Effectiveness of blog writing intervention for promoting subjective well-being, resilience, and post-traumatic growth of palliative care nurses

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Abstract

Introduction: Nurses in palliative care (PC) and end-of-life care settings are at increased risk for trauma, distress, and suffering leading to poor resilience and well-being outcomes. The recent pandemic further exposed PC nurses to experience poor mental, emotional, and existential health and well-being resulting in increased turnover, poor retention, and job satisfaction among nurses in clinical and community practice settings around the globe. Expressive writing interventions are shown to promote self-reflection, personal growth, and resilience when facing adverse life events and disaster situations. This study aims to test the effectiveness of a self-reflexive blog writing intervention to promote subjective well-being, resilience, and post-traumatic growth of nurses in palliative care settings within the US during the pandemic.

Methods: A pre-and post-test design was used to test and evaluate the acceptability, utility, and effectiveness of the reflexive blog writing intervention guided by SOPHIE (Self-exploration on **O**ntological, **P**henomenological, **H**umanistic, **I**deological, and **E**xistential) approach in promoting resilience, post-traumatic growth, and subjective well-being among palliative care

nurses. Fifty-seven nurses working in palliative and hospice care settings participated in the study. Pre-and-post online Qualtrics surveys were completed before and after administering the intervention. Participants in the intervention group were asked to write weekly blogs for four weeks using an online SOPHIE-guided blog-writing template. Descriptive statistics and t-test were used to describe the study sample and compare the means while ANCOVA; was used to control study covariates that might influence the study outcomes. and compare the means of outcome variables such as subjective well-being, resilience, and post-traumatic growth in both groups.

Results: A significant difference was seen in the mean scores of subjective well-being and resilience among the participants in the blog writing intervention group. We did not see any significant changes in post-traumatic growth post-intervention. Post-survey analysis of descriptive data revealed that most participants found blog writing intervention helpful and a supportive tool to express their anxiety, trauma, and distress.

Conclusions: The reflexive blog writing intervention guided by SOPHIE foster self-reflection and was found to be useful and effective in improving subjective well-being and resilience among nurses in palliative care settings during the pandemic. The particular intervention can be used among nurses in both clinical and community palliative care settings. Organizational policies and practices should encourage and implement similar initiatives to improve coping and wellbeing that can eventually increase job satisfaction and retention rates among nurses. Future studies are needed to test the intervention on a larger scale to further test its effectiveness and applicability in palliative care settings.

Keywords: blog writing, intervention, palliative care, nurses, resilience, post-traumatic growth, wellbeing

What is known?

- Palliative care nurses experience trauma, anxiety and burnouts caring for dying patients and their families.
- There is an increase in turnover and lower job satisfaction among nurses due to added stress and trauma caused during Covid-19 pandemic.

What is new?

- The paper utilizes a structured blog-writing intervention guided by the SOPHIE approach and pilot test its effectiveness for improving the resilience and subjective well-being among palliative care nurses.
- Blog writing intervention can be a supportive tool for self-expression and improve personal growth and wellbeing of palliative care nurses.

