Cultural correlates of burden in primary caregivers of older relatives: a cross-sectional study

This is the accepted version of the article:
Del-Pino-Casado R, Millan-Cobo MD, Palomino-Moral PA, Frias-Osuna A. Cultural Correlates of Burden in Primary Caregivers of Older Relatives: A Cross-sectional Study. J Nurs Scholarsh. 2014. May; 46(3):176-86.

DOI: 10.1016/j.nepr.2019.102653

Abstract

Purpose: To analyse the effect of cultural factors on the subjective burden of primary home caregivers of older relatives.

Design: Cross-sectional study. Primary home caregivers (n = 208) of older relatives were recruited in Spain using systematic random sampling.

Methods: The data were collected in 2010 through interviews. The measures included sociodemographic characteristics, stressors (the intensity of care provided and the care-recipient's needs; the later were assessed using the Barthel Index, the Pfeiffer Short Portable Mental Status Questionnaire and the Cummings Neuropsychiatric Inventory), cultural factors (kinship ties, common residence, perceived social support and cultural motives for caregiving) and caregiver subjective burden (Caregiver Strain Index). The data were analysed using bivariate procedures and multiple linear regression.

Findings: After controlling for caregiver age, caregiver gender, stressors and duration of caregiving, subjective burden was negatively associated with perceived social support and reciprocity, and in the subgroup of adult children, positively associated with common residence. Cultural factors explained 29% of the variance in burden.

Conclusion: our findings add to the existing evidence regarding the influence of cultural factors in the perception of burden in caregiving situations.

Clinical relevance

A risk profile could be proposed for subjective burden in primary family caregivers. Individuals who are at risk are characterised as young, offspring who live with the care recipient, care for a care recipient with behavioural problems, are unsatisfied with the social support received and have a low balanced reciprocity.

Key words

Caregivers, elderly, burden, cultural factors, nursing.

The demand for long-term care in Western industrialised countries has been increasing with gains in life expectancy (Organization for Economic Cooperation and Development [OECD] 2009). In these countries, the care of older individuals is often family-focused and unpaid, and most caregivers are female (OECD, 2005). Caring for an older relative can be a stressful experience that can become harmful to the caregiver's health and well-being (Pinquart & Sorensen, 2003b). Among the negative consequences of caregiving, subjective burden is one of the most frequently analysed (Pinquart & Sorensen, 2003a). Subjective burden is defined as a caregiver's state characterised by fatigue, stress and perception of limited social contact and role adjustment, which comes from a negative appraisal of the caregiving situation, and such as can threaten the physical, psychological, emotional and functional health of caregivers (Hoffmann & Mitchell, 1998; Zarit, Reever, & Bach-Peterson, 1980). Subjective burden has been related to anxiety (Cooper, Balamurali, & Livingston, 2007), depression (Pinquart & Sorensen, 2003a) and negative effects on physical health (Carretero, Garces, Rodenas, & Sanjose, 2009). Thus, a decrease in subjective burden may improve the health of the caregiver. To achieve this goal, however, a better understanding of the factors the factors that affect subjective burden is needed.

Background

Subjective burden has been classically analysed using models based on the transactional stress theory proposed by Lazarus and Folkman (1984). Of these models, the most commonly used is the Pearlin Stress Process Model (Aneshensel, Pearlin, Mullan, Zarit, & Whitlatch, 1995). In this model, the role of culture, which is understood as the values, beliefs and rules of a particular social group, has been underrepresented (Aranda & Knight, 1997), despite research has shown ethnic variations in caregiver characteristics (i.e. kinship and common residence), caregiving resources (i.e. social support) and caregiver health (Pinquart & Sorensen, 2005) . Interest in the cultural aspects of caregiving has increased in recent years (Losada et al., 2006), and theoretical models have been developed to integrate the cultural perspective into stress models that are based on the Lazarus and Folkman (1984) framework. In this sense, Kim and Lee (2003) proposed a model in which kinship, common residence, the quality of intergenerational relationships (i.e., motives for caregiving, including obligation and affection) and social support are influenced by cultural values; and Knight and Sayegh (2010) developed a model in which cultural values influence caregiver resources (i.e., social support). Following previous models, factors such as kinship, common residence, social support and motives for caregiving, which are influenced by cultural values, can be named as cultural factors.

