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Alleviating Emotional Exhaustion in Oncology Nurses: an Evaluation of Wellspring's "Care for the Professional Caregiver Program"

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Abstract A high level of burnout has been demonstrated in oncologists, nurses, and other health professionals. Interventions developed in response demonstrate mixed results. Wellspring, a community cancer support organization, has developed a 1-day session called *Care for the Professional Caregiver Program* (CPCP) and has delivered it to over 700 healthcare workers. The present study assessed the effects of the CPCP on three groups of oncology nurses (pediatric, surgical, and general oncology staff) and one group of nurse managers. Subjects completed the Maslach burnout inventory (MBI), the General health questionnaire (GHQ) and the short form of the Marlowe–Crowne social desirability scale (M–C) prior to receiving the intervention. They then completed the MBI and GHQ at 1-month and 7-month follow-ups. Six months after the original session, a small subset of subjects was randomly selected to participate in a 1-day CPCP booster session. At baseline, one third of the nurses showed high burnout on the MBI. The nurses demonstrated a significant decrease in emotional exhaustion and an improvement on the GHQ, at the 1-month follow-up testing (p=0.003 and 0.001, respectively) and 7-month follow-up testing (p=0.002 and 0.001). The booster session proved difficult to deliver because of institutional scheduling problems due to nurse shortages, so only a small percentage (22%) of the sample participated; however, it was well received. Thus, the CPCP is effective in ameliorating emotional exhaustion, an intrinsic aspect of burnout.

Keywords Oncology · Cancer · Nurses · Burnout · Intervention

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Introduction

A high level of burnout has been demonstrated in oncology staff worldwide affecting job satisfaction, service delivery, and staff retention [1]. For example, the high levels of burnout documented in Canadian oncology workers by Grunfeld et al. [2] ultimately exacts a toll on cancer patients, professionals, and the broader healthcare system. Nurse turnover in Canadian hospitals has been reported to be as high as 20% and is often related to workplace stress [3]. In fact, burnout has been found to

be a predictor of intention to leave the discipline in a large sample of Canadian nurses [4], placing an additional pressure on hospitals [5] and the healthcare system. Burnout has been well defined by Maslach and colleagues as consisting of three key factors, the central being emotional exhaustion (feelings of being overextended and depleted of emotional resources), depersonalization (feelings of cynicism), and lack of personal accomplishment [6, 7]. These qualities are well characterized in the Maslach burnout inventory (MBI), the most commonly used instrument in the literature [8]. The MBI has become a standard measure of burnout, and a recent factor analysis supports its value internationally [9].

In Canada, Grunfeld and associates [2] conducted a key cross-sectional study of over 1,000 oncology professionals. A full 50% of the oncologists and over one third of the nurses had MBI scores consistent with burnout. International studies have demonstrated similar levels of emotional exhaustion, for example, in Italy and Greece [10, 11]. In Turkey, the complexity of the medical system resulted in a different pattern of burnout than in Western studies; strikingly low levels of emotional exhaustion and depersonalization existed, yet a full 100% reported poor levels of personal satisfaction [12]. In an international validation study, nurses in the US and Canada were found to have the highest burnout of eight countries surveyed, possibly due to shorter hospital stays and faster patient turnover [9].

Concern about burnout is well founded, because of its toll on patients and the workers themselves. Burnout appears to affect patients' satisfaction with the healthcare they receive. In a Canadian study, patients in units with nurses having lower levels of burnout rated all aspects of their care much higher than those patients with nurses who felt more exhausted [13]. Higher levels of burnout have also been associated with poor locus of control in nurses, as well as increased verbal abuse between staff [14, 15].

Not surprisingly, burnout may also have a toll on patient health and safety. In a study of medical trainees, for every 1-point increase on the three scales of the MBI, there was a 7–10% increase in self-reported medical errors [16]. It is reasonable to speculate whether burnout would affect other health professionals similarly. Given the negative impact of burnout on both professionals and patients, many authors identify the need for effective interventions [17–22].

Interventions for Burnout

A meta-analysis of intervention research reviewed 19 studies, 14 of which were randomized clinical trials [23]. Some evidence existed that interventions decreased levels of burnout; however, the studies were small and the interventions varied widely, so no clear recommendations could be made. A brief description of different approaches taken in the various interventions is provided next.

