

The role of psychological factors in oncology nurses' burnout and compassion fatigue symptoms

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Abstract

Purpose: This study explored the role of several psychological factors in professional quality of life in nurses. Specifically, we tried to clarify the relationships between several dimensions of empathy, self-compassion, and psychological inflexibility, and positive (compassion satisfaction) and negative (burnout and compassion fatigue) domains of professional quality of life.

Methods: Using a cross-sectional design, a convenience sample of 221 oncology nurses recruited from several public hospitals filled out a battery of self-report measures.

Results: Results suggested that nurses that benefit more from their work of helping and assisting others (compassion satisfaction) seem to have more empathic feelings and sensibility towards others in distress and make an effort to see things from others' perspective. Also, they are less disturbed by negative feelings associated with seeing others' suffering and are more self-compassionate. Nurses more prone to experience the negative consequences associated with care-providing (burnout and compassion fatigue) are more self-judgmental and have more psychological inflexibility. In addition, they experience more personal feelings of distress when seeing others in suffering and less feelings of empathy and sensibility to others' suffering. Psychological factors explained 26% of compassion satisfaction, 29% of burnout and 18% of compassion fatigue.

Conclusion: We discuss the results in terms of the importance of taking into account the role of these psychological factors in oncology nurses' professional quality of life, and of designing nursing education training and interventions aimed at targeting such factors.

Keywords: empathy; self-compassion; psychological (in)flexibility; burnout; compassion fatigue; compassion satisfaction; oncology nursing.

Highlights

- Nurses' empathy and self-compassion predicted satisfaction with the work of helping;
- Personal distress predicted burnout symptoms;
- Psychological inflexibility predicted burnout and compassion fatigue;
- Psychological factors are important to understand nurses' professional quality of life.

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Introduction

Oncology nursing is one of the areas most affected by occupational stress and burnout (Barnard et al., 2006; Potter et al., 2010). Oncology nursing involves the management of complex pathologies with poor prognosis, close and constant contact with patients who are in severe pain, distress and approaching death, and difficult patient and family situations, which poses an additional challenge to these professionals and further contributes to job dissatisfaction, stress, and burnout (Barrett and Yates, 2002; Potter et al., 2010). In addition, oncology nursing is one area that has been particularly affected by the nursing shortage (e.g., Buerhaus et al. 2001; Glaus, 2007), which significantly contributes to the job dissatisfaction, stress, and burnout in oncology nurses, and increased intent to leave the profession (Toh et al., 2012).

Burnout has been defined as a prolonged response to chronic job-related emotional and interpersonal stressors, characterized by emotional exhaustion, depersonalization, and lack of perceived social accomplishments (Maslach et al., 2001). Compassion fatigue, in turn, is described as a secondary traumatic reaction that results from the close contact with other people's suffering or trauma, and yields an almost identical set of symptoms to those of Posttraumatic Stress Disorder (PTSD). Compassion fatigue has been used interchangeably with secondary traumatic stress and vicarious trauma. By its definition, burnout can affect any worker in any professional field, while compassion fatigue is specific to professionals in helping contexts (healthcare professionals, teachers, police officers), who are in contact with the suffering of others. Nurses, and especially oncology nurses, are at a particular risk of developing compassion fatigue, because they constantly witness and contact intense suffering, pain and trauma of others (e.g., Najjar et al., 2009).

In the opposite end of job-related stress, and less discussed in the literature, is the experience of fulfillment and satisfaction resulting from the work of caring for others, also

known as compassion satisfaction (Stamm, 2010), which is also an intrinsic aspect of professional quality of life.

Most of the research looking at professional quality of life (burnout, compassion fatigue, and compassion satisfaction) has examined the role of demographic variables (such as professional experience, gender) and situational factors (such as workload, time pressure, role conflicts, job control, etc.). Relatively little attention has been paid to psychological dispositions, which may influence nurses' capacity to effectively cope with the potential negative effects associated with their work.

