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**Title: Psychosocial predictors of anxiety in nursing homes staff**

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**Abstract**

**Objectives.** Although research shows that nursing home staff experience significant levels of stress and burnout, studies analyzing the relationship of psychosocial variables on their feelings of anxiety are scarce. This study aims to analyze the relationship between psychosocial variables and levels of anxiety among staff.

**Method.** Participants were 101 nursing home professionals. In addition to anxiety, socio-demographic variables, depersonalization, burden, relationship with families of the residents and guilt about the care offered to the residents were assessed. A hierarchical regression analysis was carried out to analyze the contribution of the assessed variables to staff anxiety levels.

**Results.** The obtained model explained 57% of the variance in anxious symptomatology. Guilt about the care offered and poor quality of the relationship with residents' family were associated with anxiety. Further, working at nursing homes where the staff report higher levels of anxiety symptoms, the presence of depersonalization and burden were also associated with anxiety.

**Conclusion.** The findings suggest that in addition to work-related variables (burden and burnout), problems with family members and guilt about the care offered are relevant variables for understanding staff's anxious symptomatology.

**Clinical implications.** Interventions that address issues of guilt about the quality of care, and problematic relationships with family members of residents, may have potential to reduce staff anxiety and promote their well-being.

**Keywords:** Long-term staff, anxiety, burden, guilt, relationship with families.

## Introduction

The growth of the older population worldwide is linked to an increase in the number of individuals affected by chronic diseases, including neuropsychiatric disorders, such as the different types of dementia (Alzheimer Association, 2014). The increase in the prevalence of these disorders leads to a greater need for care resources (Pitfield, Shahriyamolki & Livingston, 2011). Indeed, in many countries rates of institutionalization of older persons will increase significantly over the coming years (Comas-Herrera et al., 2011).

Despite generally high levels of commitment to their jobs, several studies report elevated levels of stress and burnout among nursing home staff (Brodaty, Draper & Low; 2003; Cooper et al., 2016; Duffy, Oyebode & Allen, 2009; Pillemer & Lachs, 2002; Woodhead, Northrop & Edelstein, 2016). These consequences can have a negative impact on the efficiency and quality of care received by residents (Cohen-Mansfield, 1997; Edvarsson, Sandman, Nay & Karlson, 2008). Additionally, the elevated levels of mental health problems found among nursing home staff contribute to high rates of job turnover (Pillemer et al., 2008). Considering that increasing our knowledge about the variables contributing to a reduction in the well-being of nursing home staff may support the development of interventions directed at this population, the aim of this study is to examine the relationship between different psychosocial variables and the feelings of anxiety among nursing home staff.

Burnout is an individual response to prolonged work-related stress that can affect the job satisfaction, productivity, performance, turnover and well-being of professionals (Maslach & Jackson, 1981). Burnout is characterized by emotional exhaustion (decreased emotional resources and energy), depersonalization (negative attitudes and feelings towards care recipients), and a lack of personal accomplishment (Maslach & Jackson, 1981). Burnout in

nursing home professionals has been linked to personal factors, the organizational environment, conflicts with family members of residents, and experiencing aggressive behaviors from residents (Edvarsson et al., 2008; Miyamoto, Tachimori & Ito, 2010; Moniz-Cook, Woods & Gardiner, 2000; Montoro-Rodríguez & Small, 2006; Pillemer et al., 2003).

In terms of organizational factors, long-term care employees often work long hours, experience high levels of time pressure, and are paid low wages (Zimmerman et al., 2005). Evidence suggests that these stressful characteristics of the job play an important role in explaining burnout in nursing home staff (Cooper et al., 2016). Workload is also a relevant predictor of burden and job pressure (Chappel & Novak, 1992). Further, support provided by supervisors is linked to lower stress levels among long-term care staff (Woodhead et al., 2016). Edvarsson, Sandman, Nay and Karlsson (2009) found that perceived organizational climate and the likelihood of involvement in discussions about care problems and ethical difficulties were predictors of job strain.