A spiritual intervention (meditation on a spiritual text) using a waiting list control design demonstrated no significant MBI changes [24]. Interestingly, however, subjects scoring high on social desirability were less likely to report improvements over time, perhaps because they were masking their distress. An Italian study demonstrated significant MBI improvements in pediatric oncology staff participating in an art therapy program [25]. A complex Dutch intervention based on a participatory action paradigm, involved staff in organizational change, but emotional exhaustion and depersonalization remained relatively stable over the study [26]. Healthcare workers with high burnout scores are more likely to request communication skills training [27], and two studies have addressed this concern. Narrative training was used to teach active listening skills to pediatric oncology staff, which improved their empathetic concern and teamwork [28]. In Australia, oncology nurses participating in communication skills training showed no psychometric improvements pre–post, but did report more active self-care and confidence [29].

Care for the Professional Caregiver Program: a Novel Intervention

Wellspring (http://www.wellspring.ca), a network of community support centers for cancer patients, has developed an intervention for healthcare professionals. The *Care for the Professional Caregiver Program* (CPCP) aims to address issues faced by professionals working with the ill and dying. The program was developed for nurses in oncology, but has been adapted to meet the needs of 17 different professional disciplines including workers in palliative care, long-term care, critical and acute care, pediatric oncology, and surgical oncology, as well as nurse managers, medical interpreters, clergy, radiation therapists, and social workers. Since its development 2003, the program has been delivered to well over 700 participants. As a day-long retreat, the CPCP includes didactic components and group discussion. It opens with a presentation and discussion of vicarious trauma and loss and offers a model of adaptive coping with grief. Practical hands-on work explores the use of various coping strategies. Participants examine their work experiences of grief in the large group and smaller breakout groups. The second component of the day focuses on the short- and long-term consequences of burnout and a discussion of self-care strategies to mitigate the effects of workplace stressors. The group then breaks for a catered lunch which provides ample opportunity for socializing. The afternoon offers hands-on, experiential sampling of coping strategies such as guided

imagery, relaxation, body movement, and mindful breathing techniques that have been adapted for the workplace.

The CPCP was piloted from April to December 2006 with 48 oncology and palliative care nurses from two major city hospitals in southern Ontario. The intervention significantly improved emotional exhaustion at 1 month compared to baseline (p=0.02). Based on these pilot results, further research was performed on the effects of the CPCP intervention on emotional exhaustion on four different groups of oncology nurses.

Methods

Objectives

In the present study, the CPCP intervention was tested in three different nursing groups specializing in oncology and one group of nurse managers. The primary goal of this study was to assess changes in the central component of burnout, emotional exhaustion, as assessed by the MBI. Secondary interests were the effects of the intervention on the other scales of the MBI, namely, depersonalization and personal accomplishment. Psychological morbidity was also assessed by the General health questionnaire (GHQ) [30] used by Grunfeld et al. [2] in their cross-sectional study on burnout. Finally, a commonly used social desirability measure, the Marlowe–Crowne social desirability (M–C) short form [31] was included at baseline, because it correlated with improvements observed in a previous study of burnout in nurses [24]. As a final interest, a small group of subjects received the intervention again at 6 months in order to assess the effects of a booster.

Recruitment

Four major hospital centers in Ontario were contacted by Wellspring offering to host the program for their staff. Each agreed to provide interested oncology nurses a day off with pay to participate in the program. Participating nurses were volunteers, having been recruited through information posters in their units.

Intervention

The day-long session was held in a Wellspring center. Each group consisted of 10–16 participants, two leaders, and one certified yoga teacher. The pool of six group leaders held at least Master's level education in psychology or related field; several held doctorates. All had at least 5 years experience working in oncology or loss and bereavement. Intervention delivery was standardized through training and a manual. There were four professional groups (nurse managers, pediatric oncology nurses, surgical oncology nurses, and general oncology nurses). Each group attended separate sessions; the groups were not mixed.

