
Psychosocial Well-Being

An exploratory cross-sectional evaluation of loneliness, anxiety, depression, self-compassion, and professional quality of life in oncology nurses

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BACKGROUND: In addition to heavy workloads, oncology nurses are confronted with emotionally demanding caregiving moments with little training or institutional support for coping and emotional well-being.

OBJECTIVES: The aim of this study was to explore the associations and potential predictors among self-compassion, loneliness, anxiety, depression, and professional quality of life in oncology nurses.

METHODS: Participants were recruited throughout central Texas. Descriptive statistics, bivariate correlations, and multivariate regression analyses were conducted on survey data.

FINDINGS: Burnout and compassion satisfaction were strongly related to loneliness, self-compassion, and depression. Compassion fatigue was most highly related to anxiety and depression. Loneliness made the strongest unique contribution to burnout and compassion satisfaction, and depression was the only statistically significant predictor of compassion fatigue.

KEYWORDS

burnout; compassion fatigue; loneliness; self-compassion; psychosocial well-being

DURING THE PAST DECADE, RESEARCH HAS HIGHLIGHTED the increased rates of burnout and compassion fatigue in healthcare workers and the negative health consequences for healthcare workers and patients (Dyrbye et al., 2017; Gómez-Urquiza et al., 2016; Salyers et al., 2016; Shanafelt et al., 2015; Wu et al., 2016). Compared to the general population, nurses have higher levels of depression and stress, get less sleep, and are more likely to be overweight (Eanes, 2015; Letvak et al., 2012; Melnyk et al., 2013; Thacker et al., 2016). Compassion fatigue, also referred to as secondary traumatic stress, affects nurses because of the emotional and relational connection that can occur during patient care (Lombardo & Eyre, 2011). If left unmanaged, these work-related conditions can lead to depression, which affects all areas of life (Letvak et al., 2012). Letvak et al. (2012) found nearly twice the rate of depression among nurses compared to other professions.

Oncology nurses particularly experience work-related psychosocial stress and have reduced levels of perceived personal accomplishment and high rates of emotional exhaustion (Edmonds et al., 2012). However, heavy workloads and workplace stress are not the only contributors to burnout and compassion fatigue. Studies suggest that oncology nurses cope with work-related emotions in isolation (Gerow et al., 2010; Phillips & Volker, 2020), which can lead to loneliness. Loneliness affects psychological and physical health and longevity, and, in the context of the workplace, emotional loneliness also contributes to burnout (Rogers et al., 2016; Seppälä & King, 2017). A meta-synthesis of oncology nurses' lived experience found that loneliness was the predominant theme of oncology nurses' experience of work-related issues (Diaw et al., 2020). Of 63 qualitative studies from 23 countries, Diaw et al. (2020) found that oncology nurses simultaneously described feeling lonely (emotional isolation) and being alone (social isolation). The relationship between loneliness and burnout has been studied in physicians, but little research has focused on nurses (Diaw et al., 2020).

Although empathetic care for others is a preeminent value in nursing, empathetic professionals are more at risk for burnout and compassion fatigue if they do not use protective factors to find balance (Duarte et al., 2016). Self-compassion, defined as self-kindness, common humanity, and mindfulness,

may be a protective factor and is associated with psychological strength (Neff et al., 2007), the ability to cope with stress (Sbarra et al., 2012), and health-promoting behaviors (Adams & Leary, 2007; Magnus et al., 2010). Self-compassion may help build resilience against stress, anxiety, depression, emotional exhaustion, and burnout (Rabb, 2014).

There is little research that includes loneliness and self-compassion when evaluating work-related psychosocial health outcomes and professional quality of life. In this study, the authors aimed to address the gaps in previous research by exploring the association between psychosocial health outcomes (self-compassion, loneliness, depression, and anxiety) and professional quality of life (burnout, compassion fatigue, and compassion satisfaction) in oncology nurses.