Several researchers have analysed the relationships between previous cultural factors and subjective burden. Some evidence exists for a lack of influence of kinship ties, particularly a lack of differences between spouses, offspring and children-in-law (Pinquart & Sorensen, 2011). In addition, there is little evidence for a negative relationship between perceived social support and subjective burden (Smerglia, Miller, Sotnak, & Geiss, 2007; Vrabec, 1997). On the other hand, several investigators have demonstrated a protective effect of reciprocity as a motive for caregiving with regard to subjective burden (e.g. Del-Pino-Casado, Frias-Osuna, & Palomino-Moral, 2011; Stiens, Maeck, & Stoppe, 2006), as well as a lack of association between common residence and subjective burden (Cicirelli, 1993). Findings regarding other possible factors are mixed. These factors include the obligation for caregiving (Chou, LaMontagne, & Hepworth, 1999; Del-Pino-Casado et al., 2011; Stiens et al., 2006) and familism (Chun, Knight, & Youn, 2007; Losada et al., 2006; Sayegh & Knight, 2011). Several investigators (Knight et al., 2002; Losada et al., 2006; Sayegh & Knight, 2011) suggest that familism, defined as a strong identification and attachment between individuals and their families (Losada et al., 2010), is a multidimensional concept in which each dimension is related in various ways to subjective burden. Because the predominant dimension can vary among groups, it might be more useful to analyse other caregiving motives close to familism, such as reciprocity and obligation.

The previous literature indicates that the relationship between cultural factors and subjective burden has not been clearly established; therefore, further research is necessary. An analysis of the cultural factors related to subjective burden is relevant to nursing research and practice for two reasons: (a) in general, the identification of cultural risk factors could lead to decreased subjective burden, through early detection and intervention and (b) the analysis of cultural factors may further understanding of the influence of cultural values on the caregiving process.

In this study, we attempted to augment stress models that are applied to caregiving by analysing factors that are influenced by cultural values and for which the evidence of a relationship with subjective burden is mixed or insufficient. The aim of this study was to analyse the effect of cultural factors on subjective burden in primary home caregivers of older relatives and to determine the overall contribution of these factors to subjective burden.

Methods

Design, setting and sample

This study was conducted using a cross-sectional design. The study population was comprised of primary home caregivers of older relatives (aged 65 years and over) in the Primary Health Care District of Jaén-Norte in Spain. This region includes both urban and rural locations and has a population of 189,344 inhabitants. A probability sample of 208 caregivers was recruited in 2010 using systematic random sampling. Frame sampling was performed using clinical records of older dependents who were cared for by a relative in the Primary Health Care centers of the region (3,860 older dependents). All of the caregivers in the sample agreed to participate in the study.

The sample size of 208 allowed the detection of a minimum difference of 1.3 units on the scale of the Caregiver Strain Index for the comparison of means as well as a minimum correlation coefficient of .19 with a statistical power of 80% ($\alpha = 5\%$). The sample size of 208 was also sufficient to achieve 90% power to detect an r^2 value of .30 attributed to six independent variables using an F-Test with a significance level of .05 when the variables tested were adjusted for an additional three independent variables with an r^2 value of .10 (Cohen, 1988).

Procedures

The potential participants were contacted at home by their primary care nurse. The data were collected through interviews performed by highly qualified nurses (case management nursing with at least 3 years of experience or family nurses with at least 10 years of experience in caring for the caregivers of elderly dependents). These nurses were trained during a 5-hour session to ensure high quality and uniformity of the data collection. The training session included recommendations about conducting interviews (context, introduction and development), using the study's measuring instruments and coding of data.

All the instruments used were translated into Spanish and validated in Spain (please, see the following subsection).

The interviews were conducted in the caregivers' home. Interviewers had no previous relation with the caregivers or the care recipients. Prior to the interviews, caregivers were contacted by their family nurse to inform them about the study and the voluntary nature of their participation. Confidentiality was guaranteed in the previous informative process and in the sampling process, and privacy was guaranteed during the interview. Informed consent was obtained from the caregivers. The study was approved by the local Clinical Research Ethics Committee.