An additional source of stress and burnout in nursing home staff is relationships with family members. Several studies have demonstrated that difficulties frequently emerge in interactions between nursing home staff and relatives of residents (Abrahamson, Pillemer, Sechrist & Suitor, 2011; Bramble, Moyle & Shum, 2011; Chen, Sabir, Zimmerman, Suitor & Pillemer, 2007; Law, Patterson, Muers, 2016; Utley-Smith et al., 2009). Some conflicts are related to discrepant views about the appropriate tasks for families and staff (Duncan & Morgan, 1994; Train, Nurock, Manela, Kitchen & Livingston, 2005). Additional contributors to conflict are problems in communication due to high time pressure among workers, and family members' fears about negative consequences resulting from expressing concerns about residents' care (Hertzberg & Ekman, 1996; Train et al., 2005). The presence of negative attitudes on the part of both staff and families also contributes to difficulties in the relationship (Pillemer et al., 2003). In a qualitative study, Train and colleagues (2005) found

that long-term care staff were generally positive about their relationships with families. However, the respondents were also resentful about the demands families make regarding resident care. Further, conflicts with one another leads to distress for both staff and family members (Abrahamson, Sutor & Pillemer, 2009; Pillemer et al., 2003).

Residents' behavioral symptoms are another source of stress and burden among nursing home personnel. Several studies have shown that resident's behavioral symptoms increase the workload and burden experienced by the staff (Miyamoto et al., 2010; Mooniz-Cook et al., 2000; Sourial, McCusker, Cole & Abrahamowicz, 2001). In a recent study, Zwijsen et al. (2014) demonstrated that behavioral symptoms such as aggression predict staff distress.

Despite extensive evidence regarding the negative relationship between chronic exposure to stressors and family caregivers' well-being (Vitaliano, Zhang & Sacanlan, 2003), only a few studies have explored psychological distress among nursing home workers (Ejaz, Noelker, Menne & Bagaka's, 2008; Zimmerman et al., 2005). However, studies involving other health professionals have demonstrated the negative association between work-related stress, burnout and psychological and physical health (Khamisa, Peltzer & Oldenburg, 2013; Ilhan et al., 2008). Anxiety, depression and somatization have been linked to work-related stress and burnout (Khamisa et al., 2013). Boey and colleagues (1997) found a negative effect of work stress on anxiety and depression. Similarly, Jourdain and Chenevert (2010) found a significant association between higher levels of depersonalization and higher psychosomatic complaints.

Further, elder care professionals must cope with populations with a range of diseases, levels of dependency, and varying needs. This situation may increase the negative effects on the mental and psychological health of staff (Ejaz et al., 2008). Although research on mental health outcomes among nursing home staff is scarce, factors such as staff burnout have been

linked to the workers' physical and mental health (Woodhead et al., 2016). Ejaz et al. (2008) found high levels of depression in a large sample of long-term care workers, with 26% of the sample showing clinically relevant levels of depressive symptomatology. To our knowledge, however, there are no studies analyzing predictive factors of anxious symptomatology in nursing home staff.

Anxiety is an important outcome, given that it can be a significant precursor of other mental health problems, such as depression (e.g. Wittchen, Kessler, Pfister, & Lieb, 2000), and is likely to have an impact on workers' attitudes toward residents, quality of care, or job satisfaction (Cohen-Mansfield, 1995). Increasing our knowledge about predictors can assist in the development of interventions aimed at decreasing staff distress, and thereby improve the quality of the care received by residents.

The study hypotheses are the following: a) Variables related to work conditions such as number of working hours will be related to staff anxiety levels; b) guilt and burnout (depersonalization) levels will be associated with staff anxiety levels; and c) variables associated with the time spent with families and quality of this contact will be associated with staff-reported anxiety levels.

## **Method**

### *Participants and procedure*

Participants were 101 staff members of five nursing homes located in the extended metropolitan area of Madrid, Spain. All of the facilities agreed to participate in a larger study that tested a collaborative intervention between nursing home staff members and families of residents. The data used in this study are from the baseline assessment that was conducted in the nursing homes by psychologists unaware of the main hypothesis of the study. All

participants gave their informed consent to participate in the study, which was approved by the Ethics Committee of the Rey Juan Carlos University.

### *Measures*

**Staff and nursing home characteristics.** We obtained information on staff gender, occupation, number of years working with older people, number of years working in his/her current position, number of weekly hours in contact with the residents, and number of weekly hours in contact with the relatives of the residents. In addition, the average levels of staff anxiety levels per nursing facility was also assessed using the anxiety scale described below.

Although additional descriptive data would be useful, the limited time available for staff to complete the assessment instruments precluded obtaining such information.