Methods

Design, Sample, and Setting

This exploratory study used a cross-sectional, descriptive approach to analyze baseline survey data from a parent study, which was a two-group pilot study to evaluate the feasibility and impact of a multidimensional expressive arts intervention on well-being in oncology nurses (Phillips, Volker, Becker, et al., 2020; Phillips, Volker, Davidson, et al., 2020). Convenience sampling was used to recruit participants in central Texas between August 2018 and December 2018. Oncology nurse participants practiced in inpatient and outpatient community cancer centers. To describe the sample, participants' age, education, race, ethnicity, employment, number of years in nursing, number of years in oncology, highest level of nursing education, and additional certifications were collected.

Data Collection Measures

Self-compassion was measured with the Self-Compassion Scale, which consists of 26 items on a Likert-type scale, with responses ranging from 1 (almost never) to 5 (almost always) (Neff, 2003). Higher scores indicate more self-compassion. The initial study showed an internal consistency of $\alpha = 0.92$ (Neff, 2003). The internal consistency in the current study was $\alpha = 0.95$.

The construct of loneliness was measured with the UCLA Loneliness Scale. This 20-item scale measures subjective feelings of loneliness, as well as feelings of social isolation (Russell, 1996). Participants rate each item as either O ("I often feel this way."), S ("I sometimes feel this way."), R ("I rarely feel this way."), or N ("I never feel this way."). A higher score indicates more loneliness. In the current study, the internal consistency was $\alpha = 0.93$.

Anxiety and depression were measured with the Patient-Reported Outcomes Measurement Information System (PROMIS) Anxiety Short Form (six items) and Depression Short Form (eight items), respectively (Cella et al., 2007). Higher scores indicate higher amounts of the constructs. In general, PROMIS scales have been used for non-patient (family caregiver and nurse) populations (Dionne-Odom et al., 2020; Imes & Chasens, 2019). In the current

“Loneliness, self-compassion, and depression all served as significant predictors of professional quality of life.”

study, both scales had high internal consistency reliability scores ($\alpha = 0.92$ on the anxiety scale and $\alpha = 0.9$ on the depression scale).

Professional quality of life was measured with the Professional Quality of Life Scale, which is a 30-item, self-report measure that yields three discrete scales: burnout (feelings of hopelessness and difficulties in dealing with work effectively), compassion fatigue/secondary traumatic stress (one's work-related, secondary exposure to extremely stressful events), and compassion satisfaction (the pleasure derived from doing one's work well) (Hudnall Stamm, 2002). Each subscale is psychometrically unique and cannot be combined with the other scores (Hudnall Stamm, 2002). In original validation studies, the subscales all had good internal consistency reliability (burnout = 0.75, compassion fatigue = 0.81, and compassion satisfaction = 0.87) (Hudnall Stamm, 2008). In the current study, the internal consistency was $\alpha = 0.72$ for burnout, $\alpha = 0.78$ for compassion fatigue, and $\alpha = 0.89$ for compassion satisfaction.

Procedures

The current study was approved by the Institutional Review Board at the University of Texas at Austin. Participants were recruited via email (via an Oncology Nursing Society Chapter Listserv), presentations, flyers, and word of mouth. Eligibility was assessed over the telephone or by email. Inclusion criteria were as follows: at least 18 years of age, able to read and speak English, licensed RN with more than one year of oncology experience giving direct patient care, and, if not currently working in oncology, had worked in oncology within the past five years. Written informed consent from each participant was obtained prior to data collection, and a \$50 gift card was provided to each participant at the end of data collection. Data were collected online using Qualtrics.