Measures

Cultural factors. Data regarding kinship ties (spouse, offspring or other relationship) and common residence (yes or no) were obtained using single questions.

Perceived satisfaction with social support was measured using the Duke-UNC Functional Social Support Questionnaire (FSSQ) (Broadhead, Gehlbach, De Gruy, & Kaplan, 1988), which was validated in Spain by De-la-Revilla, Bailon, De-Dios, and Delgado (1991) (Cronbach's α coefficient: .81). Scores range from 11 to 55, with 55 representing the highest level of satisfaction with perceived social support. Cronbach's α for the current sample was .92.

Cultural motives for caregiving included obligation and reciprocity, and these were measured with items from a national cross-sectional survey of informal caregivers of individuals aged 65 years and older (Instituto de Mayores y Servicios Sociales [Institute for Older People and Social Services], 2005) that was developed by the Spanish government. Obligation was assessed using the following statement: "I think it is for me a moral obligation to care for that person [the relative]." To assess reciprocity, the following statement was used: "The care recipient is very grateful, and this gratifies and compensates me." According to Sahlins (1972), this type of reciprocity can be classified as balanced reciprocity. The responses to these two questions were assessed using a 5-point Likert-type scale ("*strongly agree*," "*agree*," "*neither agree nor disagree*," "*disagree*," or "*strongly disagree*"). We assembled a panel of 17 experts on this subject to evaluate content validity for obligation and reciprocity in accordance with the recommendations of Lawshe (1975). The content validity ratio for both measures was 1.0. We performed a re-test after 1 month to measure test-retest reliability using a weighted kappa coefficient with quadratic weights. The kappa coefficients for obligation and reciprocity were .73 and .93, respectively. According to Landis and Koch (1977), these levels of agreement can be considered substantial and almost perfect, respectively. Because of the paucity of responses in the categories “disagree” and “strongly disagree”, the responses to each question were grouped into three categories: “agree” (“agree" or “strongly agree”), “neither agree nor disagree,” and “disagree” (“disagree” or “strongly disagree”).

Caregiver subjective burden. Caregiver subjective burden was measured using the Caregiver Strain Index (CSI) (Robinson, 1983). This scale consists of 13 items (e.g. “Sleep is disturbed,” “It is a physical strain”) with scores ranging from 0–13; higher scores reflect more burden. The CSI was validated in Spain by López Alonso and Moral Serrano (2005) for caregivers of patients (aged 55 years or older) with long-term, oncological, and acute health problems who required at-home care. This validation study yielded robust psychometric properties, including a significant correlation with the determinants and consequences of burden (López Alonso & Moral Serrano, 2005). Cronbach’s α coefficient was .86. Cronbach’s α for the current sample was .80.

Potential confounding variables. Potential confounding variables including in this study were caregiver age, caregiver gender, stressors, and duration of caregiving. Data regarding caregiver gender (male and female) and caregiver age (in years) were obtained using single questions.

Stressors included the intensity of care provided and the needs of the care recipient. Intensity of care was assessed based on two variables: the amount of care that was provided (hours per week) and the number of activities of daily living (ADLs) that were assisted. The ADLs were defined by the Barthel Index (BI; see below). The care recipient’s needs were assessed using the following scales: the BI, the Pfeiffer Short Portable Mental Status Questionnaire (SPMSQ), and the Cummings Neuropsychiatric Inventory (NPI).

The BI (Mahoney & Barthel, 1965) is a 10 -item scale that has been widely used to measure dependency level for ADLs. Scores range from 0–100; the degree of dependency is inversely proportional to the test score. The BI was validated in Spain by Baztán et al. (1993) with adequate psychometric properties (high concurrent validity, weighted Kappa intraobserver .98, weighted Kappa interobserver .88). Cronbach’s α for this study was .91.

The SPMSQ (Pfeiffer, 1975) includes 10 items and assesses cognitive impairment (in a range of 0–10; the cognitive impairment is directly proportional to the test score) and was validated in Spain by Martínez de la

Iglesia et al. (2001) (with a sensitivity and specificity of 85.7 and 97.3, respectively). Cronbach's α for this study was .92.