**Anxiety symptoms.** Staff members' anxious symptomatology was measured using the tension sub-scale of the Profile of Moods State (POMS, McNair, Lorr, & Droppleman, 1971) questionnaire. This sub-scale contains 9 items, each of which is a mood descriptor (e.g., nervous) and participants are asked to indicate how often they have experienced that particular mood recently using a 5-point Likert-type response scale (from 0 "never" to 4 "extremely"). This scale has shown good psychometric properties in previous studies (e.g., Brown, Coogle & Wegelin, 2016; Ruiz-Robledillo, Sariñana-González, Pérez-Blasco, González-Bono, & Moya-Albiol, 2015), including strong associations with other anxiety measures (e.g., Gibson 1997). The internal consistency (Cronbach's alpha) of this scale in the present study was .86.

**Quality of the relationship with the resident families.** The quality of the relationship with the families was measured through a single item: "How would you rate the quality of your relationship with residents' families?". Answers ranged from 1 ("very poor") to 4 ("very good").



Difficulties in daily contact with families. The degree to which the staff rated difficulties in daily contact with family members was measured through the single item: "To what extent is daily contact with family members difficult for you." Answers ranged from 1 ("not at all difficult") to 4 ("very difficult").

Depersonalization. An adaptation of the depersonalization subscale of the Maslach burnout inventory (MBI; Maslach & Jackson, 1981) was used. It is a 5-item scale (e.g, "I feel like I don't care about what happen to residents or to their families") with a Likert-type response scale ranging from 1 "never" to 7 "every day." This scale measures depersonalization symptoms of the staff regarding residents and their relatives. Cronbach's alpha for this scale in this study was .61.

Caregiving burden. The level of burden due to resident care was measured by a single item ("How much burden do you feel due to the care of the residents?") with a Likert-type response scale ranging from 1 "not at all" to 5 "extremely").

Guilt feelings. Staff were asked the degree to which they feel guilt regarding inability to provide care as well as they would like and was measured through a single item ("How guilty do you feel for not being able to care for the residents as you would like?"). Answers ranged from 0 ("Not at all guilty") to 10 ("very guilty").

### *Statistical analyses.*

Following Tabachnick & Fidell's (2001) criteria, analyses for sample normality and outliers (univariate and multivariate) were conducted. Sample characteristics were analyzed through descriptive data. The associations and differences between the assessed variables were tested through t-test, ANOVAs, and Pearson correlation analysis. To analyze the contribution of each of the assessed variables to the staff's anxious symptomatology, a two-step hierarchical

regression analysis was conducted. In the first step, sociodemographic data were controlled (gender, years working with elderly population, years working in the current position, hours per week of work with the residents, and hours per week of contact with family members of the residents). Included in the second step were depersonalization, quality of the relationship with the resident families, guilt feelings, workload, and difficulties in daily contact with families. All analyses were conducted using SPSS v.23.

## **Results**

### *Outliers*

No univariate (z scores greater than 3.29,  $p < 0.001$ ) nor multivariate (Mahalanobis distance =  $p < 0.001$ ) outliers were found in the sample.

### *Sample characteristics*

The sample was primarily female (84.2%). Respondents were primarily nursing assistants and nurses (59.4%), 24.8% were other health professionals (e.g., occupational therapists, physiotherapists, physicians), and 19.6 % were administrative staff in the facilities (e.g., receptionists, managers). Means, standard deviations, and ranges of the assessed variables are shown in Table 1. Differences in weekly hours spent with relatives and difficulties with them were found between professionals: nurses and nursing assistants spent less time with relatives than the other professionals (nurses and nursing assistants mean = 11.29; SD = 14.25; other professionals mean: 23.49; SD = 17.01;  $t = 3.90$ ;  $p < 0.01$ ). In addition, differences in average anxious symptomatology were found between facilities. Specifically, the staff from one nursing home reported lower anxiety levels than the staff from the other nursing homes (facilities with higher anxiety levels mean = 12.62; SD = 6.53; facility with lower anxiety level: 6.25; SD = 4.71;  $F = 2.86$ ;  $p < 0.05$ ). With the aim of controlling for these differences

in the following analyses, the variables occupation and nursing facility have been dummy coded, with a score of 1 indicating “nurses and nursing assistants” and “nursing homes where the staff reported lower anxiety levels”.

### *Correlations*

The correlations among variables are shown in Table 2. Staff’s anxious symptomatology was significantly and positively associated with guilt for not caring as well as they wished, caregiving burden, depersonalization, and difficulties in daily contact with relatives. In addition, a lower perceived quality of relationship with the relatives of the residents was negatively and significantly associated with anxious symptomatology. No significant associations were found between the other assessed variables and anxiety. Staff who reported devoting more weekly hours in contact with the relatives and those reporting lower difficulties in daily contact with relatives reported lower levels of caregiving burden. In addition, being a nurse or nursing assistant was associated with higher levels of burden. Further, working in the nursing home in which professionals reported lower anxiety levels was significantly associated with more years working with older population and in the same position, and more weekly hours spent in contact with relatives.

