

REVIEW

A systematic review of stress in staff caring for people with dementia living in 24-hour care settings

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ABSTRACT

Background: Family carers of people with dementia are at risk of psychological morbidity, and it is suggested that this may also be the case in paid carers as caring for people with dementia can be emotionally and physically demanding. Care homes have historically had difficulty recruiting and retaining staff, and job stress has previously been linked to high turnover amongst long-term care staff. We performed a systematic review of studies of the prevalence of psychological stress in staff caring for people with dementia in residential long-term care settings.

Methods: We conducted a comprehensive literature search of MEDLINE, PsychINFO and Web of Science databases up to May 2009, supplemented by a search of the references of all relevant articles. Search terms encompassed nursing staff, residential care and psychological distress. Validity of studies was graded by two authors independently using a standardized checklist.

Results: We identified 601 studies of which five met our inclusion criteria. Two studies reported on prevalence rates of staff distress and found 37% and 5% levels of being “at risk” from burnout, four studies reported mean stress scores and all were low.

Conclusions: All studies were either small or used instruments with unsatisfactory psychometric properties and so our conclusions are limited by the lack of good quality evidence. The preliminary evidence suggests that most staff who remain working in homes do not have a high prevalence of psychological stress or level of symptoms.

Key words: burnout, homes, nursing, residential, old age, distress

Introduction

As the population ages the number of people with dementia is rising and in line with this there is an increase in the number of family and paid carers. Family carers of people with dementia are at a high risk of psychological morbidity (Cooper *et al.*, 2006), and it is suggested that this may also be the case for paid carers (Cocco *et al.*, 2003).

Staff working in long-term care settings face many challenges in their day-to-day work (Zimmerman *et al.*, 2005). Caring for people with dementia professionally has been described as emotionally and physically draining (Morgan *et al.*, 2002) with high physical and psychological work-

loads (Fjelltun *et al.*, 2009). Intense involvement with residents has been identified as a stressor which can lead to staff burnout (Maslach and Jackson, 1981). Workplace stress in long term care homes may be associated with psychological stress in staff and impaired provision of care for the residents (von Dras *et al.*, 2009). An increase in staff stress and burnout levels has been related specifically to higher levels of resident aggression in nursing homes (Brodsky *et al.*, 2003), an increase in staff control over the residents in day care facilities (Lyman, 1989), and a lower level of interaction with residents in residential homes (Jenkins and Allen, 1998).

Care homes have historically had difficulty recruiting and retaining staff (Dunn *et al.*, 1994), and job stress has previously been linked to high-turnover amongst long-term care staff (Schaefer and Moos, 1996), hospital nurses (Chui *et al.*, 2009) and nurses in general (Larrabee *et al.*, 2010). Given the high numbers of dementia residents in care homes this systematic review aims to establish

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the prevalence of psychological stress and level of symptoms in staff caring for people with dementia in residential settings. This will allow an assessment of whether an intervention aimed at improving staff morale could prove useful.

Methods

Search strategy

We conducted a literature search using the MEDLINE (1950–), PsycINFO (1872–) and Web of Science (1945–) databases up to May 2009, with search terms encompassing nursing staff, residential care and psychological distress. Our search terms were: care, nursing, residential, old age, part III/three/3, elderly mentally ill/EMI, 24 hour care or old people's homes, combined with staff, carers, workers, care workers, nurses, nursing assistants, employees or health care assistants, combined with burden, burnout, stress, distress, anxiety, depression and strain.

We subsequently searched the reference lists of included papers that were identified from the databases.

Inclusion criteria

1. Primary research studies
2. Quantitative studies
3. Studies reporting:
 - a. psychological distress
 - b. staff directly caring for people with dementia
 - c. staff working in 24-hour, long-term care setting.

Exclusion criteria

1. Qualitative research
2. Case studies
3. Meeting and dissertation abstracts
4. Papers not published in English
5. Studies in which it was not evident that the entire sample was caring for at least one resident with dementia (e.g. those in generic/non-dementia-specific homes that did not purposively select care staff who were responsible for people with dementia).

Data extraction

We extracted data from all studies, and then evaluated the papers against standardized criteria adapted from Boyle's guidelines (Boyle, 1998). Two authors (CP, KS), blind to each other's assessments, rated the papers and any discrepancies were resolved by discussing with a third author (GL).

