

Self-compassion, coping strategies and caregiver burden in caregivers of people with dementia.

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Abstract

Objective: Caring for someone with dementia can have negative consequences for caregivers, a phenomenon known as caregiver burden. Coping strategies influence the impact of caregiving-related stress. Specifically, using emotion-focused strategies has been associated with lower levels of burden, whereas dysfunctional strategies have been related to increased burden. The concept of self-compassion has been linked to both positive outcomes and the coping strategies that are most advantageous to caregivers. However, as yet, no research has studied self-compassion in caregivers. Therefore, the aim of this study was to explore the relationship between self-compassion, coping strategies and caregiver burden in dementia caregivers.

Method: Cross-sectional survey data was collected from 73 informal caregivers of people with dementia recruited from post-diagnostic support services and caregiver support groups.

Results: Self-compassion was found to be negatively related to caregiver burden and dysfunctional coping strategies and positively related to emotion-focused coping strategies. Dysfunctional strategies mediated the relationship between self-compassion and caregiver burden, whereas emotion-focused strategies did not.

Conclusion: Caregivers with higher levels of self-compassion report lower levels of burden and this is at least partly due to the use of less dysfunctional coping strategies.

Clinical Implications: Interventions that develop self-compassion could represent a useful intervention for struggling caregivers.

Key Words: *Caregivers, caregiver burden, coping strategies, dementia, self-compassion*

Introduction

Caring for a person with dementia can be stressful and can result in negative physical and psychological consequences for carers, a phenomenon known as carer burden. Coping strategies have a mediating role in the impact of caregiving-related stress. Specifically, using emotion-focused strategies has been associated with lower levels of burden, whereas dysfunctional strategies have been related to increased burden. The concept of self-compassion (being kind to oneself when things go wrong) has been linked to positive outcomes along with the coping strategies that appear to be most beneficial to carers (Neff, Hsieh & Dejitterat, 2005). This study aimed to explore the relationship between self-compassion, coping strategies and carer burden in dementia caregivers.

Dementia Context

Dementia is a disorder that involves a global decline in intellectual functioning affecting memory, planning, judgement and self-care skills and also affects personality and behaviour (American Psychological Association (APA), 2000). There are a number of causes with the most common including Alzheimer's disease, vascular dementia, and Lewy Body disease. There are currently over 46 million people living with dementia worldwide and this figure is predicted to rise reaching 131.5 million by 2050 (Alzheimer's Disease International, 2015). The majority of these people are cared for by informal caregivers such as family members, friends or neighbours (Knapp & Prince, 2007).

Caregivers of a person with dementia have to cope with the cognitive decline and behavioural changes that accompany the condition, whilst also having to manage the loss of the relationship with the person as they used to be. It is therefore not surprising that

research indicates that caring for a friend or relative with dementia can be stressful and detrimental to both the caregivers' physical and psychological wellbeing (Bell, Araki & Neumann, 2001; Eters, Goodall & Harrison, 2008; Gallagher-Thompson & Powers, 1997).

The concept of caregiver burden has received considerable attention in the literature. It is a complex construct resulting from the interaction between patient risk factors (e.g. level of impairment, social support) and caregiver risk factors (e.g. poor health, length of time caregiving) (Adelman, Tmanova, Delgado, Dion & Lachsm, 2014; Gaugler et al, 2011). The relational context of the caregiving situation is also key with lower levels of burden being associated with higher satisfaction with the relationship between the caregiver and the person with dementia (Springate and Tremont, 2014). Furthermore, researchers have distinguished between objective burden, the physical aspects of caregiving and subjective burden, the psychological consequences of being a caregiver (van der Lee, Bakker, Duivenvoorden & Dröes, 2014; Zarit & Zarit, 1982). These appear to have differing if overlapping predictors (Pinqart and Sorensen, 2011). For example, the degree of severity of behavioural issues displayed by the person with dementia is a key predictor of both subjective and objective burden whereas higher caregiver education level is associated with higher subjective burden, but fewer caregiver hours, a measure of objective burden (Hughes et al, 2014).