### *Regression model*

The results of the regression model for analyzing the influence of the independent variables on staff’s anxious symptomatology is shown in Table 3. Of the variables included in the first step of the analysis, only the nursing facility reporting lower anxiety contributed significantly to the model, explaining 15% of the variance of the staff’s anxious symptomatology. All variables included in the second step contributed significantly to the explanation of anxious symptomatology. The variables included in the second step contributed significantly to the explanation of anxious symptomatology, explaining 42% of this variance. The final model

explains 57% of the variance ( $F = 9.79, p < 0.0001$ ). The following variables contributed significantly to the explanation of staff anxiety levels: working in nursing homes where the staff showed higher average anxiety levels, guilt feelings, care burden, depersonalization, and difficulties in interactions with families and quality of the relationship with the families. Guilt feelings, care burden, depersonalization, and difficulties in the interactions with families were positively associated with anxious symptoms. Conversely, quality of relationships with families was negatively associated with staff anxiety levels.

## **Discussion**

The aim of the present study was to analyze the effects of psychosocial variables on the anxiety of nursing home staff. In addition to variables that have usually been associated with distress among nursing home workers (such as burden and burnout), we found that anxious symptoms are also associated with feelings of guilt about care provision and having difficulties with the relatives of the residents. In contrast, we did not find support for the hypothesis regarding the association between the work variables and staff anxiety levels.

Our findings are consistent with studies showing associations between burden and mental health consequences among professionals (Banglioni, Cooper & Hingley, 1990; Ejaz et al., 2008; Escribà-Agüir, & Pérez-Hoyos, 2007; Ilhan et al., 2008) and family caregivers (Black & Almeida, 2004; Cooper, Balamurali & Livingston, 2007; Savundranayagam, Montgomery, & Kosloski, 2010). Similar findings have been obtained regarding burnout. In particular, depersonalization has been shown to predict anxiety levels in long-term care staff (Khamisa et al., 2013). This result is consistent with our hypothesis regarding the relationship between depersonalization and anxiety levels of nursing home staff.

Support was also found for the hypothesis regarding contact with families and staff anxiety levels. The results further suggest that the quality of the relationship between staff and

relatives, as well as difficulties in daily contact with the relatives, are associated with staff anxiety symptoms. Similarly, our results showed that working at a nursing facility whose professionals displayed significantly lower anxiety levels was correlated with more time spent with relatives. Thus, it appears that the contact with family members may play a role in the anxiety experienced by workers. These findings are consistent with studies of family and staff relationships (Abrahamson et al., 2011; Abrahamson, et al., 2009; Bramble et al., 2011; Chen, et al., 2007) and also with studies of interventions aimed at improving the relationship between the two groups, which reduced levels of distress (e.g., depressive symptoms; Robison et al., 2007).

To our knowledge, this is the first study to analyze the relationship between guilt feelings and anxiety in nursing home staff. Guilt feelings have been shown to be associated with mental health in family caregivers (Losada, Márquez-González, Peñacoba & Romero-Moreno, 2010). The results of this study suggest that guilt feelings also play a role in professional caregivers' mental health. Specifically, experiencing guilt for not providing care as well as desired is associated with higher anxiety levels. This result is consistent with research by Bourbonnais and Ducharme (2010), in which nursing home staff expressed guilt feelings about not having enough time to spend with the residents. In addition, they experienced guilt when they were unable to resolve problematic situations and felt inefficient. Further, Chung (2012) showed that perceptions of nursing home staff about the care provided were negative when they were unable to perform their tasks as well as they would like.

Additionally, issues related to limited available resources (e.g., number of staff) may contribute to staff guilt levels. However, considering that perceptions of self-efficacy have been found to be related to burnout (Duffy et al., 2009; Evers, Tomic & Brouwers, 2001; Mackenzie & Peragine, 2003), workers who perceive a lack of training in performing tasks or who have lower perceived self-efficacy may be less satisfied with the quality of care they are

able to provide. This situation in turn results in guilt about the discrepancy between the care they offer and the care they aspire to provide. Thus, it appears that when long-term care workers perceive difficulties in their professional tasks, for example lack of time or training, they in turn feel guilt. Considering the association between guilt levels and distress, future studies should continue to explore this potential path between limited resources, guilt, and staff distress.