Each paper was rated according to criteria in the following standardized checklist, with one point

being given if the criteria was fulfilled and a total was calculated:

- (1) Was the target population clearly defined by clear inclusion and exclusion criteria?
- (2) Was probability sampling used to identify potential respondents (or the whole population approached)?
- (3) Did characteristics of respondents match the target population, i.e. was the response rate $\geq 80\%$ or appropriate analysis included comparing responders and non-responders?
- (4) Were data collection methods standardized?
- (5) Was the burnout/distress measure reliable? (If the original measure was valid but it was translated or adapted without reliability of changed measure being reported, we allocated 0.5 points.)
- (6) Was the burnout/distress measure valid? (If the original measure was valid but it was translated or adapted without validity of changed measure being reported, we allocated 0.5 points.)
- (7) Were features of sampling accounted for in the analysis, through appropriate weighting of the data, or the whole population approached?
- (8) Did the reports include confidence intervals for statistical estimates or, if not, did they provide sufficient data to allow for confidence intervals to be calculated? We calculated 95% confidence intervals (CIs) for the prevalence and/or mean values of distress where the authors had not done so, but had provided sufficient other data for CIs to be calculated.

Results

We identified 601 references in our search, of which 93 were selected by two authors (CP and KS) as appearing to meet our inclusion criteria based on titles. For the 93 remaining studies all the abstracts were read and if not excluded at this stage the whole paper was obtained. Eighty-eight papers were not included; 44 were not in long-term care settings; 37 had samples that included staff who were not caring for at least one person with dementia; six had no quantitative measure of staff stress and one was not primary research. Five studies were therefore ultimately included and their study characteristics and validity scores are shown in Table 1.

Studies reporting the prevalence of staff distress

Two studies reported the prevalence of staff distress, using the Burnout Measure (Astrom *et al.*, 1990; Kuremyr *et al.*, 1994). The Burnout Measure (BM) generates a score ranging from 1 to 7 and has been validated using a cut-off point of ≥ 4 to signify caseness (Pines and Aronsson, 1988; Schaufeli *et al.*, 2001). These studies use a different, non-validated cut-off point (≥ 3.0) to mean "at risk

Table 1. Design and Boyle Score of included studies

STUDY	POPULATION	DESIGN	N	RESPONSE RATE %	STRESS MEASURE	PERIOD OF DATA COLLECTION	PREVALENCE % (95% CONFIDENCE INTERVAL)	MEAN/MEDIAN SCORE ON MEASURE (95% CONFIDENCE INTERVAL)	VALIDITY CRITERIA								
									1	2	3	4	5	6	7	8	TOTAL BOYLE SCORE
Astrom <i>et al.</i> (1990)	Care staff in Swedish nursing home	Cross-sectional analytic survey	104	52.8	Burnout Measure	Not stated	36.8 (28.15–46.38) (at risk, i.e. scoring \geq 3.0)	2.8	✓	✓	✓	✓	0.5	0.5	✓	✓	7
Baldelli <i>et al.</i> (2004)	Care staff in Italian nursing home	Quasi-experimental	21	Not stated	Maslach Burnout Inventory	Not stated	Lack of gratification = 13.3; depersonalization = 5.5; personal satisfaction = 36.1		✓	0	0	✓	0.5	0.5	✓	✓	5
Edvardsson <i>et al.</i> (2001)	Care staff in Swedish dementia nursing home	Cross-sectional survey	327	88	Demand and control questionnaire	Not stated	50.2 (Median split into high and low job strain) (44.91 – 55.68)		0	0	0	✓	0.5	0.5	✓	✓	4
Kuremyr <i>et al.</i> (1994)	Care staff in a Swedish nursing home and residential unit	Cross-sectional analytic survey	20	100	Burnout Measure	Not stated	5% (no confidence intervals reported)	3	✓	0	0	✓	0.5	0.5	0	0	3
Zimmerman <i>et al.</i> (2005)	Care staff in U.S. nursing home	Cross-sectional survey	154	Not reported	Work Stress Inventory	6 months		4	✓	0	0	✓	0	0	✓	0	4

of burnout" (Schaufeli *et al.*, 1993). Both studies utilized Swedish translations without validation.

The first interviewed 104 nurses and nursing aides in a Swedish nursing home. Of these, 36.8% were "at risk" of developing burnout (Astrom *et al.*, 1990). It had a low response rate of 52.8%. The second very small study interviewed 10 nurses in a nursing home and 10 staff in a collective living unit in Sweden twice with a one-year interval (Kuremyr *et al.*, 1994). There was a month-long training intervention for half of the sample immediately prior to the first measurement. One person (5%) was "at-risk" of burnout but the authors did not indicate at which time period.

The third study (Edvardsson *et al.*, 2009) used the Demand and Control Questionnaire (Karasek and Theorell, 1990) without defining caseness, but instead dichotomized respondents as experiencing high or low job strain using the median score. They did not report this score so we cannot compare it to the population norm. They found that those with higher strain had less education and were likely to be younger and report less opportunity to discuss difficult issues at work.