Burden is also both a consequence of caregiving and a predictor of poorer mental health for caregivers (Razani et al 2014) and poorer outcomes for people with dementia (Afram et al, 2014). However, despite this association, not all caregivers appear to suffer in these ways and many cope well with their role (Kramer, 1997a). Understanding the processes

that underpin these different reactions has therefore been a priority for researchers in this area. ***Stress-process model***

The most widely used paradigm for understanding how people cope with stress is the stress-process model (Lazarus & Folkman, 1984). This suggests that stressful events alone do not determine the intensity of the negative outcome. Instead, the impact of stress is mediated by the person's appraisal of the stressor and the coping resources they employ to manage it. This model has been extended specifically to understand the process of caregiver stress (Pearlin, Mullan, Semple & Skaff, 1990). The authors suggest that a number of domains make up this process and these interact on multiple levels forming a complex process that varies widely among caregivers. The authors suggest that four domains make up this process: background and contextual factors, the stressors, mediators of stress and the outcomes. Contextual factors are concerned with key characteristics of the caregiver such as age, gender and social economic status as well as caregiver related information such as length of time caring. Stressors are considered to fall into two categories: primary stressors which are defined as the physical demands of the caregiving role and secondary stressors which are the psychological strains associated with caregiving. Mediating factors include coping strategies and social support and outcomes involve the mental and physical health of the caregivers as well as their ability to continue in their role. It is hypothesised that these domains interact on multiple levels forming a complex process that varies widely among caregivers.

This model has been widely used in the literature to underpin research into caregiver burden.

Coping strategies

Coping strategies are the means by which people manage stress. There have been numerous attempts in the literature to define and organise different categories of coping strategies (for a review see Skinner, Edge, Altman & Sherwood, 2003). The most consistently used were initially proposed by Lazarus and Folkman (1984) as part of the stress-process model. Two broad categories of strategies were suggested: emotion-focused and problem-focused. Emotion-focused strategies refer to processes that serve to reduce the emotional distress associated with the stressor, for example through acceptance, positive restructuring and humour. Problem-focused strategies look to try to change the situation for the better. These include generating alternative solutions, planning and taking action to resolve or circumvent the stressor. Which strategy is beneficial depends on the nature and context of the stressor.

Research has sought to identify distinct types of strategies that serve particular functions, whilst also aiming to distinguish between helpful and unhelpful coping (Carver, Scheier & Weintraub, 1989). Using evidence from Lazarus and Folkman's (1984) model as well as a model of behavioural self-regulation (Carver & Scheier, 1981), Carver and colleagues (1989), identified 14 distinct strategies. These have since been grouped by other researchers into three categories: emotion-focused strategies including acceptance, emotional support, humour, positive reframing and religion; problem-focused strategies, including active coping, instrumental support and planning and a third category, dysfunctional coping represented less helpful strategies. These include behavioural disengagement, denial, self-distraction, self-blame, substance use and emotional venting (Coolidge, Segal, Hook & Stewart, 2000).

Caregivers and coping styles The three coping styles have all been studied in carers of people with dementia with emotion-focused strategies and dysfunctional strategies showing the strongest association with caregiver burden.

Dysfunctional coping strategies have been consistently linked to higher levels of depression (Kim, Knight & Longmire 2007; Li, Cooper, Bradley, Schulman & Livingston, 2011), anxiety (Cooper et al., 2010) and caregiver burden (Wright, Lund, Caserta & Pratt, 1991) as well as lower satisfaction with life (Sun, Kosberg, Kaufman & Leeper, 2010). Furthermore, use of more dysfunctional strategies has been shown to mediate the relationship between stressors and depression, anxiety and burden in caregivers, both in cross-sectional (Mausbach et al., 2006) and longitudinal studies (Vedhara, Shanks, Wilcock & Lightman, 2001).

However, using more emotion-focused coping strategies, such as acceptance, has been linked to lower levels of depression and anxiety in caregivers of people with dementia (Kneebone & Martin, 2003; Li et al., 2010). It seems likely that many problems faced by caregivers of people with dementia are intractable, especially as length of time caring increases and therefore people need to adapt emotionally. Longitudinal research suggests that emotion-focused strategies buffer caregivers from developing higher anxiety and increased feelings of burden over time (Cooper Katona, Orrell et al., 2008; Vitaliano, Russo, Young & Terri, 1991).