Data Analysis

Data were analyzed with IBM SPSS Statistics, version 25.0. Data were checked for accuracy. Univariate descriptive statistics

TABLE 1.
SAMPLE CHARACTERISTICS (N = 43)

CHARACTERISTIC	\bar{x}	SD
Age (years)	38.19	10.67
Nursing experience (years)	11.57	10
Oncology nursing experience (years)	8.5	8.44
CHARACTERISTIC	n	
Gender		
Female		41
Male		2
Race		
White		42
Asian		1
Ethnicity		
Non-Hispanic		34
Hispanic		9
Highest level of nursing education		
Associate degree		6
Bachelor's degree		28
Master's degree		9
Employment status		
Full-time		40
Part-time		3
Currently working in oncology		
Yes		40
No		3
Patient setting		
Outpatient		36
Inpatient		4
Other		3
Patient population		
Adult		36
Pediatric		6

Continued in the next column

TABLE 1. (CONTINUED)
SAMPLE CHARACTERISTICS (N = 43)

CHARACTERISTIC	n	
Patient population (continued)		
Both		1
Certifications		
Yes		22
No		20
Missing data		1
Formal education about self-care		
No		28
Yes		15
Self-care continuing education attendance		
No		39
Yes		4
Workplace bereavement support programs		
No		31
Yes		11
Missing data		1

were examined for missing data, out-of-range values, means, and standard deviations, as outlined by Tabachnick and Fidell (2013). If less than 15% of data were missing per outcome measure, then the average item scores were used to substitute for missing values. Missing data were assessed and appeared to be missing at random. Descriptive statistics were used to describe the sample characteristics. Pearson correlations were computed to examine relationships among key demographic variables and outcome measures. Multiple regression analyses were conducted to identify potential predictors of professional quality of life (burnout, compassion fatigue, and compassion satisfaction).

Results

Sample Characteristics

Forty-three oncology nurses participated in the study (see Table 1). Overall, the mean age of the sample was 38.19 years (SD = 10.67; range = 24–65), with an average of 11.57 years (SD = 10; range = 2–44) of nursing experience and 8.5 years (SD = 8.44; range = 2–36) of oncology nursing experience. The majority were

TABLE 2. DESCRIPTIVE STATISTICS AND CORRELATIONS AMONG AGE, YEARS OF NURSING EXPERIENCE, LONELINESS, SELF-COMPASSION, BURNOUT, COMPASSION FATIGUE, AND COMPASSION SATISFACTION

VARIABLE	\bar{X}	SD	RANGE	1	2	3	4	5	6	7	8	9
1	38.19	10.67	24–65 ^a	1	–	–	–	–	–	–	–	–
2	11.57	10	2–44 ^a	0.847***	1	–	–	–	–	–	–	–
3	82.93	18.6	26–130 ^b	0.313*	0.372*	1	–	–	–	–	–	–
4	17.86	11.41	0–60 ^b	–0.118	–0.123	–0.362*	1	–	–	–	–	–
5	12.64	4.61	5–30 ^b	–0.095	–0.222	–0.455**	0.253	1	–	–	–	–
6	13.23	4.33	8–40 ^b	–0.159	–0.238	–0.589***	0.587***	0.752***	1	–	–	–
7	22.88	4.5	10–50 ^b	–0.193	–0.288	–0.471**	0.685***	0.483**	0.581***	1	–	–
8	21.69	5.22	10–50 ^b	0.09	–0.06	–0.294	0.243	0.536***	0.478**	0.496**	1	–
9	40.93	5.45	10–50 ^b	0.217	0.311*	0.487**	–0.536***	–0.137	–0.323*	–0.477**	–0.069	1

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

^aActual range

^bInstrument range

1—age (years); 2—nursing experience (years); 3—self-compassion; 4—loneliness; 5—anxiety; 6—depression; 7—burnout; 8—compassion fatigue; 9—compassion satisfaction

Note. The N value was 43 for all variables except anxiety, burnout, and compassion satisfaction, for which the N value was 42.

Note. Higher scores indicate more of construct (e.g., self-compassion, loneliness, anxiety, depression, burnout, compassion fatigue, compassion satisfaction).

women (95%) and White (98%). Nine participants self-reported Hispanic ethnicity.

Descriptive Statistics

Descriptive statistics for loneliness, self-compassion, anxiety, depression, and professional quality of life (burnout, compassion fatigue, and compassion satisfaction) are presented in Table 2. Oncology nurses in the current study reported self-compassion scores that were slightly above the midpoint (3.19; total score divided by number of items), with mean scores of 3–3.5 classified as a moderate level of self-compassion (Neff, 2003). Mean values for professional quality-of-life subscales were also similar to previous studies with nurses in the United States (Durkin et al., 2016; Mooney et al., 2017; Wells-English et al., 2019; Wu et al., 2016).