The present study has several limitations. First, the sample is composed of a limited number of professionals and information is not available for non-responders. Second, there may be differences between professionals (e.g., nursing assistants or psychologist) in the time spent with residents or families that may have different effects on their anxiety levels. Similarly, our results showed differences between facilities in average anxiety levels. These results are consistent with prior research regarding the influence of the organizational factors in workers' mental health (Cooper et al., 2016; Zimmerman et al., 2005). There may be differences in working conditions among the facilities that influence the staff's level of anxiety. It would be useful to replicate this research in larger and more diverse samples. Third, complex interactions between staff and families may be not captured through the measures we have used. For example, staff may have positive interactions with some members of one family but not with others. Fourth, we do not have data regarding the number and characteristics of professionals who declined to participate in the study, and therefore we cannot analyze differences between respondents and non-respondents. Although confidentiality and anonymity was guaranteed to participants, their responses may be affected by social desirability. These aspects limit the generalizability of the results to the general nursing home staff population.

Fifth, given the cross-sectional nature of the study, alternative explanations for the results may exist. For example, higher anxiety levels among nursing home staff could predict both

poor relationships with families and feelings of guilt about the care offered. Given the strength of the findings in this initial study, longitudinal and experimental research is recommended to confirm the results.

Sixth, another potential limitation of this study relates to the assessment instruments used. It was necessary to develop an assessment battery that was relatively brief (to accommodate busy staff schedules) and easy to understand. Therefore, most of the assessed variables were measured through single items created for the present investigation. Based on research showing that measuring psychosocial constructs through single items can be a successful way of obtaining relevant information (Bayes, Limonero, Barreto, & Comas, 1995), we feel reasonably confident in the results. However, further research should replicate this study using multi-item scales with established psychometric properties (cf., Davey, Barratt, Butow, & Deeks, 2007).

Finally, other variables that may contribute to an understanding of staff levels of anxious symptoms were not measured. For example, conflicts with other professionals in the facility may also contribute to staff levels of anxiety. Lee and Akhtar (2011) obtained a significant association between burnout and the existence of difficulties with other workers. More specifically, the burnout dimension of depersonalization was positively associated with conflicts with colleagues and care recipients, and with workload. Also, some factors related to the nursing home population affect the well-being of nursing home staff. Working with more cognitively impaired residents (e.g., a person with Alzheimer disease) is associated with higher levels of work-related stress (Brodaty et al., 2003; Zimmerman et al., 2005). In addition, the exposure to aggressive behaviors in residents is associated with significant levels of stress and burden (Zeller, Dassen, Kok, Needham & Halfens, 2011), contributing significantly to the staff's anxious symptomatology (Moniz-Cook et al., 2000).

Despite the mentioned limitations, the present study contributes to the existing literature by showing specific psychosocial dimensions that explain a significant percentage (57%) of variance of nursing home workers anxious symptomatology. In addition to variables associated with staff well-being in prior research, the findings highlight the relevance of problems in daily interaction with families, quality of the relationship with families, and staff feelings of guilt as relevant predictors of workers' levels of anxiety.

### **Clinical implications**

The results of this study extend the literature on distress experienced by nursing home staff. Specifically, work-related factors (burden and burnout), problems with family members, and guilt about the care offered are relevant variables for understanding staff anxious symptomatology. These findings can serve as a useful guide for the development of interventions to increase staff well-being. Ultimately, such interventions may also improve the well-being and the quality of care received by the residents.

Given that guilt feelings about care provision contributes to staff anxiety, it is important to address factors that contribute to those guilt feelings and to develop interventions that may reduce their effect. Guilt feelings may be activated by different situations, such as not having enough time to spend with the residents or finding it difficult to face problematic situations with families or residents (Bourboinais & Ducharme, 2010). Therefore, increasing personnel or adapting work tasks so that they contribute to increased time spent with the residents may decrease guilt feelings. Other interventions could provide staff members with skills or tools for optimizing their interactions with the residents without increasing time spent caring, for example by improving communication skills during care (Burgio et al., 2001). Training in psychological skills for managing negative feelings such as guilt or anxiety may also contribute to reducing staff members' levels of distress.



Additionally, our findings support the development of interventions aimed at improving family-staff relations (e.g., Pillemer et al., 2003; Tisher, Dean & Tisher, 2009; Bauer, Fetherstonhaugh, Tarzia y Chenco (2014). Considering that the quality of the relationship between staff and families contributes to staff members' anxiety, developing and implementing interventions targeted at improving this relationship are recommended. A number of strategies have been proposed in the literature, including decreasing and modifying negative attitudes of both groups; changing unrealistic expectations of family members about the care of their relatives, and improving communication between staff and families (Abrahamson et al., 2009; Bauer & Nay, 2011; Haesler et al., 2007; Pillemer et al., 2003; Tisher et al., 2009; Utley-Smith et al., 2009). Intervening in factors such as guilt that in turn reduce staff anxious symptoms has the potential to improve the overall quality of care in nursing homes.