1. Introduction

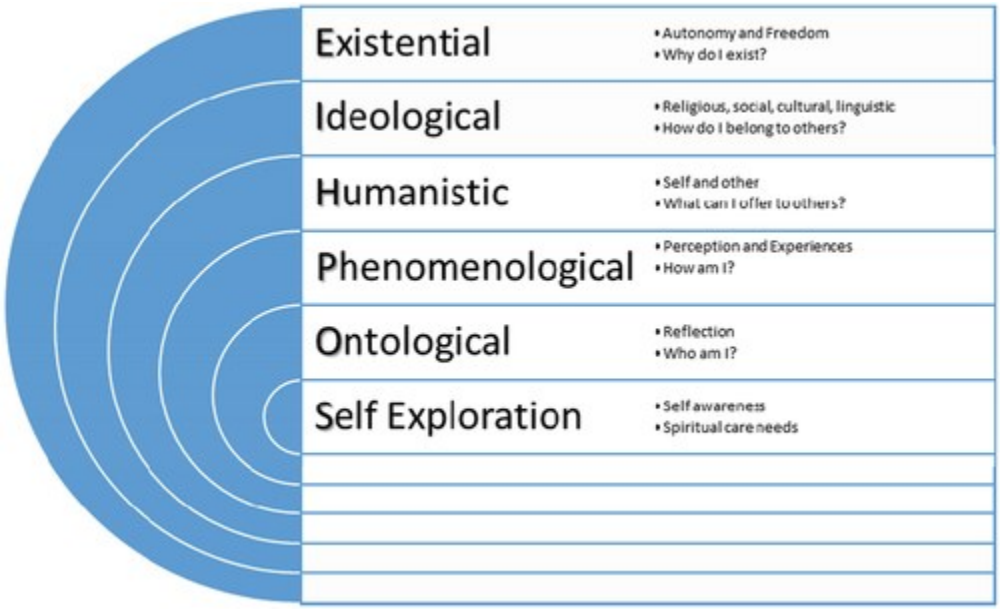
Nurses working in palliative care (PC) such as nursing homes, residential and long-term care, and hospice settings may find their work stressful and emotionally challenging and are therefore at increased risk for trauma, anxiety, and moral distress [1]. Staying present, witnessing and consoling grief and suffering of dying increases their vulnerability to burnout, moral injury, and poor well-being [2,3]. PC nurses require additional support to embrace and explore their wounds, pain, and suffering and to reappraise those as sources of internal strength, and personal growth [1,3,4]. The COVID-19 pandemic further exposed PC nurses to experience poor mental, emotional, and existential well-being as evidenced by increased suicide rates, post-traumatic growth disorder (PTSD) symptoms, and mental illnesses around the globe. [5,6,7]. Approximately 40% of all COVID-19 deaths were accounted for in nursing homes and long-term care settings with more than 100,000 deaths of residents and staff in long-term care facilities reported [8]. A recent meta-analysis review including 119 studies during COVID-19 showed that 34% of healthcare workers including nurses are suffering from mild to severe post-traumatic stress disorder (PTSD) symptoms [9]. Most nurses are going through experiences of guilt, self-doubt, anxiety, and depression [7,10]. They are found crying, afraid to work at the bedside and are unable to perform to their capacity, and hesitant to go back to work and provide the level of care that they were capable of before the COVID-19 pandemic, all of which are attributed to the traumatic experiences that they witnessed during the pandemic. It is evident that not addressing these conditions among providers could result in dysfunctional coping, suicide, substance use, and other harmful health-seeking behaviors [10,11,12,13,14]. Many healthcare agencies are witnessing higher turnover and poor retention rates among nurses and this trend has continued over post-pandemic. The American Nurses Foundation reports that almost half (49%) of nurses working in direct care settings are considering leaving their jobs resulting in a shortage of nurses leading to an increase in medical errors, reduced productivity, and poor patient and family outcomes [2]. Immediate attention and efforts are needed at local, national and international levels to look for effective interventions and organizational policies to address nurses' trauma, recovery, and healing to improve their resilience and subjective well-being [15]. During the pandemic, numerous studies looked at the prevalence of trauma, well-being, and resilience outcomes among healthcare providers in different countries, however very few intervention-

seeking studies were found specifically among nurses in long-term, nursing homes, and hospice settings.

Literature is evident that expressive writing interventions such as journal writing or blogs enable self-reflection and help vulnerable individuals to express and reflect on their personal and professional traumatic experiences promoting their emotional, psychological, and existential well-being [16,17,18]. Expressive writing allows individuals to reflect and ventilate their negative feelings into words, it helps them to create a positive attitude towards life adversities and promote meaning making, resilience, and personal growth [17]. Expressive writing has been considered a therapeutic strategy to cope and deal with anxiety, depression, and post-traumatic symptoms during any adverse life events, disaster recovery, and resilience [17,18]. Literature suggests that interventions like expressive writing such as journaling, blogs, poems and arts have been found to be flexible, creative, non-invasive, and less threatening to use among different groups of people [19]. Given above, our study aims to develop, and pilot test the acceptability, utility, and effectiveness of a self-reflexive blog writing intervention to promote the subjective well-being, resilience, and post-traumatic growth of nurses working in palliative care settings.