One of such variables is empathy. Healthcare providers, and nurses in particular, are confronted daily with emotionally stressful situations associated with illness, suffering and dying, which require empathic abilities. There have been many definitions of empathy (Batson, 2009). In general, "empathy occurs when observing or even simply imagining another person's affective state triggers an isomorphic affective response. The person experiencing empathy is aware that the source of his or her emotional response is the other person's affective state" (Klimecki and Singer, 2012, p. 370; Singer and Lamm, 2009). Current approaches informed by findings from social neuroscience suggest that empathy is a multidimensional psychological phenomenon (e.g., Decety and Svetlova, 2012). For example, several researchers differentiate between the cognitive and affective aspects of empathy (e.g., Davis, 1983). While cognitive empathy is defined as understanding what the other person is feeling and thinking, affective empathy is related to the ability to feel what the other person is feeling. Also, when witnessing another's negative state, some people experience self-oriented responses, such as feelings of distress and anxiety, also known as personal distress; while others may experience other-focused responses, with feelings that focus on the wellbeing of the other person, labeled empathic concern (Batson et al., 1987; Davis, 1983; Decety and Lamm, 2011). Empathy is a core feature of the patient-healthcare professional

relationship, and is associated with greater patient satisfaction (Epstein et al., 2007). However, there can be costs associated with empathy (Hodges and Biswas-Diener, 2007). Being overly sensitive to patients' suffering can lead to deleterious effects, such as burnout or compassion fatigue (Figley, 2002; 2012), especially if one lacks adequate emotional regulation and control (Decety et al., 2010).

Relatively less studied in the nursing literature is the concept of self-compassion. Self-compassion "involves being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness. Self-compassion also involves offering nonjudgmental understanding to one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience" (Neff, 2003a, p. 87). This definition entails the three components of self-compassion, namely self-kindness (as opposed to self-judgment), mindfulness (as opposed to identification with negative thoughts or emotions), and common humanity (as opposed to feeling isolated by one's problems or shortcomings).

Meta-analytic research on self-compassion suggested that this construct is strongly related to less psychopathology (MacBeth and Gumbley, 2012), and well-being (Zessin et al., 2015). Self-compassion is also related to positive psychological characteristics such as wisdom, happiness, well-being, and emotional intelligence (Hollis-Walker and Colosimo, 2011; Neff et al., 2007, 2005), and with interpersonal outcomes, such as empathy, altruism, and forgiveness (Neff and Pommier, 2013). Self-compassion could be helpful to oncology nurses because it may be a resilience factor for stress and other psychological difficulties and because of the emerging evidence that self-compassion is associated with compassion for others (e.g., Neff and Pommier, 2013), which has been shown to have a significant impact on patient outcomes (e.g., Fogarty et al., 1999).

Recently, it has been suggested that self-compassion is related to psychological flexibility (Yadavaia et al., 2014), which broadly refers to an individual's ability to fully embrace and connect with the experiences in the present moment, without avoidance, and to change or persist in behaviors that are in line with identified values (Hayes et al., 1999, 2006). In contrast, psychological inflexibility, sometimes referred to as experiential avoidance, describes an individual's inability of choosing behavior in line with values and goals due to difficulties in connecting with the present moment, following rigid rules, and attempting to control or avoid difficult internal experiences (Hayes et al., 1999, 2006).

Psychological (in)flexibility has consistently demonstrated associations with measures of psychological symptoms and quality of life (Boulanger et al., 2010; Chawla and Ostafin, 2007; Hayes et al., 2006). In contrast to the large body of research on psychological inflexibility across several conditions and populations, only one study to our knowledge explored the association between experiential avoidance and burnout syndrome, in a small sample of critical care nurses in Spain (Losa Iglesias et al., 2010). Psychological inflexibility may be important for oncology nurses because caregivers frequently have to cope with the experience of traumatic memories, negative thoughts, unpleasant emotions, and physiological sensations associated with the constant exposure to suffering, trauma, and losses. While trying to control or avoid them can provide some relief of discomfort in the short-term, it ultimately becomes maladaptive, increasing distress and getting in the way of other important and valued aspects of life (Hayes et al., 1999). Psychological inflexibility may be particularly important for compassion fatigue. There is ample evidence for experiential avoidance and psychological inflexibility as problematic processes linking trauma to diminished well-being (e.g., Polusny et al., 2004; Orcutt et al., 2005).