The NPI (Cummings et al., 1994) assesses the frequency and severity of several psychiatric and psychological symptoms (e.g. hallucinations, agitation/aggression, apathy, disinhibition, irritability, etc.) that could inconvenience the caregiver (in a range of 0–120; the frequency and severity are directly proportional to the test score). This index was validated in Spain by Vilalta-Franch et al. (1999) (interobserver reliability: .93, test-retest reliability for frequency: .79, test-retest reliability for severity: .86). Cronbach's α for this study was .71.

Data regarding the duration of caregiving (in months) were obtained using a single question.

Data analysis

The mean values, percentages and 95% confidence intervals (CIs) were used for the descriptive analyses. The Student's t-test (or Mann-Whitney's U-test when normality or homoscedasticity were not present), the one-way ANOVA and the Pearson product-moment correlation coefficient (r) were employed in bivariate analyses. Multiple linear regression was used for multivariate analyses to determine the relationships between cultural factors and subjective burden while controlling for potential confounders. The following assumptions were verified: (a) normality and homoscedasticity (residual plots), (b) linear relationship (partial regression plots), (c) independence of the residuals (Durbin-Watson statistic) and (d) no collinearity (collinearity statistics: Tolerance and Variance Inflation Factor). $p < .05$ was used to define statistical significance in the bivariate and multivariate analyses. SPSS (Statistical Package for the Social Sciences) 17.0 for Windows (SPSS Inc., Chicago, IL, USA) was used for the majority of the statistical analyses, and R was used to select the best multivariate model via stepwise selection using the MASS package (Venables & Ripley, 2002). This selection was based on the Akaike (1974) Information Criterion (AIC), which is a measure of the goodness of fit of a model; models with low AIC values are preferred.

Results

Descriptive Data

The average age of the caregivers was 59.2 years (standard deviation: 12.9, range: 27 to 89). Most were female (85.1%) and offspring of the care recipients (60.1%). The average CSI score for the caregivers was 6.27, with a cut-off point of 7 (as Robinson recommended; 1983); 46.2% of the caregivers experienced subjective burden (95% CI [39.3, 53.2]). None of the caregivers in the sample was studying nor working earning a salary. Further information regarding descriptive data of the variables analysed in the study is presented in Table 1, for both the whole sample and the subgroups of spouses and offspring. The data regarding subjective burden, cultural factors and potential confounders (caregiver age, caregiver gender, stressors and duration of caregiving) are shown in Table 1.

Cultural Correlates of Subjective Burden

In the bivariate analysis (Table 2), there was a significant negative association between subjective burden and perceived social support, and there were statistically significant differences in subjective burden among reciprocity categories. There were no statistically significant differences in subjective burden with respect to kinship ties, common residence, or obligation categories. With regard to reciprocity, a Bonferroni post-hoc analysis revealed subjective burden in the “disagree” category was statistically greater than that in the other categories (“agree” and “neither agree nor disagree”).

After controlling for potential confounders (caregiver age, caregiver gender, amount of care, number of ADLs assisted, BI, SPMSQ, NPI and duration of caregiving), a multiple linear regression (stepwise selection with the MASS package [Venables & Ripley, 2002]) (Table 3) revealed that the associations of perceived social support and reciprocity with subjective burden remained statistically significant. The final model had an r2 value of .404 and an AIC value of 402.11, whereas the extended model had an r2 value of .396 and an AIC value of 407.82. In the final model, cultural factors (perceived social support and reciprocity) explained 29.0% of the variance in subjective burden. Specifically, reciprocity alone explained 11.3% of the variance. No violations of assumptions were detected in the regression model (e.g. the Durbin-Watson statistic was 2.143, and all tolerance levels were greater than 0.420). The polychotomous variables were transformed for multivariate analyses. Thus, kinship ties were transformed into two dummy variables (using “others” as a reference category), and obligation and reciprocity were dichotomized (“agree” vs. “disagree” and “neither agree nor disagree”).