Summary

The type of coping strategies used by caregivers appears to influence the impact of the stress of the role. In particular, emotion-focused strategies seem to buffer caregivers from

the negative impact of stress whereas dysfunctional strategies leave caregivers more susceptible to it. Therefore, it seems appropriate to investigate factors that promote adaptive emotion-focused strategies and discourage dysfunctional coping in order to develop interventions that can promote wellbeing and reduce feelings of burden amongst caregivers of people with dementia. The present study aims to build on the literature by investigating the role of self-compassion in the caregiver stress process.

Self-compassion

At the heart of the concept of self-compassion is the idea of treating oneself kindly when things go wrong. In the same way that people can show compassion towards others in times of difficulty, those who are self-compassionate respond to their own problems with self-directed kindness as opposed to being self-critical and judgemental (Neff, 2003a).

Self-compassion has been conceptualised as having three components each of which has two parts, the presence of one and the negation of the other: (a) being kind to oneself as opposed to being self-critical; (b) accepting ones failings as part of the larger human experience rather than seeing them as isolating and (c) mindfully holding painful thoughts and feelings in awareness as opposed to avoiding or over identifying with them (Neff, 2003a).

Current research indicates that those high in self-compassion tend to score highly on other measures of wellbeing. Self-compassion has been associated with higher life satisfaction and subjective wellbeing as well as lower anxiety and depression (Neely, Schallert, Mohammed, Roberts & Chen, 2009; Neff, 2004). These positive associations appear to continue across the lifespan with studies demonstrating that self-compassion can be a

predictor of dimensions of positive ageing such as ego integrity and meaning in life (Philips & Fergusson, 2013).

Furthermore, self-compassion has been investigated in relation to caregiving. Studies have shown that professional caregivers (nurses) who are high in self-compassion deliver more compassionate care and are more resilient against burnout than those lower in self-compassion (Durkin, Beaumont, Hollins Martin & Carson, 2016). This trend also appears to be relevant to informal caregivers. Self-compassion was positively related to life satisfaction and hope, and negatively related to depression and stress in parents of children with an Autistic Spectrum Disorder (Neff & Faso, 2014).

Preliminary research findings also suggest that a compassionate mind-set can be developed (Adams & Leary, 2007). As such, clinical interventions aimed at increasing self-compassion have begun to emerge. Initial results suggest that these may be helpful in reducing symptoms of depression, anxiety and self-criticism as well as improving participants' ability to self-soothe (Gilbert & Proctor, 2007). One intervention study has investigated a yoga and compassion meditation programme for caregivers of people with Alzheimer's disease. Results suggest that caregivers found this useful with the intervention group demonstrating significant improvements in quality of life, attention, vitality and self-compassion (Danucalov, Kozasa, Alfonso, Galduroz & Leite, 2015).

Research has shown that people higher in self-compassion experience less anxiety when confronted with stressful events than people low in self-compassion, even when self-esteem is accounted for (Neff, Kirkpatrick & Rude, 2007). This suggests that self-compassion buffers people from the effects of stress and could be involved in the coping process. A study that explored this further found that students who were higher in self-

compassion responded more adaptively and resiliently in the face of a perceived academic failure (Neff et al, 2005). Notably, they were more likely to use emotion-focused strategies, such as acceptance or positive reinterpretation and were less likely to use dysfunctional avoidant strategies such as denial or mental disengagement. This suggests that one mechanism by which self-compassion may act is through influencing and adapting coping strategies.

Summary

Studies indicate that self-compassion is linked to positive outcomes across the lifespan and for caregivers. In addition, inducing a compassionate mind-set appears to be a promising intervention for those experiencing psychological difficulties including caregiver stress. Despite this encouraging evidence, there has been little research thus far looking at self-compassion in caregivers of people with dementia. However, research linking self-compassion and coping supports this as a viable avenue for investigation.

Rationale for current study

The evidence above suggests that an exploration of the relationship between self-compassion, coping and caregiver burden would inform understanding of the caregiver stress process. Not only does self-compassion demonstrate significant positive associations with indices of wellbeing, it also appears to be related to better caregiver outcomes and coping strategies that are most adaptive for caregivers. As a trait, low levels of self-compassion could signify vulnerability to caregiver burden and when induced, a compassionate mind-set could represent a potential therapeutic intervention to improve caregiver quality of life. Furthermore, from a stress-process model perspective (Pearlin et

al., 1990), self-compassion and coping strategies can be considered to sit within the Mediators section of the model, with carer burden being an Outcome, thus the present study could potentially further our understanding of some of the processes proposed to occur within and between aspects of the model.