The agenda for the CPCP session is as follows:

- Light breakfast
- Introduction of the program contents and plan for the day
- Introductions around the group
- Confidentiality discussion (material emerging from the group is kept strictly confidential and not reported back to the host hospital)
- Presentation of the vicarious trauma and loss model: what it is, why it happens, how it is experienced and how it can be ameliorated. The group discusses the model and explores how it applies to their own work circumstances
- After a break, the group breaks up into smaller groups of 3 and 4 to discuss the model and ways to ameliorate their work distress
- Compassion fatigue: large group discussion of the symptoms of burnout or compassion fatigue and the self-care strategies that they find helpful
- Lunch break
- Hands on stress reduction techniques are practiced in the afternoon including relaxation and guided imagery, gentle yoga, and stretching

Booster Session

Six months after the intervention, half of the subjects were to be selected randomly from each intervention group to attend a booster session. The booster session was designed to reinforce the material learned in the first session. Identical topics were reviewed and discussed in the context of participants' recent work experiences. This was done on a hospital-by-hospital basis, so that each booster group only contained nurses from the same hospital. Prior to the session, each subject completed a questionnaire package containing the MBI and GHQ measures. However, scheduling challenges due to nursing shortages resulted in only a small portion of the sample being available to randomize into the booster session. The booster session covered the same material and process as described in the agenda above, but the nurses were asked to focus on any new stressors they had been coping with at work and ways in which they had been applying the models.

Study Procedure

Upon arriving at the regional Wellspring center in their area, each subject was given a package containing: a demographics questionnaire, the MBI, GHQ, and M–C. All were completed prior to the session (Fig. 1). At the end of the full day session, all participants completed a semi-

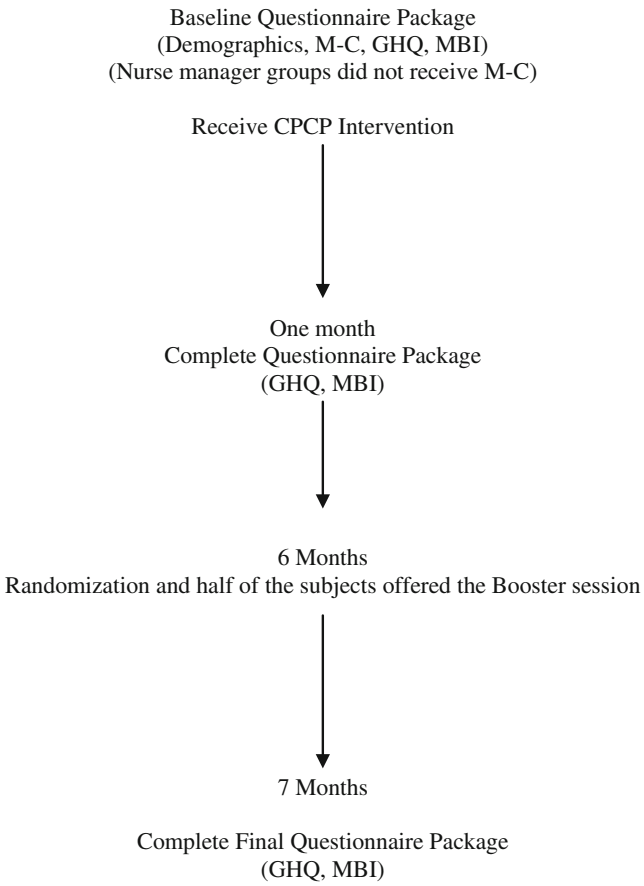

Fig. 1 Study design

structured Wellspring evaluation rating their experience. The nurse managers received the MBI and GHQ, but did not complete the M–C instrument at baseline.

Follow-up Assessments

One month after the session, all subjects completed a second package of questionnaires containing the MBI and GHQ. This process was repeated at the 7-month follow-up with a third identical package.

Psychometric Instruments

Demographic Variables (Baseline Assessment Only)

Personal and work-related variables were collected including gender, age, professional group, years in healthcare, and number of hours worked per week.