Because all of the spousal caregivers lived with the care recipient, we performed a specific analysis for the offspring group (n = 125) to assess the relationship between subjective burden and common residence. The statistically significant difference of subjective burden for the type of residence (common or not) in the bivariate analysis (Mann-Whitney *U*-test, p = .011) remained after controlling for stressors and other cultural factors (Table 4) using the same procedure that was used for the previous regression. The final model had an r^2 value of .393 and an AIC value of 244.07, whereas the extended model had an r^2 value of .392 and an AIC value of 244.20.

Discussion

In our study, subjective burden was negatively associated with caregiver age, perceived social support and balanced reciprocity and positively associated with common residence (in the offspring subsample), after controlling for potential confounders. Factors that were culturally rooted (perceived social support and reciprocity) explained 29% of the variance in subjective burden. This finding supports previous evidence that culture influences the perception of caregiving situations (Dilworth-Anderson, Goodwin, & Williams, 2004; Lai, 2010; Pinquart & Sorensen, 2005). Furthermore, because the cultural patterns can vary within a given ethnic group (Losada et al., 2006), our findings support the consideration of different cultural patterns in caregiving involvement when evaluating the caregiving process within a given ethnic group.

Because the sample that we analysed was not substantially different in terms of sociodemographic data from the Spanish national cross-sectional survey for informal caregivers of older people (Instituto de Mayores y Servicios Sociales, 2005), this sample can be considered to be highly representative of Spanish caregivers in general. This finding, the probabilistic character of the sample and the sample size represent the strengths of our study. These sample characteristics precluded the potential selection bias that frequently occurs in caregiving research (Houde, 2002), which limits the generalization of the findings (Pruchno et al., 2008) and/or causes spurious associations. In addition, because we studied caregivers of older relatives without regard to the nature of the care recipient’s impairment, external validity and clinical applicability were supported. Furthermore, the representativeness of the sample analysed may extend beyond Spain, because the main characteristics of this sample (high participation of the family in caregiving, high female participation in caregiving and high caregivers’ dedication) are common in other contexts.

Kinship ties were not associated with subjective burden in bivariate and multivariate analyses. These findings are similar to those of Pinquart and Sorensen (2011), who reported no significant differences in the overall burden or emotional burden among spouses, adult children and children-in-law in a systematic review with meta-analysis. However, Pinquart and Sorensen reported high heterogeneity in their meta-analysis and did not control for stressors. Therefore, stressors and cultural differences could have influenced their findings, as they suggest. To examine the specific cultural context of our study, we reviewed Spanish studies in which kinship ties were related to subjective burden. Authors who did not control for stressors reported results that were both heterogeneous and conflicting (e.g. Conde-Sala, Garre-Olmo, Turro-Garriga, Vilalta-Franch, & Lopez-Pousa, 2010; Serrano-Aguilar, Lopez-Bastida, & Yanes-Lopez, 2006). Our findings, together with the results of previous studies, support the hypothesis that subjective burden does not depend on kinship ties, but rather, depends on differences in stressors that are likely to be distributed without any kinship pattern.

Using bivariate and multivariate analyses, we found no significant association between common residence and subjective burden across the entire sample, whereas we found a positive association in the offspring subsample, even after controlling for stressors. Our findings were consistent with those of Conde-Sala et al. (2010), who also found a positive association in a group of offspring. In addition, several authors analysing samples with all kind of kinship have showed no association between common residence and subjective burden (e.g. Gort et al., 2007; Hughes, Giobbie-Hurder, Weaver, Kubal, & Henderson, 1999). Thus, our findings, together with all previous studies, support the conclusion that common residence and subjective burden are not statistically associated when kinship ties are considered, except among offspring caregivers. Therefore, kinship ties moderate the effects of common residence on subjective burden. This finding supports the idea that common residence is observed as normal among spouses but not among offspring, and this lower acceptance affects their perception of burden. Although our study and that of Conde-Sala et al. (2010) were both cross-sectional, the results are useful, as the reciprocal hypothesis (that subjective burden causes common residence) is implausible

Our findings regarding perceived social support (i.e., a possible protective effect on subjective burden) were consistent with those of an integrated literature review (Vrabec, 1997), a systematic review without meta-analysis (Smerglia et al., 2007) and several cross-sectional studies that were not included in those reviews (e.g. Chiou, Chang, Chen, & Wang, 2009; Van Den Wijngaart, Vernooij-Dassen, & Felling, 2007). Thus, our findings support the existing evidence for the protective effect of perceived social support on subjective burden.

