emotional distance sons usually keep from the care receiver (Brody et al. 1990). On the other hand, studies using heterogeneous samples as in this case wives, husbands, daughters and sons are highly criticized since there are different expectations of caregiving and care receiving between the different groups (Vitaliano et al. 1991).

#### *Different dimensions of burden*

Men and women experience burden differently as it is shown that women are influenced mostly by the dimension of relational deprivation. This can be explained by the multiple roles women have, resulting to the responsibilities of caregiving not to allow them time to respond sufficiently to their other roles. Women's high levels of burden found in this study could also be explained in the theory of "role trap" that confirms the social isolation of women caregivers (Skaff and Pearlin 1992).

In other studies it was found that women are more influenced from the patients' behavior like emotional problems and disorientation, whereas men faced more difficulties with problems in the activities of daily living and conflicting demands in their time (Harper and Lund 1990). Women spouses report more strain than husbands, but at the same time they attribute to the care receiver more behavioral and emotional problems. In our study, the reaction of primary caregivers to the frequency of problematic behavior of the care receiver seems to be different in men and women since statistically significant gender differences were found, as opposed to other studies (Croog et al. 2001).

#### *Coping with the stressors of caregiving*

In our exploration of the coping strategies used by caregivers, it was found that women were using emotional focused strategies like wishful thinking and day dreaming more often than male caregivers. In the stress-coping theory (Lazarus and Folkman 1984) these strategies are considered less effective for the management of stress and this may partly explain the higher levels of stress and depression in women. Other researchers clarify that high percentages of depression and psychiatric morbidity in women are partly due to the use of avoidance/escape strategies (Parks and Pilisuk 1991, Lutzky and Knight 1994). In this study as well as in other studies (Neundorfer 1991) women with high scores of burden, use avoidance/escape strategies and are also inclined to experience their stresses as more negative and less controllable.

On the other hand, men respond to caregiving challenges in a more practical way than women and they use such mechanisms that create a psychological distance from the care receiver (Collins and Jones 1997). In addition, they are more emotionally inhibited and tend to prefer to cope through rational and detaching coping styles. Men may also have developed a stronger coping repertoire for the management of stress possibly because of the many years of work resulting in approaching the difficulties in a more positive way (Wallsten 2000). More recently

it was found that men and women were similarly capable in providing care for loved ones with significant health concerns. However, men displayed relative strengths as caregivers, which can be explained in that male caregivers appear to have certain advantages in coping with the stresses related to patient care. (Tiegs et al. 2006).

#### *Patients' place of residence*

Even though it was expected that placing a patient in a long term institution would reduce burden, in the present study it was found that there are no differences in burden, either for males or females, between those who care for their relative at home and those whose relative is institutionalized. Care givers tend to institutionalize their relative at the last stages of the disease when their condition deteriorates which in turn increases the vulnerability for developing burden and depression (Aneshensel et al. 1993, Rudd et al. 1999, Bell et al. 2001). However, it looks that there are marginal differences between the two genders, when we control for the patient's residence, since results show that females who care for their relatives at nursing homes tend to have a higher level of depression and burden when compared to males. A possible explanation for this difference is that placing a relative in a long term institution remains a stigma for the Cyprus society as in other cultures (Kim 2001) and underlines a failure in the nurturing role that women hold, or reflect the feelings of guilt that women may have because of institutionalization (Aneshensel et al. 1993).

#### *Conclusion and implications of the study*

The results of this study confirm gender differences in caregiving. The shifting of women especially as they grow older in the caregiving process of their elderly relatives, places female population at risk for developing burden and psychological morbidity in the form of depression. This study has implications to both researchers and practitioners. In the area of caregiver research it indicates a much larger need to

continue research that evaluates factors causative to caregiver burden and depression. More reliable results will be found with the use of probability and homogenous samples instead of convenience samples. A complete understanding of the advantages and disadvantages of existing gender approaches to caregiving could guide research and intervention for the prevention of premature morbidity of caregivers. More research is needed to examine the countless other factors that may contribute to caregiver burden and depression, apart from gender social and environmental reasons. The results are valuable to health practitioners because they indicate a group of caregivers at risk for negative outcomes so that appropriate interventions can be designed especially for female caregivers to mitigate the harmful effects of caregiving.

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