Maslach Burnout Inventory — 22 Items

The MBI is the most widely used standardized measure of burnout among healthcare professionals [8]. It consists of 22 items and assesses three components of burnout on three separate subscales:

1. Emotional exhaustion, the central feature of burnout is considered a necessary, but not sufficient criterion for burnout. Scores between 27 and 54 indicate burnout.
2. Depersonalization, a consequence of emotional exhaustion, refers to the emotional and cognitive distancing from patients. It culminates in a cynical attitude, which is considered a consistent feature in burnout. Scores between 13 and 30 indicate burnout on this scale.
3. Personal accomplishment reflects decreased personal efficacy and futility in facing work challenges. Burnout is indicated by scores ranging between 0 and 31.

Higher scores on emotional exhaustion and depersonalization indicate great burnout, while the reverse is true for personal accomplishment.

Short Form of the Marlowe–Crowne Social Desirability Scale — 13 Items

In order to assess response bias, the 13-item M–C was included [31]. Previous research suggests that in nurses, higher social desirability scores are related to lower self-reports of burnout [24]. The shortened scale contains slightly greater than one third of the original items and demonstrates an acceptable level of reliability (r=0.76) and good concurrent validity with the full form of the test (r=0.93) [31].

General Health Questionnaire — 12 Items

This well-characterized instrument assesses psychological morbidity. It consists of 12 questions pertaining to symptoms of stress such as feelings of depression, ability to sleep, feelings of competence, and ability to enjoy daily life. Each item is scored on a four-point bipolar scale [30].

Wellspring Evaluation — Seven Questions

This evaluation asked seven questions about subjects' satisfaction with the program. Responses were scored on four-point scales ranging from "very satisfied" to "extremely dissatisfied." Ample space for comments was provided.

Analysis

Sample Size and Power Considerations

Using pilot study results, the original power analysis was based on an estimated sample size of 225, and a p value<0.0167 was

considered significant to allow for multiple comparisons. However, 182 subjects were recruited into the study with 150 remaining at 1-month follow-up. Thus, this report treats all analyses as exploratory or hypothesis-generating and uses a nominal level of significance of $p=0.05$ for all comparisons.

Demographics and Baseline Scores

Variables were summarized using means and standard deviations, as well as medians and ranges for continuous variables and counts and percentages for categorical variables. Between-group differences at baseline were examined with analysis of variances (ANOVAs), and Kruskal–Wallis tests were used when significant differences were found. The Maslach scores were categorized using published cut-off points to divide the sample into low, moderate, and high levels of burnout. ΔFU1, the 1-month follow-up baseline change scores, and ΔFU7, the 7-month follow-up baseline change scores, were calculated for each outcome measure. ΔFU1 and ΔFU7 were tested for significant difference from 0 using Wilcoxon signed rank tests. Linear regression with baseline score, professional group, age, and M–C scores as covariates was used to see if these variables were related to scores at FU1 and to test whether FU1 scores were significantly improved controlling for these variables. Professional group and age were retained in all models regardless of statistical significance, because the subject selection was strongly related to these variables. SAS 9.1 software was used for all analyses.

Results

Description of Sample

The 182 subjects consisted of four different groups of healthcare professionals attending separate intervention sessions. Each came from different hospitals as follows:

- *Nurse managers* ($n=24$) came from oncology, critical care, cardiac-vascular critical care, chronic care, a burn unit, long-term care and psychiatry.
- *Pediatric oncology nurses* ($n=88$) worked with inpatients and outpatients.
- *Surgical oncology nurses* ($n=37$) worked with gynaecology and urology patients.
- *General oncology staff* ($n=33$) included 11 nurses, as well as social workers and physiotherapists. They worked with both inpatients and outpatients.

Demographics

The sample was overwhelmingly female (98.4%). The pediatric oncology nurses were the youngest group, with almost 50% being under 30, in contrast to the nurse manager group, which was the oldest; 50% were over 50. This contrast was also evident in the number of years each group had worked in the field. The average years in nursing overall was 14.7, but nurse managers had been in the field the longest (mean=25.2 years) and pediatric oncology nurses were the least experienced (8.1 years).

The overall group worked an average of 36.1 h/week. The nurse managers worked the most (mean=47.6); the others worked between 33 and 34.7 h.