No significant association was found between obligation and subjective burden. In two studies in which this issue was analysed (Albert, 1992; Del-Pino-Casado et al., 2011) there also was no such association, despite sufficient statistical power. Conversely, there were three studies whose authors found a significant association after controlling for stressors; in one study, a negative association was found (Chou et al., 1999), whereas in the other two studies, a positive association was found (Cicirelli, 1993; Choi, 1993). This apparent contradiction could be explained by the possible multidimensionality of the concept of obligation (that is, the sense of duty could have been motivated by personal beliefs or social demands). Following Ryan and Deci's (2004) classification of motivation, personal beliefs were included in "identified regulation" (the activity is judged by the person to be valuable) or "integrated regulation" (the identification with the activity is in harmony with other structures within the self), and social demands were included in "external regulation" (to satisfy an external demand) or "introjected regulation" (social pressure). It is possible that obligation through social demands is positively associated with subjective burden and that obligation based on personal beliefs is negatively associated with subjective burden, but these issues require further investigation. The findings of Romero-Moreno et al. (2011) support the multidimensionality of the concept of obligation and the different relationships between each dimension of obligation and the negative consequences for caregiving.

In the bivariate and multivariate analyses, a negative association was found between balanced reciprocity and subjective burden. This finding matches those of Del-Pino-Casado et al. (2011), Dwyer and Miller (1990), Dwyer et al. (1994), Reid et al. (2005), Stiens et al. (2006) and Wright and Aquilino (1998). These previous authors, except for Reid et al. (2005) and Stiens et al. (2006), controlled for stressors. Our study and the previous studies were cross-sectional; therefore, there was no evidence for the direction of the relationships between these variables. However, balanced reciprocity is reasonably stable over time (Hsu & Shyu, 2003), and the reciprocal hypothesis (that subjective burden causes reciprocity) is implausible. Therefore, balanced reciprocity can be considered as a protective factor for subjective burden. This finding supports the idea that intrinsic motives for caregiving prevent negative consequences in caregiving (Romero-Moreno et al., 2011).

Although we did not primarily focus on age, gender and stressors, we found interesting findings regarding these variables. Concerning stressors, we found that behavioural problems were the only stressor that explained subjective burden. This finding confirms the importance of this factor, as previously reported by Pinquart and Sorensen (2003a), and adds an interesting result in that the intensity of care did not explain subjective burden. This result supports the recommendation consisting of assessing stressors only through care needs in primary caregivers.

Regarding the age of the caregiver, this was significantly and negatively associated with subjective burden. This may be because younger caregivers have fewer resources to control stress compared with older caregivers. Furthermore, agreement with the family tradition of caregiving could be more likely in older caregivers, and this tradition could prevent the negative consequences of stress in caregiving. Our findings are consistent with those of other cross-sectional studies with sufficient methodological quality (e.g. Chang, Brecht, & Carter, 2001; Schneider, Murray, Banerjee, & Mann, 1999), and support the hypothesis that low caregiver age is a risk factor for subjective burden. The higher subjective burden in the group of younger could be due to other demands such as child rearing, but two facts are opposite to this possible explanation: 1) in our study, age and subjective burden were correlated in the spouses' subgroup (both in the bivariate analysis [p= 0.04] and the multivariate model used for offspring [p= 0.03]), 2) our findings were consistent with the studies cited above.

Regarding gender, female caregivers reported more subjective burden than male caregiver in our study; however, these difference was not statistically significant. The lack of statistical significance in our study could be explained by the small number of men in the sample, although the proportion of men in our study is representative of the reference population. In this sense, we demonstrated gender differences in subjective burden in a previous study (Del-Pino-Casado, Frias-Osuna, Palomino-Moral, & Ramon Martinez-Riera, 2012), with female caregivers experienced more subjective burden, and these findings were consistent with other studies (Pinquart & Sorensen, 2006).