**Bullet points**

- Psychosocial variables explain a significant percentage of the variance in staff anxious symptoms (57%).
- Staff member's feelings of guilt about the care provided, and having difficulties and poor quality relationships with family members, contribute to the levels of anxiety.
- Developing interventions targeting staff member's guilt feelings and quality of family-staff relationships may improve workers well-being, and, in turn, the quality of care received by residents.

**References**

- Abrahamson, K., Pillemer, K., Sechrist, J., & Sutor, J. (2011). Does race influence conflict between nursing home staff and family members of residents?. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 66(6), 750-755.
- Abrahamson, K., Sutor, J. J., & Pillemer, K. (2009). Conflict Between Nursing Home Staff and Residents' Families Does It Increase Burnout?. *Journal of Aging and Health*, 21(6), 895-912.
- Alzheimer's Association. (2014). 2014 Alzheimer's disease facts and figures. *Alzheimer's & Dementia*, 10(2), e47-e92.
- Baglioni, A. J., Cooper, C. L., & Hingley, P. (1990). Job stress, mental health and job satisfaction among UK senior nurses. *Stress Medicine*, 6(1), 9-20.
- Bauer, M., Fetherstonhaugh, D., Tarzia, L., & Chenco, C. (2014). Staff–Family Relationships in Residential Aged Care Facilities The Views of Residents' Family Members and Care Staff. *Journal of Applied Gerontology*, 33(5), 564-585.
- Bayes, R., Limonero, J. T., Barreto, P., & Comas, M. D. (1995). Assessing suffering. *Lancet*, 346, 1492.
- Black, W., & Almeida, O. P. (2004). A systematic review of the association between the behavioral and psychological symptoms of dementia and burden of care. *International Psychogeriatrics*, 16(03), 295-315.
- Boey, K. W., Chan, K. B., Ko, Y. C., Goh, L. G., & Lim, G. C. (1997). Work stress and psychological well-being among the nursing profession in Singapore. *Singapore medical journal*, 38, 256-260.

- Bourbonnais, A., & Ducharme, F. (2010). The meanings of screams in older people living with dementia in a nursing home. *International Psychogeriatrics*, 22(07), 1172-1184.
- Bramble, M., Moyle, W., & Shum, D. (2011). A quasi-experimental design trial exploring the effect of a partnership intervention on family and staff well-being in long-term dementia care. *Aging & mental health*, 15(8), 995-1007.
- Brodsky, H., Draper, B., & Low, L. F. (2003). Nursing home staff attitudes towards residents with dementia: strain and satisfaction with work. *Journal of advanced nursing*, 44(6), 583-590.
- Brown, K. W., Coogler, C. L., & Wegelin, J. (2016). A pilot randomized controlled trial of mindfulness-based stress reduction for caregivers of family members with dementia. *Aging & mental health*, 20(11), 1157-1166.
- Burgio, L. D., Allen-Burge, R., Roth, D. L., Bourgeois, M. S., Dijkstra, K., Gerstle, J., ... & Bankester, L. (2001). Come talk with me: Improving communication between nursing assistants and nursing home residents during care routines. *The Gerontologist*, 41(4), 449-460.
- Cohen-Mansfield, J. (1995). Stress in nursing home staff: A review and a theoretical model. *Journal of Applied Gerontology*, 14, 444-446.
- Cohen-Mansfield, J. (1997). Turnover Among Nursing Home Staff: A Review. *Nursing management*, 28(5), 59-64.
- Cooper, C., Balamurali, T. B. S., & Livingston, G. (2007). A systematic review of the prevalence and covariates of anxiety in caregivers of people with dementia. *International Psychogeriatrics*, 19(02), 175-195.