Correlational Analysis

Bivariate correlations revealed multiple statistically significant relationships. Among the three professional quality-of-life subscales, burnout was directly correlated with compassion fatigue ($r = 0.466, p < 0.01$) and indirectly correlated with compassion satisfaction ($r = -0.477, p < 0.01$). Compassion fatigue was not significantly correlated with compassion satisfaction.

Self-compassion was the only predictor variable to show a significant correlation with demographic variables. High levels of self-compassion were significantly correlated with more years of nursing experience ($r = 0.372, p < 0.05$) and older age ($r = 0.313,$

$p < 0.05$). Self-compassion was also significantly correlated with loneliness ($r = -0.362, p < 0.05$), anxiety ($r = -0.455, p < 0.01$), and depression ($r = -0.589, p < 0.001$). The predictor variable depression showed a significant association with loneliness ($r = 0.587, p < 0.001$) and anxiety ($r = 0.752, p < 0.001$). The highest significant correlation between the predictor variables and professional quality-of-life subscales were between burnout and loneliness ($r = 0.685, p < 0.001$), burnout and depression ($r = 0.581, p < 0.001$), compassion fatigue and anxiety ($r = 0.478, p < 0.01$), and compassion satisfaction and loneliness ($r = -0.536, p < 0.001$).

Regression Analysis

Forced entry multiple regression analysis was used to test a model for predicting components of professional quality of life (burnout, compassion fatigue, and compassion satisfaction) from mean scores of loneliness, self-compassion, and depression (see Table 3). Each of the predictor variables had a significant bivariate correlation with either burnout, compassion fatigue, or compassion satisfaction. Anxiety was not included as an independent variable in the regression because of concerns with multicollinearity.

Depression, loneliness, and self-compassion accounted for 51% of the adjusted variance in burnout ($F[3, 36] = 14.38, p < 0.001$). Loneliness had the strongest statistically significant contribution ($p < 0.001$), and self-compassion and depression did not make a statistically significant contribution in this model. Self-compassion ($p < 0.05$) and loneliness ($p < 0.01$) were

significant predictors of compassion satisfaction, and the three predictors accounted for 32% of the adjusted variance ($F[3, 37] = 7.36, p < 0.01$). By contrast, these three predictors accounted for only 18% of the adjusted variance in predicting compassion fatigue ($F[3, 37] = 3.92, p < 0.05$). Depression was the only significant contribution to compassion fatigue ($p < 0.05$).

Discussion

The current study aimed to identify associations and predictors of professional quality of life among oncology nurses. For participants in this study, loneliness, self-compassion, and depression all served as significant predictors of professional quality of life. Increased burnout was significantly associated with higher anxiety, depression, compassion fatigue, and loneliness, and lower levels of self-compassion and compassion satisfaction. However, when looking at the specific constructs within professional quality of life, the model adequately explained burnout and compassion satisfaction, but less variance was explained in compassion fatigue.

Loneliness and self-compassion were strongly associated with burnout and compassion satisfaction, but compassion fatigue was only associated with the negative emotions of depression and anxiety. Durkin et al. (2016) found similar results in their study of community nurses, which showed a significant correlation

between mental well-being and burnout and compassion satisfaction but no relationship between compassion fatigue and mental well-being. In addition, they also found a significant relationship between self-compassion and burnout but not self-compassion and compassion fatigue. The same team of researchers studied midwife students (Beaumont et al., 2016) and found that compassion fatigue was related to mental well-being but not self-compassion.

In the current study, participants who had higher self-compassion had lower levels of burnout, loneliness, depression, and anxiety. Evidence suggests that self-compassion improves other dimensions of emotional and mental well-being. Duarte et al. (2016) found that self-compassion predicted all three components of professional quality of life. Kemper et al. (2015) looked at the relationship among mindfulness, self-compassion, sleep, and resilience in health professionals. They found that lower self-compassion was strongly correlated with sleep disturbances and higher self-compassion was strongly and significantly correlated with resilience.