This study

Despite the high prevalence rates of burnout and work-related distress and its recognized deleterious consequences, there is a dearth of literature pertaining to burnout, and especially compassion fatigue, in oncology nurses. In addition, the role of psychological dispositions as risk factors for burnout and compassion fatigue remains understudied, not only in oncology nurses but in healthcare workers in general. In particular, self-compassion and psychological flexibility are widely recognized as important factors for well-being across conditions and populations, but few studies to date investigated their role in professional quality of life. This study aims to explore and clarify the links between several dispositional factors (empathy, self-compassion, and psychological inflexibility) and compassion fatigue, burnout, and compassion satisfaction in oncology nurses.

Methods

Participants and Procedures

This study is part of a larger project exploring the role of psychological factors on professional quality of life. Participants were recruited from five public hospitals from Portugal's north and center regions. Two were oncology hospitals and three were general hospitals with oncology/palliative care units. After approval of hospitals' ethics committees, department chief nurses from oncology/palliative care units were contacted by the researcher who explained the study aims and the importance of participation. Department chief nurses were asked to advertise the study among the nurses in their services and to deliver and receive the questionnaire pack by hand from those who agreed to participate. Nurses were given around two months to complete and return the questionnaire pack to the chief nurses who then returned it to the researcher. All participants provided their written informed consent, which was attached to the questionnaire pack. The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans was followed.

Measures

The Portuguese versions of the following scales were used.

The Professional Quality of Life Scale, version 5 (ProQOL-5; Stamm, 2010). The ProQOL is a 30-item self-report measure composed by three subscales: compassion satisfaction, defined as the “pleasure derived from being able to do one’s work (helping others) well”; burnout, defined as “feelings of hopelessness and difficulties in dealing with work or in doing one’s job effectively”; and secondary traumatic stress (STS), defined as “work-related, secondary exposure to people who have experienced extremely or traumatically stressful events” (Stamm, 2010, p. 12-13). We will use the term ‘compassion fatigue’ to refer to this factor. Respondents are instructed to indicate how frequently each item was experienced in the previous 30 days, on a 5-item Likert scale (from 1 = never to 5 = very often). Scoring requires summing the item responses for each 10-item subscale.

Interpersonal Reactivity Index (IRI; Davis, 1983). This scale measures perspective taking (7 items; e.g., ‘I try to look at everybody's side of a disagreement before I make a decision’), empathic concern (7 items; e.g., ‘I often have tender, concerned feelings for people less fortunate than me’), personal distress (7 items; e.g., ‘I sometimes feel helpless when I am in the middle of a very emotional situation’) and fantasy (6 items; ‘I really get involved with the feelings of the characters in a novel.’). Perspective taking is considered a cognitive component of empathy, while empathic concern and personal distress are considered the affective component. Respondents are instructed to rate how well each statement describes them on a 5-point Likert scale (from 0 = not well to 4 = very well). The scale has been found to be reliable in past research (Davis, 1983; Limpo et al., 2010). The subscale “fantasy” was not included as it was not relevant to the current study.

Self-Compassion Scale (SCS; Neff, 2003b). The SCS is a widely used self-report measure developed to assess six components of self-compassion: self-kindness (5 items: “I try to be understanding and patient toward those aspects of my personality I don’t like”); self-

judgment (5 items: “I’m disapproving and judgmental about my own flaws and inadequacies”); common humanity (4 items: “I try to see my failings as part of the human condition”); isolation (4 items: “When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world”); mindfulness (4 items: “When something painful happens I try to take a balanced view of the situation”); and over-identification (4 items: “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). Scores on the six subscales were summed (after reverse-coding negative items) to create a self-compassion score. Items are rated on a 5-point scale (e.g., 1 = ‘almost never’ to 5 = ‘almost always’). The SCS has adequate construct and convergent validity (Neff, 2003b). The Portuguese version of the scale also showed good internal consistency and validity (AUTHORS, 2015).