- Chappell, N. L., & Novak, M. (1992). The role of support in alleviating stress among nursing assistants. *The Gerontologist*, 32(3), 351-359.
- Chen, C. K., Sabir, M., Zimmerman, S., Sutor, J., & Pillemer, K. (2007). The importance of family relationships with nursing facility staff for family caregiver burden and depression. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 62(5), P253-P260.
- Chung, G. (2012). Understanding nursing home worker conceptualizations about good care. *The Gerontologist*, 53(2), 246-254.
- Comas-Herrera, A., Northey, S., Wittenberg, R., Knapp, M., Bhattacharyya, S., & Burns, A. (2011). Future costs of dementia-related long-term care: Exploring future scenarios. *International Psychogeriatrics*, 23(1), 20-30.  
doi:<http://dx.doi.org/10.1017/S1041610210000025>
- Davey, H. M., Barratt, A. L., Butow, P. N., & Deeks, J. J. (2007). A one-item question with a Likert or Visual Analog Scale adequately measured current anxiety. *Journal of clinical epidemiology*, 60(4), 356-360.
- Duffy, B., Oyebode, J. R., & Allen, J. (2009). Burnout among care staff for older adults with dementia: The role of reciprocity, self-efficacy and organizational factors. *Dementia*, 8(4), 515-541.
- Duncan, M. T., & Morgan, D. L. (1994). Sharing the caring: Family caregivers' views of their relationships with nursing home staff. *The Gerontologist*, 34(2), 235-244.
- Edvardsson, D., Sandman, P. O., Nay, R., & Karlsson, S. (2008). Associations between the working characteristics of nursing staff and the prevalence of behavioral symptoms in

people with dementia in residential care. *International Psychogeriatrics*, 20(04), 764-776.

Edvardsson, D., Sandman, P. O., Nay, R., & Karlsson, S. (2009). Predictors of job strain in residential dementia care nursing staff. *Journal of nursing management*, 17(1), 59-65.

Ejaz, F. K., Noelker, L. S., Menne, H. L. & Bagaka's, J.G. (2008). The impact of stress and support on direct care workers' job satisfaction. *The Gerontologist*, 48(suppl 1), 60-70.

Escribà-Agüir, V., & Pérez-Hoyos, S. (2007). Psychological well-being and psychosocial work environment characteristics among emergency medical and nursing staff. *Stress and health*, 23(3), 153-160.

Evers, W., Tomic, W., & Brouwers, A. (2001). Effects of aggressive behavior and perceived self-efficacy on burnout among staff of homes for the elderly. *Issues in Mental Health Nursing*, 22(4), 439-454.

Gibson, S. J. (1997). The measurement of mood states in older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 52(4), 167-174.

Hertzberg, A., & Ekman, S. L. (1996). How the relatives of elderly patients in institutional care perceive the staff. *Scandinavian Journal of Caring Sciences*, 10(4), 205-211.

Ilhan, M. N., Durukan, E., Taner, E., Maral, I., & Bumin, M. A. (2008). Burnout and its correlates among nursing staff: questionnaire survey. *Journal of Advanced Nursing*, 61(1), 100-106.

Jourdain, G., & Chênevert, D. (2010). Job demands–resources, burnout and intention to leave the nursing profession: A questionnaire survey. *International journal of nursing studies*, 47(6), 709-722.

- Khamisa, N., Peltzer, K., & Oldenburg, B. (2013). Burnout in relation to specific contributing factors and health outcomes among nurses: A systematic review. *International journal of environmental research and public health*, 10(6), 2214-2240.
- Law, K., Patterson, T. G., & Muers, J. (2016). Staff Factors Contributing to Family Satisfaction with Long-Term Dementia Care: A Systematic Review of the Literature. *Clinical Gerontologist*, 1-26.
- Lee, J. S., & Akhtar, S. (2011). Effects of the workplace social context and job content on nurse burnout. *Human Resource Management*, 50(2), 227-245.
- Lorr, M., McNair, D. M., & Droppleman, L. F. (1971). *Manual: profile of mood states*. San Diego, CA: Educational and Industrial Testing Service.
- Losada, A., Márquez-González, M., Peñacoba, C., & Romero-Moreno, R. (2010). Development and validation of the Caregiver Guilt Questionnaire. *International Psychogeriatrics*, 22(04), 650-660.
- Mackenzie, C. S., & Peragine, G. (2003). Measuring and enhancing self-efficacy among professional caregivers of individuals with dementia. *American Journal of Alzheimer's Disease and Other Dementias*, 18(5), 291-299.
- Maslach, C., & Jackson, S. E. (1981). *MBI: Maslach burnout inventory*. Palo Alto, CA.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of organizational behavior*, 2(2), 99-113.
- Miyamoto, Y., Tachimori, H., & Ito, H. (2010). Formal caregiver burden in dementia: impact of behavioral and psychological symptoms of dementia and activities of daily living. *Geriatric Nursing*, 31(4), 246-253.