Studies reporting mean values on measures of staff distress

Four studies reported a mean score on a measure of staff distress (Baldelli *et al.*, 2004; Astrom *et al.*, 1990; Kuremyr *et al.*, 1994; Zimmerman *et al.*, 2005). Of these, one was an interventional study which evaluated the effects on staff burnout of a therapeutic program for residents in a nursing home in Italy (Baldelli *et al.*, 2004). The study used the Maslach Burnout Inventory (MBI) (Maslach and Jackson, 1981), but the authors used different terms for the three MBI indices to those in the referenced paper (Lee and Ashforth, 1990). We assume that personal satisfaction and lack of gratification are equivalent respectively to personal accomplishment and emotional exhaustion. Staff burnout levels at baseline were: lack of gratification 13.3 (low ≤ 17); depersonalization 5.5 (moderate ≤ 5); and personal satisfaction 36.1 (moderate 34–39).

The next two employed the Burnout Measure and reported mean scores of 2.0 at time 1, and 2.3 at time 2, and of 2.8 respectively (Kuremyr *et al.*, 1994; Astrom *et al.*, 1990). The final study administered the Work Stress inventory (WSI) (Schaefer and Moos, 1996) in 45 different long-term nursing staff care facilities to 154 staff in the U.S.A. (Zimmerman *et al.*, 2005). The WSI assesses six types of work stressors within three major domains: relationship, task and system stressors. They calculate the mean score on each subscale from a possible score of 1 to 5 (1 is never and 5 is high) and then a total mean score

by adding the scales and dividing by 6; reporting a mean score of 1.8.

Discussion

We found only five studies that reported either the prevalence or the level of psychological stress specifically in staff working with dementia residents. These either reported small samples or used instruments with unsatisfactory psychometric properties for the purposes used in the study.

Two studies reported the prevalence of staff distress. Their results differed in the prevalence of staff "at risk" of developing burnout (36.8% versus 5%) but both suggest that most staff do not suffer burnout (Astrom *et al.*, 1990; Kuremyr *et al.*, 1994).

Similarly, three of the studies reporting mean stress scores all reported low burnout scores or work stress scores (Astrom *et al.*, 1990; Kuremyr *et al.*, 1994; Zimmerman *et al.*, 2005). A fourth study found that that the staff did not report an absence of gratification but there was a moderate degree of depersonalization (Baldelli *et al.*, 2004).

Our findings are limited by the paucity of high quality studies. Only one considered whether the non-responders differed from the responders (Astrom *et al.*, 1990) and there may be systematic bias in the staff choosing to participate. Staff suffering from burnout could be more inclined to participate in such a study or might avoid it. Those most stressed are likely to leave or be on sick leave.

It is not possible to draw conclusive comments as to the prevalence or extent of burnout in staff caring for residents with dementia at this stage. This preliminary evidence would suggest that staff have lower symptoms of psychological stress than family carers (Mahoney *et al.*, 2005) but this may be because most staff who remain working in homes are not as likely to suffer from psychological stress as those who leave.

Lower levels of stress might be expected as staff are trained, work controlled hours and, unlike family carers of people with dementia, are not isolated or looking after people whom they have known and cared about when well. It is interesting, however, that compared to people working in other jobs the staff working with people with dementia report relatively high morale. For example, 80% of one sample of nurses working in critical units (oncology, hematology, brim care, infectious diseases and intensive care) reported medium to high levels of emotional exhaustion on the MBI (Agoub *et al.*, 2000). Another paper reports recent findings that prevalence of burnout is high among critical care staff with 50% of critical care physicians and one-third of critical care nurses reporting

severe burnout syndrome measured with the MBI (Embriaco *et al.*, 2007). A third study considers burnout in AIDS care nursing, and reports that 66% of their sample scored as moderate or high burnout cases on the emotional exhaustion and personal accomplishment subscales of the MBI (Hayter, 1999). Hayter (1999) reasons that links between close involvement of staff with patients, death of patients, stigma and discrimination could explain the high levels of burnout in AIDS care. It would seem reasonable that these links also exist in dementia care yet staff working within long-term care settings report relatively low levels of burnout.

We conclude that the evidence is weak but that existing evidence suggests that staff working in 24-hour care settings for people with dementia do not have a high prevalence of psychological stress or level of symptoms. Better studies are needed to show this conclusively and it would be helpful if these were prospective studies to include the staff who may go on sick leave or resign after a short time.

Conflict of interest

None.

Description of authors' roles

All authors formulated the research questions, designed the study, analyzed the data and wrote the paper.

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