Baseline Burnout

The baseline scores are presented in Table 1, along with the number and percentage of subjects reaching high burnout levels as defined by the MBI. One third of the sample scored in the high category for burnout on emotional exhaustion, one quarter reached burnout on the depersonalization subscale and one third on the personal accomplishment subscale. On the GHQ, the group mean was 12.7 (median 12). The cut-off point for psychological morbidity on this scale is 12. Thus, 50% of the sample indicated levels of distress. No significant differences existed between groups on the burnout scales, except for depersonalization, in which nurse managers had the highest level (8.7) compared to the surgical oncology staff (5.1; $p=0.03$ Kruskal–Wallis test).

1-Month Follow-up

One hundred and fifty pre–post change scores were available for analysis (82.5% returned 1-month follow-up questionnaire packages).

Emotional Exhaustion

The overall sample demonstrated a significant 1.7-point improvement ($p=0.003$, Wilcoxon signed rank test). In terms of the specific nursing groups, the pediatric nurses showed the largest improvement, followed by the general oncology staff with a marginally significant improvement. In the first regression analysis, age category (an ordinal variable), professional group, M–C scores, and pre-score were entered into the model. The M–C score was not significant and was removed from the model. The final regression demonstrated a significant improvement in emotional exhaustion ($p=0.02$) and no effect for either professional group or age (Table 2).

Depersonalization and Personal Accomplishment

No significant changes occurred in the mean pre–post change score of the depersonalization subscale. However, when the 1-month post scores were tested in a regression

Table 1 Baseline means for questionnaire scores and percentage of subjects reaching high burnout levels of the MBI

Variable	Hospital	Number	Mean (SD)	Number and Percentage reaching high burnout levels
Emotional exhaustion	Overall	182	22.1 (10.8)	61 (33.5%)
	Nurse managers	24	25.3 (10.4)	9 (37.5%)
	Pediatric oncology	88	22.3 (9.7)	30 (34.1%)
	Surgical oncology	37	19.2 (11.8)	10 (27.0%)
	Oncology staff	33	22.4 (12.4)	12 (36.4%)
Depersonalization sig diff between groups $p=0.03$ (Kruskal–Wallis test)	Overall	182	6.1 (4.9)	45 (24.7%)
	Nurse managers	24	8.7 (5.4)	9 (37.5%)
	Pediatric oncology	88	6.1 (4.8)	22 (25.0%)
	Surgical oncology	37	5.1 (4.4)	8 (21.6%)
	Oncology staff	33	5.2 (4.9)	6 (18.9%)
Personal accomplishment	Overall	182	35.7 (7.2)	62 (34.1%)
	Nurse managers	24	35.1 (6.0)	11 (45.8%)
	Pediatric oncology	88	35.9 (6.4)	27 (30.7%)
	Surgical oncology	37	33.7 (8.8)	16 (43.2%)
	Oncology staff	33	37.6 (7.6)	8 (24.2%)
GHQ total	Overall	182	12.7 (4.6)	Not applicable for GHQ
	Nurse managers	24	11.8 (4.5)	
	Pediatric oncology	88	12.6 (4.1)	
	Surgical oncology	37	12.3 (5.2)	
	Oncology staff	33	14.0 (5.0)	
M–C total marginally sig diff between groups $p=0.08$ (Kruskal–Wallis test)	Overall	156	8.5 (2.7)	Not applicable to M–C
	Nurse managers	*		
	Pediatric oncology	87	8.0 (2.8)	
	Surgical oncology	37	9.2 (2.5)	
	Oncology staff	32	8.9 (2.6)	

*Nurse managers' group does not have PRE Marlowe–Crowne

analysis, there was a significant improvement ($p=0.03$) when they were placed in a model with the M–C scale ($p=0.04$) and professional groups ($p<0.001$). Age was not statistically significant. No significant change occurred in the personal accomplishment subscale, a result also demonstrated by regression analyses.

General Health Questionnaire

The total sample demonstrated a significant two-point mean improvement in the GHQ ($p<0.001$). Three of the individual groups showed significant improvements; pediatric nurses made the largest gains (Table 3). Regression analyses showed a significant improvement in GHQ at FU1 ($p=0.003$), with neither age nor professional group being significant. M–C was not significant and was not retained in the model.