- Moniz-Cook, E., Woods, R., & Gardiner, E. (2000). Staff factors associated with perception of behaviour as 'challenging' in residential and nursing homes. *Aging & Mental Health*, 4(1), 48-55.
- Montoro-Rodriguez, J., & Small, J. A. (2006). The role of conflict resolution styles on nursing staff morale, burnout, and job satisfaction in long-term care. *Journal of aging and health*, 18(3), 385-406.
- Pillemer, K., & Lachs, M. (2002). Addressing the Staffing Crisis in Long-Term Care. *Journal of Health Care Law and Policy*, 4, 294-307.
- Pillemer, K., Meador, R., Henderson, C., Robison, J., Hegeman, C., Graham, E., & Schultz, L. (2008). A facility specialist model for improving retention of nursing home staff: results from a randomized, controlled study. *The Gerontologist*, 48(1), 80-89.
- Pillemer, K., Suito, J. J., Henderson, C. R., Meador, R., Schultz, L., Robison, J., & Hegeman, C. (2003). A cooperative communication intervention for nursing home staff and family members of residents. *The Gerontologist*, 43(2), 96-106.
- Pitfield, C., Shahriyarmolki, K., & Livingston, G. (2011). A systematic review of stress in staff caring for people with dementia living in 24-hour care settings. *International Psychogeriatrics*, 23(01), 4-9.
- Robison, J., Curry, L., Gruman, C., Porter, M., Henderson, C. R., & Pillemer, K. (2007). Partners in caregiving in a special care environment: cooperative communication between staff and families on dementia units. *The Gerontologist*, 47(4), 504-515.
- Ruiz-Robledillo, N., Sariñana-González, P., Pérez-Blasco, J., González-Bono, E., & Moya-Albiol, L. (2015). A mindfulness-based program improves health in caregivers of people with autism spectrum disorder: a pilot study. *Mindfulness*, 6(4), 767-777.

- Savundranayagam, M. Y., Montgomery, R. J., & Kosloski, K. (2010). A dimensional analysis of caregiver burden among spouses and adult children. *The Gerontologist*, 51(3), 321-331.
- Sourial, R., McCusker, J., Cole, M., & Abrahamowicz, M. (2001). Agitation in demented patients in an acute care hospital: prevalence, disruptiveness, and staff burden. *International Psychogeriatrics*, 13(02), 183-197.
- Train, G. H., Nurock, S. A., Manela, M., Kitchen, G., & Livingston, G. A. (2005). A qualitative study of the experiences of long-term care for residents with dementia, their relatives and staff. *Aging & Mental Health*, 9(2), 119-128.
- Utley-Smith, Q., Colón-Emeric, C. S., Lekan-Rutledge, D., Ammarell, N., Bailey, D., Corazzini, K., Piven, M.L. & Anderson, R. A. (2009). Staff perceptions of staff-family interactions in nursing homes. *Journal of aging studies*, 23(3), 168-177.
- Vitaliano, P. P., Zhang, J., & Scanlan, J. M. (2003). Is caregiving hazardous to one's physical health? A meta-analysis. *Psychological bulletin*, 129(6), 946.
- Wittchen, H.U., Kessler, R.C., Pfister, H., & Lieb, M. (2000). Why do people with anxiety disorders become depressed? A prospective-longitudinal community study. *Acta Psychiatrica Scandinavica*, 406, 14-23.
- Woodhead, E. L., Northrop, L., & Edelstein, B. (2016). Stress, social support, and burnout among long-term care nursing staff. *Journal of Applied Gerontology*, 35(1), 84-105.
- Zeller, A., Dassen, T., Kok, G., Needham, I., & Halfens, R. J. (2011). Nursing home caregivers' explanations for and coping strategies with residents' aggression: a qualitative study. *Journal of clinical nursing*, 20, 2469-2478.



Zimmerman, S., Williams, C. S., Reed, P. S., Boustani, M., Preisser, J. S., Heck, E., &

Sloane, P. D. (2005). Attitudes, stress, and satisfaction of staff who care for residents with dementia. *The Gerontologist*, 45(1), 96-105.

Zwijssen, S. A., Kabboord, A., Eefsting, J. A., Hertogh, C. M. P. M., Pot, A. M., Gerritsen, D.

L., & Smalbrugge, M. (2014). Nurses in distress? An explorative study into the relation between distress and individual neuropsychiatric symptoms of people with dementia in nursing homes. *International journal of geriatric psychiatry*, 29(4), 384-391.

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Conflict of interest declaration:

None.