Acceptance and Action Questionnaire – II (AAQ-II; (Bond et al., 2011). The AAQ-II is a 7-item measure of psychological inflexibility. Answers are given on a 7-point scale ranging from 1= never true to 7 = always true. The Portuguese version of the scale showed good internal consistency ($\alpha = .89$) and good convergent and discriminant validity (AUTHORS, 2012).

Statistical Analysis

Descriptive statistics of the variables in study included means, standard deviations, minimum and maximum scores, and skewness and kurtosis values. Several statistical methodologies were employed to explore the relationships between individual dispositions (demographic variables and psychological variables) and professional quality of life. Initially, the association between the variables in study was explored using Pearson’s coefficient correlations. Values of .10 represent a small effect, .30 is a medium effect and .50 is a large effect. For example, a value of .50 suggests that the two variables share 25% of variance. Hierarchical multiple regressions were then conducted to test the predictive power of the

psychological variables (empathy, self-compassion, and psychological inflexibility) on professional quality of life (compassion satisfaction, compassion fatigue, and burnout), controlling the effect of demographic variables. Hierarchical multiple regression is useful to explore the contribution of each variable over and beyond previously entered variables (Tabachnick and Fidell, 2013). Empathy variables were included in the first step of the regression, self-compassion was entered in the second step, and psychological inflexibility was included in the final step. The order of entering variables in the models was decided based on theoretical accounts. Empathy variables were entered first as these are more 'classical' predictors of professional quality of life. We then included the less studied variables of self-compassion and psychological inflexibility to explore whether these variables would increase the amount of variance explained in the dependent variables. It is hypothesised that empathy (empathic concern and perspective taking) and self-compassion would positively predict compassion satisfaction, but negatively predict burnout and compassion fatigue. It is also expected that personal distress and psychological inflexibility would negatively predict compassion satisfaction and positively predict burnout and compassion fatigue. The unstandardized coefficient (B), standard error (SE), standardized coefficient (β), *t* statistic, *p*-value and 95% confidence intervals are reported. The strength of each predictor variable was based on its standardized beta value (β), which represents to what degree each predictor affects the outcome. Assumptions of normality, linearity, multicollinearity were checked. Taking into account the rule of thumb of 15 cases of data per predictor (Field, 2009), the sample size is adequate to conduct regression analysis. Student's *t* tests were used to explore mean differences in the professional quality of life variables between two categories (e.g., gender). Statistical significance was set at .05 and IBM SPSS version 23 was used for all analyses.

Results

Demographic Profile and Professional Background

A total of 221 registered nurses from public hospitals participated in the study. The sample had a mean age of 39.06 ($SD = 8.85$), ranging between 24 and 58 years of age; the majority of participants were female ($n = 196$; 91.2%) and married ($n = 103$; 47.9%). Also, the mean years of schooling was 15.37 ($SD = 2.25$). Participants had on average 16.25 ($SD = 8.89$) years of practice.

Descriptive Statistics of the Variables in Study

Empathy, self-compassion, and psychological inflexibility

Descriptive statistics are presented in Table 1. Mean values for empathy subscales were similar to previous studies (e.g., Davis, 1983), as were mean values for self-compassion (e.g., AUTHORS, 2015), and psychological inflexibility (e.g., Bond et al., 2011). All scales presented appropriate levels of skewness and kurtosis, indicating normal or close to normal distribution.

[insert Table 1]

Professional quality of life.

The proportion of participants classified into the low, average and high levels of the ProQOL components are presented in Table 2. Approximately 25% of the nurses in the sample presented high scores of burnout and compassion fatigue, and low scores of compassion satisfaction.

[insert Table 2]

The Effect of Gender and Years of Practice on Professional Quality of Life

There were no significant differences between men and women on professional quality of life dimensions: compassion satisfaction ($t_{(213)} = 1.73$, $p = .086$), burnout, ($t_{(213)} = -.33$, $p = .74$), and compassion fatigue ($t_{(231)} = .51$, $p = .609$). Age was significantly associated with compassion satisfaction ($r = .19$, $p < .05$) and burnout ($r = -.14$, $p < .05$). Participants were

divided into older and younger based on whether their years of age were above or below the sample's median. Significant differences were found only for compassion satisfaction, with younger nurses presenting lower levels when compared to older nurses ($M = 37.22$; $SD = 5.35$ vs $M = 38.68$, $SD = 5.40$).