Wellspring Evaluation

A full 98% of nurses indicated that they were satisfied or extremely satisfied with the program overall, as well as the various components of the session. Ninety-four percent would attend the program again if it was offered, and 96%

Table 2 Group changes from baseline to 1-month follow-up: MBI emotional exhaustion

Group	Assessment	Number	Mean	Median	Wilcoxon signed rank
Overall	Change	150	1.7 (6.9)	2	0.003
Nurse managers	Change	22	0.5 (8.3)	1	0.68
Pediatric nurses	Change	70	2.2 (6.3)	3	0.007
Surgical oncology nurses	Change	32	1.5 (7.4)	0	0.48
Oncology staff	Change	26	1.8 (6.9)	2.5	0.06

Table 3 Group changes from baseline to 1-month follow-up: GHQ

Group	Assessment	Number	Mean (SD)	Median	Wilcoxon signed rank
Overall	Change	150	2.1 (4.7)	2	<0.001
Nurse managers	Change	22	1.4 (4.5)	1.5	0.16
Pediatric nurses	Change	70	2.1 (4.7)	3	<0.001
Surgical oncology nurses	Change	32	1.8 (4.5)	2.5	0.03
Oncology staff	Change	26	2.7 (5.5)	2	0.006

would recommend the program to colleagues. Their comments reflect the value the program had for them:

I came in feeling exhausted, but I left feeling relaxed, calm, and with some energy. (10-23-08)
This is the most relevant and inspiring course I have attended in a long time. Thank you. (10-23-08)
Quite eye-opening to compare the overall elements of compassion fatigue, and self-care through discussion with colleagues, to find that everyone is feeling similarly. (5-5-07)
Nice to put our feelings into words — good discussion in the group. Reminds me that we are all going through the same thing. Some good funny stories to make us laugh too. (4-12-07)
I think that this was extremely helpful. I would come a couple of times a year. I hope that Wellspring/the hospital offers such a program to support us in the future. (4-18-07)

Booster Intervention

One hospital withdrew from the booster randomization process due to organizational problems which reduced the pool of available subjects. From the three remaining hospitals, a total of 56 subjects were randomized into the booster. A total of 41 subjects ultimately attended the session (22% of the total sample). Change scores were calculated for each subject (the 7-month scores subtracted from the pre-booster questionnaires) rendering a total of 21 change scores overall. Thus, because of inadequate power, no statistical analyses were possible. On the Wellspring evaluation, virtually 100% of booster participants indicated that they were satisfied or very satisfied with the experience and found the booster program helpful. The following are typical comments from these participants:

Thanks again for a great day! I found it very informative, helpful, and a great way to debrief and relax in ways I could easily incorporate at work and at home. (105)
I think this should be a yearly thing for nurses. I thought I was too busy to do this — this week. However, I now am not even thinking of work. (154)
Through the visualization I felt a sense of validation with the images, i.e., holding someone's hand, supporting people…wow, people really do realize the work I do! (163)
I think the booster session is important to reinforcing earlier session — still think something similar should be valuable every 6 months. (218)
Even though topics are repeated I think each time you can appreciate something new from the information. (238)

7-Month Follow-up

A total of 79 post-questionnaires were returned from among the original 182 respondents (a rate of 43%). Long-term changes were assessed by subtracting the 7-month follow-up scores from the baseline measures.

Emotional Exhaustion

Table 4 shows the overall mean improvement of 2.4 points in emotional exhaustion ($p=0.002$). The pediatric nurses demonstrated the largest overall significant improvement of 2.3 points ($p=0.004$). No difference existed between the change scores of those who received the

Table 4 Group change from baseline to 7-month follow-up: MBI emotional exhaustion

Group	Assessment	Number	Mean (SD)	Median	Wilcoxon signed rank
Overall	Change	79	2.4 (8.6)	3	0.002
Nurse managers	Change	15	1.6 (7.4)	1	0.35
Pediatric nurses	Change	45	2.3 (8.6)	5	0.004
Surgical oncology nurses	Change	19	3.1 (9.7)	2	0.18

booster and those who did not for any of the measures (emotional exhaustion, depersonalization, personal accomplishment or GHQ).