Conceptual Framework: The study was guided by theoretical frameworks, one guided our understanding of nurses' trauma and its impacts on nurses' well-being, whereas the other framework allowed us to design a self-reflexive blog writing intervention for promoting nurses' well-being intervention. We used the 'Nurses' Psychological Trauma (NPT) framework to develop our understanding of the trauma and well-being among nurses. According to NPT, nurses' roles are unique and differentiated from other healthcare workers and they are highly vulnerable to nurse-specific trauma [20]. The trauma nurses face can be nurse-focused (personal) or patient-focused (professional) and may overlap with each other causing moral injury, and psychological and existential crises such as anxiety, depression, detachment, loneliness, fatigue, and burn-out. The severity of these conditions may result in compromised care, dissatisfaction, high turnover, and poor retention rates among nurses in clinical settings.

Figure 1: SOPHIE- A Framework for Approaching Wellbeing



To address nurses' trauma and promote their well-being, we found a 'SOPHIE' (Self-exploration through Ontological, Phenomenological, Humanistic, Ideological, and Existential expressions) framework to guide the development of a self-reflexive wellness intervention for nurses to minimize trauma and improve their health and well-being [21] [Figure 1]). SOPHIE enables healing and empowerment through the existential and narrative inquiry process [21]. Narrative inquiry methods such as artwork, poetry, and blog writing are reflective practices that allow individuals to create safe spaces where they can discover who and what they are and could refuse who and what they were. [22] and attempt to live and grow despite all odds, a life living forward through creative engagement [23]**.** SOPHIE framework directs a person's attention to connect with their own ontological space and recognize some unexplored behavioral patterns, belief systems, and intentionality that often represent one's position in society and the nature of the relationship with others [24,25]. Using narrative inquiry methods, SOPHIE has enabled new learning possibilities by empowering learners to shape their own ontological spaces and take responsibility for self-development [24]. To summarize, the NPT framework informed different kinds of nurses' trauma whereas SOPHIE guided the development of a self-reflexive blog writing intervention in the study [21]. It was hypothesized that a blog writing intervention based on the philosophy and principles of the 'SOPHIE' framework would enable vulnerable or high-

risk individuals to self-explore, recognize, and reflect on their inner being and self-care domains and promote self-compassion, self-efficacy, and subjective well-being of individuals [21].

2. Methods:

2.1 Study Design: This study is a registered randomized controlled trial. A pilot randomized controlled trial was designed to test and evaluate the acceptability, utility, and effectiveness of a self-reflexive blog writing intervention in promoting subjective well-being, resilience, and post-traumatic growth outcomes among palliative care nurses.

2.2. Sample and Recruitment: A convenience sample of 1) registered nurses working in palliative care settings (i.e., nursing homes, hospices, and long-term care settings); 2) individuals who can read and speak English, and 3) individuals who are age 18 years or above. The desired sample size was calculated using G*Power 3.1 software analysis program. The power calculation was based on medium effect size (0.5), an alpha of 0.05, and a power of 0.80; calculated based on the mean differences of intervention and control groups of the primary outcome variable (post traumatic growth) from a previous study (Yilmaz et al., 2018). As a result, the calculated sample size with a 10% attrition rate was determined as (n=120-130) in the study. Recruitment was done using the Purdue University alumni listserv, social media posts, websites, and member listservs of several nursing, palliative care and hospice organizations. Graduate research assistants were hired and trained for recruitment and data collection purposes. An email invitation along with the consent form and study information letter was sent to all the participants.