The quantity of interventions aimed at the cultivation of self-compassion in healthcare workers has increased, but more research is needed to understand the impact on compassion fatigue. A systematic review of mindfulness, compassion, and self-compassion among healthcare professionals found that

TABLE 3. MULTIPLE REGRESSION ANALYSIS SUMMARY FOR LONELINESS, SELF-COMPASSION, AND DEPRESSION VARIABLES PREDICTING PROFESSIONAL QUALITY OF LIFE (BURNOUT, COMPASSION FATIGUE, AND COMPASSION SATISFACTION)

VARIABLE	ADJUSTED R ²	B	SE	β	t	p	95% CI
Burnout (N = 41)	0.51	–	–	–	–	< 0.001	–
Loneliness	–	4.07	1.1	0.52	3.71	0.001	[1.85, 6.29]
Self-compassion	–	-1.19	0.88	-0.18	-1.35	0.184	[-2.98, 0.59]
Depression	–	1.55	1.3	0.19	1.2	0.239	[-1.08, 4.18]
Compassion fatigue (N = 42)	0.18	–	–	–	–	0.016	–
Loneliness	–	-0.42	1.62	-0.05	-0.26	0.797	[-3.7, 2.86]
Self-compassion	–	-1.26	1.3	-0.17	-0.97	0.338	[-3.89, 1.37]
Depression	–	3.92	1.91	0.41	2.05	0.048	[0.04, 7.8]
Compassion satisfaction (N = 42)	0.32	–	–	–	–	0.001	–
Loneliness	–	-4.99	1.54	-0.52	-3.25	0.002	[-8.2, -1.88]
Self-compassion	–	2.79	1.23	0.35	2.26	0.03	[0.29, 5.29]
Depression	–	1.75	1.82	0.17	0.96	0.343	[-1.94, 5.43]

CI—confidence interval; SE—standard error

mindfulness-related interventions were effective at improving mindfulness and self-compassion but did not improve compassion fatigue (Conversano et al., 2020).

Compassion fatigue is complicated and may require complex, multidimensional approaches. In a qualitative study by Wentzel et al. (2019), oncology nurses from South Africa described compassion fatigue as entailing emotional connection, emotional fatigue, emotional loss, blurring boundaries, and acceptance. Of note, emotions are part of three of five of those categories. Increasing self-awareness of emotions while teaching self-compassion skills may be an important distinction when working to combat compassion fatigue.

It is also possible that the Professional Quality of Life Scale is susceptible to response bias when used with this sample of oncology nurses. This impression is informed by the conversations of the oncology nurses in this study who were in the intervention group of the parent study (Phillips, Volker, Davidson, et al., 2020). During the intervention, participants discussed feeling burned out and emotionally exhausted, but their scores did not reveal high levels of burnout or compassion fatigue. When looking at individual questions on the Professional Quality of Life Scale, it is possible that the participants were not willing to say that patient care hurts them; therefore, social desirability may have affected the nurses' responses to the items in the Professional Quality of Life Scale. Of note, in a systematic review and meta-analysis of compassion fatigue in oncology nurses, researchers found that oncology nurses in the United States had significantly lower burnout and compassion fatigue scores compared to other countries (China, Portugal, and Korea) (Xie et al., 2021). Many factors could explain these differences, such as differences in work environments. There may also be unique cultural differences in the response to the scale items. An alternative explanation is that the emotional exhaustion described by the oncology nurses is another construct not captured by the Professional Quality of Life Scale.

Other healthcare workforce-related research has shown the association among loneliness, depression, and burnout. However, this research primarily examines the experience of physicians and not nurses. In a group of residents, Rogers et al. (2016) found a high correlation between loneliness and emotional exhaustion, which they described as the result of psychological and emotional isolation rather than social isolation. Emotional exhaustion is a component of burnout measured by the Maslach Burnout Inventory (Maslach et al., 1996) and is not specifically measured with the Professional Quality of Life Scale.