Depersonalization and Personal Accomplishment

No statistically significant changes were observed for the depersonalization subscale for the total sample or in the three separate groups. All changes observed were less than one point. The overall group showed no change overall in personal accomplishment.

General Health Questionnaire

Overall, a significant 1.5 mean improvement ($p<0.001$) was observed on the GHQ. The pediatric nurses demonstrated a significant mean improvement ($p=0.007$) and the surgical oncology nurses also improved overall ($p=0.05$).

Discussion

The study results demonstrate that the CPCP decreased emotional exhaustion in oncology nurses. The emotional exhaustion subscale of the MBI showed a significant 1.7-point improvement at the 1-month follow-up and a 2.4 point improvement at 7 months, compared to baseline. These results indicate that participants felt less overextended and depleted physically and emotionally. The intervention effects were explored on the other two subscales of the MBI, as well as a measure of psychological morbidity, the GHQ. At the 1-month follow-up, an improvement was observed in the depersonalization subscale and the GHQ, but not in the personal accomplishment subscale. Improvements at the 7-month follow-up were observed in the GHQ, suggesting a decrease in psychological distress.

The participating nurses were drawn from four distinctly different hospital groups. While it was not our intention to compare the relative effectiveness of the CPCP on different nursing groups, this design does offer the opportunity to explore the effects of several broad factors on the outcome variables. For example, age was confounded with hospital site (the pediatric nurses being the youngest group on average and the nurse managers more senior and experienced). Age is a risk factor in burnout, with younger and less experienced nurses being more vulnerable [32]. In this study, the pediatric nurses demonstrated a greater improvement at both the 1-month and 7-month follow-up. However, when both professional group and age were controlled for, emotional exhaustion remained significant in the regression analyses. Thus, while age may be a factor in burnout, the program can be helpful to nurses across diverse demographics of experience.

Social desirability may influence the reporting of burnout and distress in nurses. Social desirability is a trait reflected in the desire to self-report as unfailingly pleasant and virtuous. At the 1-month follow-up, subjects scoring higher on social desirability had lower scores on the depersonalization subscale. Depersonalization is characterized by a cynical, callous, and negative view of the work with an excessive detachment from the patients being served. As the least "attractive" aspect of burnout (compared to the self-sacrificing character of emotional exhaustion), depersonalization is less likely to be reported by subjects who score high in social desirability. Oman et al. [24], in their intervention study on passage meditation, found that social desirability influenced improvements over time, perhaps because of subjects underreporting depersonalization. In an era of patient as stakeholder and patient centered care, healthcare professionals have been sensitized to the expression of negative feelings toward patients. The feelings likely exist, but perhaps are less likely to be expressed. Healthcare professionals may be more comfortable reporting their stress in terms of the toll and sacrifices they make, rather than blaming patients for the stress they "cause" for the nurses.

The GHQ assesses psychological morbidity and correlates with the emotional exhaustion subscale of the MBI [10]. GHQ improvements seen at both the 1-month and 7-month follow-up might reflect the improvement seen in the emotional exhaustion subscale. The GHQ asks about feelings of depression, confidence, and ability to sleep; similar domains are tapped by the emotional exhaustion subscale.

Baseline Levels of Burnout

At baseline, a full third of the sample demonstrated burnout on the emotional exhaustion subscale, a quarter had burnout levels of depersonalization, and a third scored low in the personal accomplishment subscale. A full 50% of the sample indicated levels of emotional distress on the GQH. These levels of burnout are similar to those reported by Canadian researchers Grunfeld et al. [2].

Booster Session

This study was designed to include a "booster" session to be delivered to one half of the sample randomized into the booster session 6 months after the initial session. The booster was designed to support and refresh the self-care practices of the nurses and to offer them an opportunity to debrief.

Participating hospitals were required to give the nurses paid leave from hospital duties, which required substantive shift rescheduling and investment of time and money,

especially in the face of staffing shortages. This problem became especially evident for the booster. One hospital explicitly stated that organizational challenges made the booster program impractical, even though it was desirable. Ultimately only 41 of the projected 90 subjects received the booster; at least half of the planned booster sessions were cancelled due to staffing issues.