Aims and hypotheses

The overall aim of the proposed study is therefore to explore the relationship between self-compassion, dysfunctional coping and emotion-focused coping and caregiver burden.

In line with the rationale outlined above, four hypotheses are proposed:

- 1) Self-compassion will be negatively related to caregiver burden.
- 2) Self-compassion will be positively related to emotion-focused coping strategies.
- 3) Self-compassion will be negatively related to dysfunctional coping strategies.
- 4) The type of coping strategy used will mediate the relationship between self-compassion and caregiver burden.

Methods

Design

A cross-sectional survey research design was used to explore participant's perceptions of self-compassion, coping strategies and caregiver burden.

Participants and procedure

Ethical approval for the present study was granted by Coventry University Ethics Committee, a National Health Service Research Ethics Committee and an NHS Trust

Research and Development service. Recruitment took place between August 2013 and January 2014. Caregivers were recruited from post-diagnostic support services run within a UK NHS Mental Health Trust as well as from third Sector support services including the Alzheimer's Society and independent caregiver groups. To be eligible for inclusion in the study, participants were to be self-identified caregivers of a friend or relative with dementia. They were to be over the age of 20 years and engaging in at least 5 hours of caregiving activities per week (Ablitt, Jones & Muers, 2008).

Klein (1998) recommends that when using regression analysis, such as that used in mediation analysis, 20 participants per variable investigated should be sufficient to assess significance. The model under investigation has one predictor variable, two possible mediators and one outcome variable. Therefore, according to this recommendation, a sample size of 80 was deemed sufficient.

Support services were attended by the researcher. The study was explained to caregivers and questionnaire packs, containing information sheets, consent forms and the measures were handed out to those interested. Additional packs were posted to past participants of a local caregiver course with a covering letter explaining the study. Caregivers completed the measures at home and returned them to the researcher along with a signed consent form in a stamped addresses envelope provided.

A total of 233 packs were distributed. 75 of these were returned with complete data, representing a response rate of 32.6%. Of these, 2 did not meet inclusion criteria, resulting in a sample of 73 caregivers. The majority were female (n=54) which is consistent with previous caregiver research. Ages ranged from 39-87 years (mean=67.21, SD=11.47). The majority of participants described their ethnicity as White British (94.5%) with the

remainder identifying themselves as White Non-European (2.4%), other (1.4%) or did not want to say (1.4%). Over two-thirds of caregivers were spouses (69.9%) with the next biggest group being children (20.5%). The remainder were siblings (4.1%) or 'other' (5.5%) including daughters-in-law and friends (see table 1).

Materials

Self-compassion

The 12-item Self-Compassion Scale – Short Form (SCS-SF; Raes, Pommier, Neff & Van Gucht, 2011) was used to assess self-compassion. Example items include 'I try to be understanding and patient towards those aspects of my personality that I don't like' and 'when something painful happens, I try to take a balanced view of the situation'.

Responses are recorded on a 5 point Likert-type scale from 1=almost always to 5=almost never. Negative items are reversed scored and all items are summed to create an overall self-compassion score. The index has demonstrated good internal consistency ($\alpha=.86$) and shows a near perfect correlation for with the full scale ($r=.98$). In the present study, the internal reliability was $\alpha=.55$.

Coping strategies

Two subscales of the Brief COPE (Coping Orientations to Problems Experienced; Carver, 1997) were used. This self-report measure is a shortened version of the COPE index (Carver et al., 1989) with 28 items which assesses 14 different coping strategies. These strategies can be averaged into 3 subscales: emotion-focused coping, problem-focused coping and dysfunctional coping (Coolidge et al., 2000). Participants respond on a 4 point Likert-type scale from 1=I haven't been doing this at all to 4=I've been doing this a lot. The present

study is concerned with emotion-focused and dysfunctional strategies and therefore only these subscales were used. These have been investigated with caregivers of people with dementia and demonstrate good internal consistencies (Emotion-Focused $\alpha=.72$ and Dysfunctional $\alpha=.75$; Cooper, Katona & Livingston, 2008). The present study demonstrated internal reliability similar to previous research (Emotion-Focused $\alpha=.67$ and Dysfunctional $\alpha=.74$).