Years of practice correlated significantly with compassion satisfaction ($r = .17$, $p < .05$), and burnout ($r = -.14$, $p < .05$). However, no significant differences were found after controlling for the effect of age, suggesting that the years of experience do not independently influence the dispositional variables. Years in the current position significantly correlated with burnout ($r = .19$, $p < .05$) and compassion fatigue ($r = .14$, $p < .05$), even when controlling for age. Participants were divided into those who had more and less years in the current position based on whether their individual years in the current position were above or below the sample's median. There were no significant differences between nurses with more and less years in the current position in any of the professional quality of life dimensions.

The Effect of Psychological Variables on Professional Quality of Life

Correlation analysis.

Correlations between the variables in study are presented in Table 3. As expected, compassion satisfaction was positively associated with cognitive and affective empathy and self-compassion, and negatively associated with psychological inflexibility, and personal distress. Burnout and compassion fatigue were positively associated with psychological inflexibility, and negatively associated with self-compassion. Burnout was also positively associated with personal distress and negatively with perspective taking. Finally, compassion fatigue was positively associated with empathic concern.

[insert Table 3]

Hierarchical regression.

Table 4 presents the results of the hierarchical regressions for each domain of professional quality of life. Empathic concern significantly predicted higher levels of compassion satisfaction and compassion fatigue. Personal distress significantly predicted lower levels of compassion satisfaction and higher levels of burnout. Adding self-compassion significantly increased the variance explained in all models. Self-compassion significantly predicted higher levels of compassion satisfaction and lower levels of burnout and compassion fatigue. Finally, psychological inflexibility significantly predicted higher levels of burnout and compassion fatigue, but not compassion satisfaction.

Results for the final steps of each model indicated that, when all variables were entered, empathic concern ($\beta = .36, p < .001$) and personal distress ($\beta = -.15, p = .046$) significantly predicted compassion satisfaction and explained 26% of the variance; years in the current position ($\beta = .17, p = .022$), self-compassion ($\beta = -.25, p = .010$) and psychological inflexibility ($\beta = .31, p = .001$) predicted burnout and explained 29% of the variance; and years in the current position ($\beta = .18, p = .021$), empathic concern ($\beta = .18, p = .036$) and psychological inflexibility ($\beta = .35, p < .001$) predicted compassion fatigue and explained 18% of the variance.

[insert Table 4]

Discussion

The current study explored the way individual dispositions, such as empathy, self-compassion, and psychological inflexibility, and age, gender, and practice in nursing, impact on professional quality of life, in its positive (compassion satisfaction) and negative components (compassion fatigue and burnout).

Professional Quality of Life and Socio-Demographic Variables

There were no significant differences between female and male nurses in professional quality of life scores. Research has produced mixed results regarding the role of gender on

professional quality of life. In a recent meta-analysis, women exhibit more burnout than men, which was not found in the present study (Purvanova and Muros, 2010), but other studies failed to find such differences (Stamm, 2010). Results for nurses in particular also seem to suggest more burnout (specifically emotional exhaustion) in women (Innstrand et al., 2011). Regarding compassion satisfaction, results from a large data bank also found no significant differences across gender (Stamm, 2010) and a recent study found that men scored higher in compassion satisfaction, although with small effect sizes (Gleichgerrcht and Decety, 2013).

Professional experience had no impact on professional quality of life when the effect of age was controlled for. This result is consistent with previous findings (Gleichgerrcht and Decety, 2013; Potter et al., 2010; Stamm, 2010). We also found that more time in the current position was associated with greater levels of burnout, which was not found in previous studies (e.g, Vargas et al., 2014).