2.3. Ethical Considerations: Ethical approval was obtained from the Institutional Ethical Review Board (IRB# 2021-1156) before recruitment and data collection in the study. Surveys were developed using Qualtrics-based software. The initial pre-surveys included the consent forms and the study information letter with clear instructions and details about the length of the study, intervention, group allocation, random assignment, and timelines. Surveys and blogs did not include any personal identifiers to maintain participants' anonymity and confidentiality. The study information letter included information about the helpline for suicide prevention and mental health crisis counsellors for participants if they feel any mental discomfort, anxiety or stress anytime during the study. Participants were provided with an honorarium of $10 at the completion of each survey and $25 at the completion of four weekly blogs for their contribution

and participation in the study. The study protocol was registered at the ClinicalTrials.gov protocol # NCT06674876

2.4. Intervention: A structured blog writing template based on SOPHIE framework was developed on Qualtrics based software. The intervention included writing weekly blogs for four consecutive weeks. Participants in the intervention group were asked to write 2 blogs/week for four weeks, a total of 8 blogs over four weeks. Each blog is about 250-300 words which may include self-reflections about their selfcare and well-being needs/practices an in the form of stories, poem or art.

As said earlier, the blog writing intervention was spread over four weeks. The weekly blogs included short questions and prompts to generate self-reflections, ideas and thoughts. **Week 1**: focused on **S**elf-exploratory and **O**ntological inquiry questions that can assist nurses in enabling congruency, transformation, and leadership in trans-cultural nursing practices. For example, in week 1, participants were encouraged to reflect and write about their personal and professional identity constructs that influence their values and beliefs such as: Who am I as a person? 'Who am I as a palliative care nurse?' **Week 2** focused on **the P**henomenological and **H**umanistic aspects of the SOPHIE framework. Participants were asked to explore their self-perceptions and subjective experiences of loss, pain, and suffering in their professional work setting. **P**henomenological aspect- was focused on inquiring: How am I? (engaging in this situation)?' This component aimed to explore areas affecting their relational well-being and practice approach with service users, carers, and colleagues. Whereas **H**umanistic aspect: What can I offer to others? Participants were asked to explore if there were any issues with professional authenticity such as fear or doubt that may affect their self-determination, passion, and motivation to care and connect with others. **Week 3: I**deological and **E**xistential aspects encouraged self-reflection on: How do I belong with others? It also asked about participants' strengths, fears, and limitations to connect and accept others as they are. How do they relate to others who may come from a different religious, social, cultural, or linguistic background? For **E**xistential Aspect: Why do I exist? The aim was to encourage participants to find the truth, meaning and professional authenticity that influences their caregiving approaches as palliative care nurses. **Week 4:** SOPHIE as Practice Wisdom- Participants were asked to draw or summarize their reflective account based on previous three-week log entries. The aim was to develop reflexivity among participants to navigate their identity construct around their personal

and professional selves, explore their personal truth, and acknowledge the nature of trauma, fear, or vulnerability they may have been experiencing, as palliative care nurses (Ali & Lalani, 2020; Wattis et al., 2021).

2.5. Self-reported measures

We used three self-reported measures using validated scales such as Subjective Wellbeing Inventory (SUBI) scale, Brief Resiliency Scale (BRS), and Posttraumatic Growth Inventory (PTGI) Scales to evaluate the study outcome variables. The subjective Wellbeing Inventory (SUBI) scale developed by [26] consists of five items on a seven-point Likert scale (1= strongly disagree to 7= strongly agree). This scale has been used cross-culturally with high internal consistency of $\alpha = 0.79$ and 0.89, found to have greater validity and reliability in comparison to other subjective well-being scales [27]. The Brief Resiliency Scale (BRS) is a six-item Likert scale (1 = strongly disagree to 5 = strongly agree) with internal consistency reliability of $\alpha = .80 - .91$ [28]. Items number two, four, and six on the BRS scale were reverse-coded. The scale has been used cross-culturally and found valid and reliable when compared with other resiliency scales [29]. The Posttraumatic Growth Inventory (PTGI) scale developed by [30], is a 21-item divided into 5 subscales: Relating to others (seven items), New Possibilities (five items), Personal Strength (four items), Spiritual Change (two items), and Appreciation of Life (three items). Each item rated on a 6-point Likert scale (0 = I did not experience this change as a result of my crisis; 5 = I experienced this change to a very great degree as a result of my crisis). The scale has been widely used cross-culturally, has an established construct validity, internal consistency (0.90), and test-retest reliability over a 2-month interval (0.71) [31].