Caregiver burden

The Zarit Burden Interview: Short form (Bédard et al., 2001) was used to assess caregiver burden. The original Zarit Burden Interview (ZBI; Zarit, Orr & Zarit, 1985) is the most consistently used measure in the dementia caregiver literature. It considers the most common problem areas reported by caregivers including health, psychological wellbeing, finances, social life and relationship with the care recipient. Participants record how frequently they experience these issues on a 5 point Likert-type scale from 0=never to 4=nearly always. It demonstrates strong internal consistency with an α coefficient regularly in the .90s (McConaghy & Caltabiano, 2005). The short form is a 12 item version which shows excellent correlations with the original ($r=.92-.97$, Bédard et al., 2001). For the present study, this measure demonstrated good internal reliability ($\alpha=.87$).

Results

Descriptive statistics

Analysis was conducted using SPSS version 20. Descriptive statistics are presented in table 1. On average, the sample exhibited mild levels of caregiver burden (where 21-40 = mild to moderate burden). There were no significant differences in the scores between

participants of different ages, education level or differing relationship with the care recipient. However, there was a significant difference between scores for men and women on the self-compassion scale ($t_{(69)} = 2.69, p=0.01$) with women scoring significantly less than men. This is in keeping with other research (e.g. Hwang, Kim, Yang & Yang, 2016). There were no other significant differences between men and women in their scores on other measures.

Table 1. Means and standard deviations of study variables

Correlation analysis

Pearson's correlations between the study variables are presented in table 2. Results of the correlation analysis support the first hypothesis, that self-compassion would be negatively related to caregiver burden. In the total sample, higher levels of self-compassion were associated with lower levels of caregiver burden as indicated by the significant negative correlation.

The second and third hypotheses predicted the relationship between self-compassion and coping, suggesting that self-compassion would be positively related to emotion-focused coping strategies and negatively related to dysfunctional coping. These hypotheses were also upheld with results showing that self-compassion was negatively correlated with dysfunctional coping strategies and positively correlated with emotion-focused coping strategies.

Given that levels of self-compassion were significantly different between men and women in the sample, further analysis was carried out to control for gender. Results indicate that controlling for gender using partial correlation did not affect the relationship between self-compassion and either emotion-focused ($r(68) = .29$ ($p < 0.001$) or dysfunctional strategies ($r(68) = -.53$ ($p < 0.001$).

Further to the hypothesised findings, it is noteworthy that emotion-focused strategies and dysfunctional strategies were not related to each other and only dysfunctional coping strategies were significantly correlated with caregiver burden.

Table 2. Pearson's Correlations of study variables

Mediation analysis

The fourth hypothesis predicted that both types of coping strategies would mediate the relationship between self-compassion and caregiver burden. Mediation analysis was conducted using an SPSS macro called PROCESS developed by Preacher and Hayes (2008). This method uses a bootstrapping procedure to obtain estimates and confidence intervals for the indirect effects. Prior to conducting the regression equations required for mediation analysis, the data were screened to determine whether they satisfied the assumptions of multiple regression analysis. Cook's D indicated that there were two multivariate outliers which were subsequently removed from the analysis. All other assumptions were met.

Figure 1. Illustration of the direct and indirect effects of self-compassion on caregiver burden.

The method involves a number of steps relating to figure 1. The first is to estimate the effect of self-compassion on both emotion-focused coping and dysfunctional coping (a & d). The second then requires the estimation of the effects of both types of coping on caregiver burden while controlling for the effect of self-compassion (b & e). Thirdly, the indirect effect of self-compassion on caregiver burden through each type of coping is calculated. Finally, a confidence interval (CI) is derived from the empirically derived bootstrapped sampling distribution of "ab" and "de". In this case, the total effect was defined as the sum of the indirect effect and direct effect in a given model ($ab+c'$ and $de+f'$). Using the bootstrap sample, the indirect effect (ab & de) or the product of the two regression coefficients between self-compassion and caregiver burden through coping style was calculated. If the 95% bias-corrected confidence interval for the parameter

estimate did not contain zero, then the indirect effect was statistically significant, and indirect effect was demonstrated (Preacher & Hayes, 2008).

The total effect of self-compassion on caregiver burden was significant ($b = -.33$, $t = -5.39$, $p < .001$). Table 3 shows the direct and indirect effects of self-compassion on carer burden with the mediator variables taken in account. After adjusting for the indirect effects of the mediator variables, the direct effect remained significant only for dysfunctional coping strategies suggesting partial mediation. Results indicate that Emotion-focused coping does not act as a mediator.