Limitations

Our study had some limitations. First, we employed a cross-sectional design, and therefore, could not measure causality. However, this issue has been discussed above, and our conclusions have been adapted accordingly. Second, although the proportion of male caregivers in our study sample was representative of the reference population, the low sample size of the male subsample did not provide sufficient power to identify gender differences as stated above.

Conclusions

Despite these limitations, we can draw several conclusions. First, findings support the hypotheses that low age (in all cases) and common residence (in offspring) are risk factors for subjective burden. Second, our findings add to the evidence that perceived social support and balanced reciprocity could be considered as protective factors for subjective burden. Third, our findings support the hypothesis that subjective burden is independent of kinship ties and suggest that the differences in subjective burden among kinship ties result from differences in stressors. Fourth, our findings suggest the possible multidimensionality of the concept of obligation (personal beliefs versus social demands), which could explain the apparently contradictory findings regarding obligation versus subjective burden. Fifth, our findings add to evidence that behavioural problems are the most important aspect among stressors for subjective burden, and suggest that care needs are more important than the intensity of care in assessing stressors in primary caregivers. Lastly, our findings add to the existing evidence regarding the influence of cultural factors in the perception of burden in caregiving situations.

These findings, together with the existing evidence regarding factors that are related to subjective burden (as discussed above), support the following recommendations with regard to nursing interventions that aim to promote the health and quality of life of primary home caregivers of older relatives. First, a risk profile can be created for subjective burden in primary family caregivers. Individuals who are at risk are characterised as young, female, offspring who live with the care recipient, care for a care recipient with behavioural problems, are unsatisfied with the social support received and have a low balanced reciprocity. Nurses can use this risk profile for the early prevention of and intervention for subjective burden, thereby reducing the negative emotional effects of caregiving. Furthermore, if necessary, this risk profile can be evaluated without the use of questionnaires to reduce the demands of nursing assessment in cases in which rapid judgment is required. Second, considering cultural patterns in caregiving involvement can improve understanding of the caregiving process, even within a given ethnic group. Third, stressors can be effectively assessed through the care needs of primary caregivers, thus saving time and improving accuracy in nursing assessment.

Clinical Resources

1. American Association of Retired Persons: www.aarp.org

2. Family Caregiver Alliance: www.caregiver.org

3. Caregiver Network Action: http://www.caregiveraction.org

4. National Alliance for Caregiving: http://www.caregiving.org

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Tables

Table 1

Descriptive measures for the whole sample and for the subgroups of spouses and offspring.

		Whole sample (N= 208)		Spouses (n= 64)		Offspring (n= 125)	
		n (%)	95% CI	n (%)	95% CI	n (%)	95% CI
Gender	Female	177 (85.1)	79.4, 89.5	45 (70.3)	58.3, 82.3	114 (91.2)	85.8, 96.6
	Male	31 (14.9)	10.5, 20.6	19 (29.7)	17.7, 41.7	11 (8.8)	3.4, 14.2
Kinship ties	Spouse	64 (30.8)	24.77, 37.6	---	---	---	---
	Offspring	125 (60.1)	53.1, 66.7	---	---	---	---
	Others	19 (9.1)	5.7, 14.1	---	---	---	---
Common residence	Yes	174 (83.7)	77.8, 88.3	64 (100)	---	96 (76.8)	69.0, 84.6
	No	34 (16.3)	11.7, 22.3	0 (0)	---	29 (23.2)	15.4, 31.0
Reciprocity	Agree	153 (73.6)	66.9, 79.3	42 (65.6)	53.2, 88.0	94 (75.2)	67.2, 83.1
	Disagree	20 (9.6)	6.1, 14.7	10 (15.6)	5.9, 25.3	9 (7.2)	2.3, 12.1
	N/A	32 (15.4)	10.9, 21.2	1218.8)	8.4, 29.1	22 (17.6)	10.5, 24.6
Obligation	Agree	192 (92.3)	87.6, 95.4	60 (93.8)	84.7, 98.2	115 (92.0)	86.8, 97.1
	Disagree	13 (6.3)	3.5, 10.7	4 (6.3)	1.7, 15.2	7 (5.6)	1.2, 10.0
	N/A	2 (0.9)	0.17, 3.8	0 (0)	---	2 (1.6)	0.2, 5.6
		M (SD)		M (SD)		M (SD)	
CSI		6.27 (3.35)		6.4 (3.5)		6.1 (3.2)	
Caregiver age in years		59.2 (12.9)		72.2 (8.1)		52.9 (9.1)	
FSSQ		35.4 (11.3)		34.3 (10.7)		36.1 (11.7)	
Amount of care provided in hours per week		59.6 (41.2)		55.5 (34.1)		60.5 (43.2)	
Number of ADLs assisted		7.7 (2.7)		7.1 (2.7)		7.9 (2.7)	
BI		38.3 (29.1)		47.4 (27.3)		34.4 (29.4)	
SPMSQ		5.1 (3.7)		4.2 (3.6)		5.3 (3.7)	
NPI		7.5 (10.3)		8.9 (12.9)		6.9 (9.2)	
Duration of caregiving in months		56.1 (57.9)		48.9 (39.3)		56.9 (52.0)	