Professional Quality of Life and Psychological Variables

Regarding empathy, results from regression analysis indicated that empathic concern and personal distress predicted compassion satisfaction. This suggests that having concern for others in distress, rather than self-focused aversive emotional states, contributes to the nurses' sense of meaning and accomplishment in their work. Since compassion satisfaction is related to the nurse's sense of satisfaction in helping others, it makes sense conceptually that higher levels of concern for patients would contribute to an increased satisfaction in doing the work of helping. Similar results were found in a previous study with physicians (Gleichgerrcht and Decety, 2013).

Empathic concern also predicted lower levels of burnout, suggesting that feelings of care and concern may be protective factors for burnout, which has been previously suggested (e.g., Halpern, 2003). However, the cross-sectional nature of this study does not allow to establish causal directions and the inverse relation may also be true. In fact, several studies

have shown that in professionals suffering from burnout empathic capabilities are significantly diminished (e.g., Brazeau et al., 2010).

Interestingly, empathic concern predicted higher levels of compassion fatigue. This finding suggests that beyond a certain level empathic feelings and sensibility to others' suffering may be a vulnerability factor for the development of compassion fatigue, which has been proposed in the literature (Figley, 2002; 2012) but not yet empirically supported. These finding also highlights important phenomenological differences between compassion fatigue and burnout, which should be taken into account when designing interventions.

Personal distress, the set of self-oriented negative emotions resulting from witnessing others in distress, was associated with lower levels of compassion satisfaction and higher scores of burnout. These results are in line with previous studies in different samples of health care professionals (e.g., Gleichgerricht and Decety, 2013; Thomas, 2012). This has major implications for care providers. Given that personal distress is characterized by negative affectivity and is associated with a reduced urge to help those who are suffering this could translate in practice into the nurse avoiding the patient or giving reduced attention to the case, having a weakened therapeutic relationship or experiencing bias which might affect effective caring and job satisfaction. In fact, personal distress has been associated with difficulty in communication with patients and social competencies (Riggio and Taylor, 2000) and with frequency of clinical errors and speed of recognizing errors in practicing professionals (Larson et al., 2010; West et al., 2006).

Self-compassion predicted higher levels of compassion satisfaction and lower levels of compassion fatigue. In previous studies it was found that self-compassion was associated with less rumination (Johnson and O'Brien, 2013; Raes, 2010), avoidance (Krieger et al., 2013) and suppression (Leary et al., 2007) and with more emotion validation (Leary et al., 2007). These psychological characteristics may render self-compassionate individuals less vulnerable

to distress. Also, self-compassionate people may be more other-focused when witnessing others in pain and suffering. In previous studies it was found that self-compassion was associated with more compassion for others and prosocial behaviors (Lindsay and Creswell, 2014; Neff and Pommier, 2013; Welp and Brown, 2014). Klimecki and Singer (2012) argue that compassion for others can protect against the risk of burnout and compassion fatigue. The authors propose that the other-oriented focus of the compassionate response prevents identification with the suffering of others and allows for regulation of negative feelings caused by the empathic response. Thus, when witnessing patients' suffering or pain self-compassionate nurses may be more able to adopt an other-focused perspective which may prevent their empathic feelings from turning into personal distress and compassion fatigue.

Finally, psychological inflexibility significantly predicted higher levels of burnout and especially compassion fatigue. This suggests that the more nurses see their thoughts, feelings, memories, physical sensations, or other internal experiences, as "bad" or "unwanted" and as a consequence make efforts to control or avoid them, the more they experience burnout and compassion fatigue. In the context of healthcare, caregivers frequently have to cope with the experience of traumatic memories, negative thoughts, unpleasant emotions and physiological sensations associated with the constant exposure to suffering, trauma and losses. This is especially true in oncology nursing. While experiential avoidance can provide some relief of discomfort in the short-term, it ultimately becomes maladaptive, increasing distress and getting in the way of other important and valued aspects of life. The finding that psychological inflexibility was more strongly related to compassion fatigue than to burnout may be explained by their distinct phenomenological nature. Compassion fatigue differs from burnout in that it primarily represents the experience of secondary trauma, probably including intrusive thoughts or images, numbing or distancing reactions, and persistent arousal. Several studies point to the role of experiential avoidance in the development and maintenance of

post-traumatic stress disorder (e.g., Plumb et al., 2004). Thus, individuals with compassion fatigue may develop coping behaviors similar to those common in post-trauma reactions, including experiential avoidance.