Another important question is whether participation in the booster session inflated the outcome at the 7-month follow-up. While the statistical power is too low to report the outcome of the booster at the 7-month point, the change scores from the baseline to 7 months were compared between those who received the booster and those who did not. No statistical differences existed between the change scores for any of the MBI subscales, nor the GHQ, suggesting that small number of participants in the booster session did not significantly influence the overall follow-up scores.

Study Limitations

A limitation of the present study is the recruitment of a lower number of subjects than projected, which affects its statistical power. Thus, a p value of 0.05 was used and all analyses are to be considered exploratory or hypothesis generating. Multiple statistical comparisons also limit the conclusions that can be drawn from these results. Future work in assessing the CPCP should involve larger and more homogeneous samples.

Observed improvements in emotional exhaustion have unclear clinical relevance. The change at 1 month is about a 25% of a standard deviation improvement over baseline. At 7 months, the improvement is 28% of a standard deviation. Whether these MBI changes reflect actual changes in experience for the nurses is unknown. In a Canadian survey of over 18,000 nurses, 1/5 reported making occasional or frequent medication errors at work. These errors were related to amount of overtime worked, role overload, and shift work, factors all related to burnout [33]. Previous research with medical residents found that, with every 1-point increase in burnout on the MBI subscales, there was a 7–10% increase in self-reported medical errors in the following 3 months [16]. The CPCP produced a 1.7- and a 2.4-point improvement at 1-month and 7-month follow-up, respectively, which may have had an impact on the nurses' performance; however, it is reasonable to believe emotional exhaustion negatively affects performance and service delivery. In fact, patient satisfaction is highly dependent on the affective support received from nurses [13]. Emotional exhaustion likely interferes with the ability of healthcare professionals to connect with their patients, degrading the experience for the patient and professional alike. Future research might take into account the effect of burnout on factors reflecting healthcare quality and medical errors.

Acceptability of the Intervention

The present study is relatively large and contained nurses from several specialties. The CPCP intervention has been shown to be acceptable to nurses in management as well as the front lines and applicable to a variety of different groups (pediatrics, surgical, general oncology). It has improved the main component of burnout, emotional exhaustion in the short run and perhaps even in the longer term. A strength of the CPCP is that it offers a variety of burnout prevention strategies for broader appeal to a diverse range of coping and learning styles rather than focusing on a single approach such as meditation or communication skills. It also presents both theory and models and uses diverse teaching strategies including group discussion and hands-on practice.

As discussed, a considerable challenge was the cancelation of sessions due to nursing shortages. Interestingly, the very staffing problems and work demands that contribute to burnout are barriers to providing an intervention. As more research is conducted, and a better understanding of the ameliorating effects of programs like the CPCP is demonstrated; it is hoped that hospitals will feel more justified in accommodating these interventions. Considering these feasibility problems, it will be important to design easily accessible and long-term ways to support the strategies learned by the nurses in the CPCP intervention, such as ongoing lunchtime programs or online resources.

Summary and Recommendations

The CPCP intervention has been shown to improve a core component of burnout in medical professionals, emotional exhaustion. The effect was seen at the 1-month follow-up and at 7 months. This effect was also reflected in the GHQ that assesses psychological morbidity. Further research could usefully focus on specific nursing groups such as nurse managers or pediatric nurses. The literature also calls for physician burnout to be addressed. The CPCP intervention is readily adaptable for physicians or interdisciplinary healthcare teams who could provide support for each other using CPCP models.

A full day CPCP booster session does not appear feasible, given scheduling difficulties faced by hospitals. More accessible and convenient methods of delivery should be considered, such as lunchtime seminars for self-care strategies such as yoga, relaxation, and guided imagery. Regular debriefing sessions using the CPCP model of dealing with vicarious trauma and loss could be organized in face-to-face and online formats to encourage self-care.

In summary, the toll of burnout is felt by both patients and the healthcare workers that serve them. Successful interventions, such as the CPCP that promote self-care and reduce emotional exhaustion, can have an important role in

supporting healthcare providers doing stressful work in a difficult and burdened system.

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