Note: M: mean, SD: standard deviation, n: number (absolute value), CI: confidence interval, ADLs: activities of daily living, BI: Barthel Index, SPMSQ: Short Portable Mental Status Questionnaire, NPI: Neuropsychiatric Inventory, FSSQ: Functional Social Support Questionnaire, CSI: Caregiver Strain Index, N/A: Neither disagree nor agree. Categories of obligation and reciprocity were grouped into three levels.

Table 2

Relationships between Cultural Factors and Subjective Burden

		SB M	F (df)	t (df)	r	p-value
Kinship ties	Spouse	6.36	0.27 (2)			.76[a]
	Offspring	6.16				
	Others	6.74				
Obligation	Agree	6.44	2.32 (2)			.10 [a]
	N/A	4.50				
	Disagree	4.54				
Reciprocity	Agree	5.67	19.92 (2)			< .001[a]
	N/A	6.66				
	Disagree	10.25				
Common residence	Yes	6.44		1.59 (206)		.11 [b]
	No	5.44				
FSSQ					- .41	< .001

Note: SB M: subjective burden average, F: F value, t: t value, df: degrees of freedom, r: Pearson's coefficient between subjective burden and each independent variable, FSSQ: Functional Social Support Questionnaire, CSI: Caregiver Strain Index, N/A: Neither disagree nor agree. Categories of obligation and reciprocity were grouped into three levels.

[a] one-way ANOVA; [b] Student's *t*-test.

Table 3

Stepwise Multiple Linear Regression Model of Subjective Burden in the Entire Sample

	B	SE *B*	β	p-value
FSSQ	-0.098	0.017	-0.330	< .001
Reciprocity	-1.634	0.452	-0.214	< .001
Caregiver age	-0.061	0.019	-0.239	.001
NPI	0.072	0.019	0.226	< .001

Abbreviations: FSSQ, Functional Social Support Questionnaire; NPI, Neuropsychiatric Inventory.

Notes: $r^2 = .404$; adjusted $r^2 = .376$. Variables initially included: offspring, common residence, Functional Social Support Questionnaire, obligation, reciprocity, caregiver age, caregiver gender, hours per week, activities of daily living that were assisted, Barthel Index, Pfeiffer Short Portable Mental Status Questionnaire and Neuropsychiatric Inventory and duration of caregiving.

Table 4

Stepwise Multiple Linear Regression Model of Subjective Burden in Offspring

	B	SE *B*	β	p-value
Common residence	1.104	0.520	0.124	.035
FSSQ	-0.100	0.017	-0.337	< .001
Reciprocity	-1.575	0.454	-0.206	.001
Caregiver age	-0.041	0.015	-0.161	.008
NPI	0.075	0.019	0.235	< .001

Abbreviations: FSSQ, Functional Social Support Questionnaire; NPI, Neuropsychiatric Inventory.

Notes: $r^2 = .392$; adjusted $r^2 = .332$. Variables initially included: common residence, Functional Social Support Questionnaire, obligation, reciprocity, caregiver age, caregiver gender, hours per week, activities of daily living that were assisted, Barthel Index, Pfeiffer Short Portable Mental Status Questionnaire and Neuropsychiatric Inventory and duration of caregiving.