Overall, our results suggest that several psychological dispositions are differently associated with the positive and negative dimensions of professional quality of life. Individuals that seem to benefit more from their work of helping and assisting others seem to have more empathic feelings and sensibility towards others in distress and make an effort to see things from the other's perspective. At the same time, they are less disturbed by negative feelings associated with seeing others' suffering and are more self-compassionate when in distress. On the contrary, individuals more prone to experience the negative consequences associated with care providing seem to be more self-judgmental, over-identify with their negative thoughts and feelings, feel cut off from others when in distress, and to have more psychological inflexibility. Also, they experience more personal feelings of distress when seeing others in suffering and less feelings of empathy and sensibility to others' suffering.

These results suggest that nurses' psychological dispositions may be important vulnerability and maintenance factors for burnout and compassion fatigue and at the same prevent compassion satisfaction.

Limitations

Although these findings are very promising, several limitations should be taken into account. First, the cross-sectional nature of this study does not allow to draw causality inferences between the psychological dispositions and professional quality of life. In future, experimental and longitudinal studies could test particular hypotheses based on the present findings. Also, the sample size was small and participants were mainly women, which limits the generalizability of these findings. However, the proportion of female and male nurses in our sample matches other international samples (Budden et al., 2013; Heinen et al., 2013). We

used a convenience sample of hospitals and nurses which, by being a nonprobability sampling method, may not adequately represent the population. In addition, the data was derived entirely through self-report measures and thus is subject to the limitations associated with this type of methodology (e.g., response bias, introspective ability). There is some controversy, for example, over how well self-report measures of empathy predict empathic action and behavior (e.g., Melchers et al., 2015). Future studies should find alternative ways to measure these processes (functional neuroimaging studies; observational and experimental studies; qualitative data) to further enhance the understanding of the complex relations between the psychological dispositions and professional quality of life. In addition, the psychological variables used in this study explained only a part of the variation in professional quality of life, suggesting that other variables not explored in the present study may also play an important role. Finally, another limitation is the use of multiple testing which can increase errors in inference, particularly Type 1 error. This should also be addressed in future studies.

Implications

Findings from this study suggest that oncology nurses who are most vulnerable to burnout and compassion fatigue are those who have difficulties regulating their negative internal states, indicated by their low levels self-compassion and high levels of experiential avoidance. These nurses are also less empathic but at the same time experience high levels of distress when witnessing others' suffering. Given the nature of their work, the ability to empathize with their patients and to manage one's emotions is crucial to provide effective care, to promote patients' satisfaction and also to cultivate one's wellbeing and satisfaction with work. Thus, training programs aimed at improving professional wellbeing should include components targeting adaptive empathy, self-compassion and psychological flexibility.

Mindfulness-based interventions have been shown to be effective in promoting self-compassion (e.g., Birnie et al., 2010) and also compassion for others (Wallmark et al., 2013).

In addition, it has been suggested that experiential avoidance may be a mechanism of change in mindfulness-based interventions (e.g., Weinrib, unpublished). A recent review suggests that mindfulness-based interventions can increase self-compassion and other-focused concern in healthcare professionals (Boellinghaus et al., 2012). Also, some studies have provided evidence that such interventions may be particularly effective to reduce burnout in nurses (e.g., Cohen-Katz et al., 2005; Mackenzie et al., 2006).

Conclusion

The constant exposure to the suffering of others places high emotional demands on oncology nurses and other healthcare professionals, making them vulnerable to burnout and compassion fatigue as a result of this exposure. Although interventions targeting work-site factors, such as workload and time pressure, social support or job security, may be helpful in reducing burnout, they can be difficult to implement at times, and may not adequately address the problem of burnout, and especially compassion fatigue. Interventions and training programs aimed at targeting psychological factors such as the ones explored in the present study may improve the individual's ability to cope with stress and thus may be an alternative and effective pathway to the prevention and treatment of burnout and compassion fatigue.