Examining the 95% BCa Confidence Interval confirms that self-compassion has a significant indirect effect on carer burden through the mediating variable of dysfunctional coping strategies ($b = -.23$ (95% CI $-.37, -.12$)).

Post-hoc analysis

Given the significant difference between males and females scores on the self-compassion scale, mediation analysis was performed grouped by sex. No significant differences were found in terms of standardised beta coefficient values within the models.

Table 3. The direct and indirect effects of self-compassion on perceived burden

Discussion

The aim of the present study was to explore the relationship between self-compassion, coping strategies and caregiver burden. Self-compassion was significantly related to caregiver burden as predicted by the first hypothesis. Caregivers who reported high levels of self-compassion experienced less caregiver burden than those lower in self-compassion. The second and third hypotheses were also upheld with higher levels of self-compassion

being associated with the use of more emotion-focused coping strategies and fewer dysfunctional coping strategies and vice versa. The final hypothesis, that the relationship between self-compassion and caregiver burden would be mediated by the type of coping strategy used was partly upheld. Dysfunctional strategies were shown to be a partial mediator whereas emotion-focused strategies were not. These results demonstrate that caregivers who have higher levels of self-compassion are more likely to use adaptive emotion-focused strategies and less likely to use dysfunctional ones. However, only the use of dysfunctional coping strategies contributed to increased feelings of caregiver burden. Higher levels of self-compassion reduce the likelihood of these strategies being used, protecting caregivers from increased burden.

The results of the present study are consistent with Pearlin et al.'s (1990) stress-process model. Specifically, the results appear to clarify a process within the mediating factors section of the model. This section of the model includes a broad range of factors including stable personality factors and more flexible coping responses as well as social support. Self-compassion and coping strategies could both be considered factors in this section with caregiver burden being an outcome variable. This further highlights complexity of the caregiving stress process and suggests that the mediating factors aspect of this model merits further attention in future research.

Previous research has shown that high levels of self-compassion can buffer people from the effects of stress (Neff, Kirkpartrick et al., 2007). This is the first study to show the significant relationship between self-compassion and caregiver burden. Self-compassion appears to protect caregivers from the burden associated with caring.

The finding that self-compassion predicts the use of more emotion-focused coping strategies and fewer dysfunctional ones supports previous research. Neff and colleagues (2005) found that students with higher levels of self-compassion responded to a perceived academic failure with more emotion based strategies such as acceptances and positive reframing and fewer dysfunctional avoidant strategies. The current research extends this finding by establishing that the relationship between self-compassion and coping strategies exists in participants of a broader ranges of ages and education levels and when the stressor is ongoing, as it is in the caregiving situation.

Only dysfunctional strategies were found to mediate the relationship between self-compassion and caregiver burden. Emotion-focused strategies were not related to caregiver burden or to dysfunctional strategies. This is not consistent with previous research which has found emotion-focused strategies to correlate significantly with both dysfunctional strategies and caregiver burden (Cooper, Katona & Livingstone, 2008; Cooper, Katona, Orrell et al., 2008). However, the same research also demonstrated the emotion-focused strategies tend to behave differently to other types of coping strategy in terms of their relationships with caregiver burden and other caregiving factors. Therefore further research exploring emotion-focused strategies is warranted.

Limitations

The present study used an opportunity sample of self-identified caregivers and therefore may not be representative of all caregivers. Furthermore, the overwhelming majority of participants were White British in ethnicity and therefore the findings of this study may not generalize to caregivers of other ethnic backgrounds.

The present study also relied on self-report measures and therefore could have been affected by socially desirable responding. In addition, caregivers were not asked about how they cope in specific situations. Instead the brief COPE is a general measure of coping and therefore responses given may not accurately represent caregiver behaviour (Skinner et al., 2003). A further limitation linked to the measures is that the internal reliability for the self-compassion scale was lower than has been demonstrated in previous studies. Future studies may benefit from using the longer version of the measure which has more items per subscale.