Loneliness is a gateway to depressive symptoms and a predictor of other mental health consequences (Fried et al., 2015). In the current study, participants who had higher levels of loneliness were also found to have higher mean scores for burnout and depression and significantly lower scores on compassion satisfaction and self-compassion. One of the highest correlations observed in the current study was between measures of loneliness

and burnout, and loneliness was the strongest predictor in the multiple regression analyses of burnout and compassion satisfaction.

To address loneliness, particularly emotional loneliness, healthcare workers are best served by having the opportunity to debrief with each other (Diaw et al., 2020; Shapiro et al., 2015). Importantly, debriefing needs to be conducted in a psychologically safe manner, allowing for authentic communication about work-related emotions (Phillips, Volker, Becker, et al., 2020). By sharing with their colleagues, they have the opportunity to reflect, hear each other's experiences, and learn that they are not alone in their work-related emotions (Diaw et al., 2020; Phillips, Volker, Davidson, et al., 2020). Finally, data in this study were collected prior to the COVID-19 pandemic. Early studies during the pandemic have shown high levels of stress and anxiety in the nursing population (Lai et al., 2020).

Limitations

Several limitations exist in this study. It is a cross-sectional survey, and causality cannot be drawn. Convenience sampling, small sample size, and lack of a diverse sample also hamper the conclusions that can be drawn. A larger sample would allow for more predictor variables to be included in models to predict professional quality of life. Nurses in this sample were predominantly from outpatient settings, so future research should also examine these relationships among nurses in inpatient settings.

Implications for Nursing

Oncology nurses face emotionally intense situations and increased exposure to suffering and loss. Their well-being is a priority because their personal health outcomes matter, and research has shown that the well-being of healthcare workers has a direct impact on patient outcomes (Aiken et al., 2002; Carayon et al., 2019). Although numerous system-level problems also affect the personal well-being and professional quality of life of oncology nurses, system-level solutions will take time. In the meantime, healthcare administrators can improve workplace conditions by providing oncology nurses with time and space to reflect and debrief with their colleagues. Throughout the literature examining other causes of psychosocial stress in healthcare workers (i.e., moral distress), debriefing as a team is a consistent solution to improving emotional well-being (Marturano et al., 2020).

In addition to workplace solutions, on the individual level, oncology nurses can learn practices of self-compassion to help cope with workplace stress. Other self-care resources could include spending time in nature, journaling, music, art, dance, exercise, mindfulness meditation, and breathing exercises. Whatever the self-care activity, it should be practiced regularly to guard against negative mental health consequences.

Many opportunities exist for future research. Moving forward, studies should aim to recruit nurses in more diverse

settings (geographically and inpatient), as well as samples with more ethnic and racial diversity. Another area for future research is to further examine the psychosocial stress experienced by oncology nurses. In general, many constructs are available to describe the psychosocial stress experienced by healthcare workers (e.g., moral distress, compassion fatigue, secondary traumatic stress, moral injury, vicarious trauma, burnout, professional grief). It is possible that the Professional Quality of Life Scale is not the right measure for their experience. More research is needed to understand the emotional exhaustion experienced by oncology nurses.

Conclusion

Burnout and compassion fatigue are prevalent among oncology nurses. System-level changes are critical, but individual agency is also necessary to maintain well-being. This study found that loneliness, self-compassion, and depression all served as significant predictors of professional quality of life. Interventions aimed at teaching self-compassion, addressing emotional exhaustion, and decreasing loneliness may significantly contribute to decreasing burnout and compassion fatigue and warrant further study. Future work should also focus on upstream prevention of burnout and compassion fatigue by teaching healthcare workers early in their careers how to cope with work-related emotions.

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IMPLICATIONS FOR PRACTICE

- Identify a trusted coworker with whom to debrief; when debriefing, examine the impact that the patient care experience has on emotions and well-being.
- Create a list of self-care activities to do when feeling emotionally exhausted.
- Learn self-compassion practices and use them to help cope with workplace stress.

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