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Table 1

Means, Standard Deviations, Minimum, Maximum, Skewness and Kurtosis of the Study Variables (N = 221)

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	Skew	Kurtosis	α
Compassion Satisfaction	38.00	5.41	12.00	50.00	-0.57	1.55	.88
Burnout	25.28	5.04	12.00	41.00	0.03	0.41	.75
Compassion Fatigue	25.82	4.40	15.00	42.00	0.41	0.87	.67
Empathic Concern	17.70	3.27	11.00	24.00	-0.07	-0.75	.71
Personal Distress	9.41	3.82	0	20.00	0.03	-0.13	.74
Perspective Taking	16.70	2.94	11.00	24.00	0.20	-0.31	.67
Self-compassion	82.86	14.03	40.00	121.00	-0.12	0.41	.91
Psychological inflexibility	19.40	8.40	7.00	44.00	0.57	-0.14	.92

Table 2.

Proportion of Participants Classified into the Bottom Quartile, Mean and Top Quartile of the ProQOL Components (N = 221)

		<i>N</i>	%
Compassion Satisfaction	Low	59	26.7
	Average	106	48.0
	High	56	25.3
Burnout	Low	43	19.5
	Average	119	53.8
	High	59	26.7
Compassion Fatigue	Low	29	13.1
	Average	137	62.0
	High	55	24.9

Note. Compassion satisfaction: low ≤ 44 , high ≥ 57 ; Burnout: low ≤ 43 , high ≥ 56 ; Compassion Fatigue: low ≤ 42 , high ≥ 56 . Cut-off scores proposed by the original manual.

Table 3.

Pearson's Product-moment Correlation Coefficients Between professional Quality of Life and the Psychological Variables (N = 221)

	Compassion Satisfaction	Burnout	Compassion Fatigue
Perspective taking	.31**	-.15*	.03
Empathic concern	.38**	-.10	.18*
Personal distress	-.29**	.21**	.14
Self-compassion	.35**	-.51**	-.24**
Psychological inflexibility	-.22**	.47**	.36**

Note. * $p < .05$; ** $p < .01$

Table 4.

*Hierarchical Regression Analysis Summary for Psychological Dispositions Variables
Predicting Professional Quality of Life (N = 221)*

	<i>B</i>	<i>SE B</i>	β	<i>p</i>	<i>R</i> ²	ΔR^2
Compassion Satisfaction						
Step 1					.03	
Age	0.10	0.05	.17	.042		
Years in the current position	-0.03	0.06	-.04	.626		
Step 2					.21	.19**
Perspective Taking	0.05	0.15	.03	.728		
Empathic Concern	0.51	0.13	.33	< .001		
Personal Distress	-0.33	0.10	-.24	.001		
Step 3					.26	.04*
Self-compassion	0.09	0.03	.23	.002		
Step 4					.26	.01
Psychological inflexibility	-0.06	0.06	-.10	.298		
Burnout						
Step 1					.05	
Age	-0.11	0.05	-.21	.013		
Years in the current position	0.12	0.05	.19	.020		
Step 2					.09	.04
Perspective Taking	-0.04	0.15	-.03	.779		
Empathic Concern	-0.07	0.12	-.05	.555		
Personal Distress	0.23	0.10	.18	.026		
Step 3					.25	.16**
Self-compassion	-0.16	0.03	-.44	<.001		
Step 4					.30	.05**
Psychological inflexibility	0.18	0.05	.30	.001		
Compassion Fatigue						
Step 1					.03	
Age	-0.08	0.04	-.15	.075		
Years in the current position	0.10	0.05	.18	.038		
Step 2					.09	.06*

Perspective Taking	-0.07	0.14	-.05	.602		
Empathic Concern	0.30	0.12	.22	.012		
Personal Distress	0.16	0.10	.13	.106		
Step 3					.11	.03*
Self-compassion	-0.06	0.03	-.18	.030		
Step 4					.18	.07**
Psychological inflexibility	0.20	0.06	.34	< .001		

Note. * $p < .05$; ** $p < .001$; ΔR^2 = change in R^2