The current study employed a cross-sectional design and therefore it is not possible to demonstrate causality. The use of the mediational model is considered causal modelling and relies on the variables being arranged in the right order. This can be theory driven and also inferred from previous research. The model presented in the current study is in line with Pearlin and colleagues' (1990) stress-process model. Furthermore, self-compassion has been shown to be related to coping strategies (Neff et al., 2005) and both types of coping strategies have been causally related to carer burden (Kneebone & Martin, 2003). Therefore, it seems likely that the order of variables was correctly laid out in the mediation analysis for the present study, however further experimental research to investigate these relationships would be useful.

A general criticism that has been raised with regard to caregiver research is that caregivers are often treated as a homogenous group, when there are often significant within group differences (Gottlieb & Wolfe, 2002). The current study attempted to overcome this by only recruiting caregivers of people with dementia and collecting caregiver demographic

information to account for possible confounding variables. However, not all potentially confounding variables could be covered. In particular, it would have been helpful to have recorded length of time caring as this is likely to have an impact on level of burden and coping strategies employed.

Research implications

Further research exploring the relationships between self-compassion and other variables within the stress-process model could be a useful means of extending this research. For example, examining whether self-compassion demonstrates a similar or different relationship with objective burden as opposed to subjective burden. In addition, longitudinal studies would be helpful to confirm the direction of causality of the variables. The findings of the present study also do not preclude the possibility that other factors may mediate the relationship between self-compassion and carer burden and these would be worthy of investigation.

Further research is also needed to explore the conceptualisations, definitions and relationships of the different coping strategies to ascertain why emotion-focused strategies appear to behave differently to other strategies within the stress-process model.

Additionally, it will be important to explore these variables in certain groups of caregivers with differing relationships (e.g. spouses, adult child) and whether or not the relationship between self-compassion and caregiver burden extends to caregivers of people with other physical or mental health difficulties. It would also be useful to expand this study to caregivers of different ethnic backgrounds. Research has shown that, generally, people from non-white ethnic backgrounds tend to appraise caregiving as less stressful than their

white counterparts (Janevic & Connell, 2001). It would be interesting to explore the role of self-compassion in the differing experiences.

Clinical implications

The finding that self-compassion is significantly related to caregiver burden highlights an opportunity for both assessment and intervention in clinical work with caregivers of people with dementia. Low levels of self-compassion could represent a useful indicator of people currently experiencing high levels of burden or those at risk of becoming burdened.

Therefore, introducing an assessment of caregiver self-compassion could provide useful information about current or future support needs.

In terms of intervention, compassion-based therapies are becoming increasingly recognised as a helpful and accessible means of supporting people with a wide variety of clinical presentations (Gilbert & Proctor, 2007). These aim to help people to develop a more compassionate mind-set particularly through reducing self-criticism and self-blame. This appears to relate to the first dimension of self-compassion (Neff, 2003a) as well as one of the dysfunctional coping strategies (self-blame) and therefore could be a useful intervention for caregivers of people with dementia. More recent developments include an eight session mindful self-compassion program aimed specifically at increasing self-compassion in both the general population and clinical populations (Neff & Germer, 2013). Trials of the program have so far demonstrated favourable outcomes, which in light of the findings of the present study may be worth extending to caregivers of people with dementia. Furthermore, the finding that dysfunctional strategies mediate the relationship between self-compassion and burden suggests that treatment packages that aim to reduce

the use of dysfunctional coping strategies could also be an effective way to support caregivers of people with dementia.

- When assessing caregiver need, low levels of self-compassion could be a useful indicator of caregivers currently experiencing high levels of burden or at risk of becoming burdened.
- Compassion-based therapies could represent a useful intervention for caregivers of people with dementia who are struggling within their role.
- Developing interventions that aim to reduce the use of dysfunctional coping strategies could also be an effective way to support caregivers of people with dementia.

Conclusion

The present study aimed to explore the relationship between self-compassion, coping strategies and carer burden. The results provide the first indication that self-compassion is related to carer burden and that this relationship is mediated, at least in part, by the influence of dysfunctional coping strategies. More research is needed to explore the role of self-compassion in carers of people with a range of physical and mental health difficulties as well as in carers of different ethnic backgrounds. However, the present findings provide a useful starting point from which to begin to develop compassion-based assessments and interventions for carers, which could serve to reduce feelings of burden and enable carers to continue in their role in a way that is manageable for both themselves and the person they care for.

5228 words

Declaration of Conflicting Interests

The Authors declare that there is no conflict of interest.

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