2.6. Procedure and Data Collection: To ensure the accuracy and consistency of the data and intervention, the following quality control measures were implemented. A standard study protocol was developed by the research team to follow. Pre and post surveys at baseline, 4 and 6weeks were developed and used to collect the data from the participants to measure the study outcomes. Four weekly reflective blog template was used as intervention. An email invitation was sent to the participants to enroll in the study and complete the anonymous survey at baseline. For surveys and blogs, eligible participants were asked to create a unique ID using the first two letters of their parents' names followed by two digits of their birthdate to track participants' responses. Upon the completion of baseline surveys, the participants were randomly assigned to

control and intervention groups using the computer-generated randomization tool. The intervention group, participants were asked to write 2 blogs each week for four weeks while the control group did not. Blogs were also anonymous and did not include any personal identifiers. Post-surveys were sent to the intervention group at 4 and 6-week intervals post-intervention whereas it was only sent at 6-weeks for Control group. Post-surveys for the intervention group at 4 and 6-weeks asked additional four narrative questions to gather participants' feedback and responses about the intervention. During the study, regular weekly reminders were sent to participants in each group as appropriate to complete the surveys/ blogs in the study. Follow-up was not implemented in this project.

The research team consisted of experts in data collection and analysis, all of whom had prior experience with intervention studies, ensuring a high level of competency in executing the study. A preliminary pilot test of the survey instruments was conducted with five participants (n=5) to identify and rectify any potential issues before the full study commenced. The research team regularly reviewed survey and blog entries to verify data completeness and accuracy. Regular biweekly meetings were conducted to plan and evaluate the study procedures. To ensure the rigor, transparency, and credibility of the research, a comprehensive audit trail was maintained throughout the study.

3.Data Analysis: The statistical analysis was conducted using SPSS version 29. Descriptive statistics, including means, standard deviations, and percentages, were applied to describe the demographic characteristics of the study sample. The analysis incorporated two types of T-tests: the independent sample t-test to compare the mean differences in the three self-reported measures between the control and intervention groups before and after the intervention, and the paired sample t-test to assess changes within the intervention group across the three-time points. Additionally, an Analysis of Variance (ANCOVA) was used to control study covariates that might influence the study outcomes, thus providing a clearer understanding of the main effects and interactions effect compared to mixed ANOVA approach. Since this study focused on comparing the means of two groups with only one independent variable (the intervention), ANCOVA was more appropriate than mixed ANOVA, which is better suited for analyzing multiple independent variables or repeated measures.

To analyze the narratives from the blog data, we used thematic analysis approach. Bi-weekly meetings and discussions were held among the researchers to analyze the qualitative data and ensure consistency and maintain the interrater reliability in the qualitative data. Narratives from the data were classified into separate codes and further looked for patterns and linkages emerging in the data. Codes were defined and were then collated and put into several categories and themes. A separate codebook was maintained to include all the categories, emerging sub-themes, and themes. After several reiterations, a final thematic list was generated, shared, and discussed among the team members to build consensus and ensure rigor and credibility.

4.Results

A total of (n=144) participants completed the initial pre-surveys screening and were enrolled in the study. Using computer-generated randomization tool, participants were randomly assigned to the control group (n=72) and intervention group (n=72). An attrition rate of 60% was reported ending in a total of (n=57) participants who completed the 4 phases of the study. Among the control group, n=27 completed the surveys at the baseline and 6weeks. Among the intervention group (N=30) participants completed the surveys at baseline, 4 and 6 weeks and completed the eight blogs in four weeks in the study.

4.1. Demographic Variables

A total of 57 participants enrolled and completed all the phases of data collection in the study. About thirty participants (n=30) in the intervention group and twenty-seven (n=27) in the control group completed the study. The demographic characteristics of the study participants revealed that a significant majority were female (93%), identified as White (89.5%), and were married (93%). The predominant age group was between 29 and 39 years, comprising 70% of the participants. The vast majority had bachelor's degrees (84%) and were employed in full-time positions (96.5%). A substantial proportion of the participants had received training in palliative care (93%). Commonly reported self-care activities were spiritual activities and exercise (Each at 54.4%), followed by yoga (49%) and meditation (36.8%). The detailed demographic characteristics of the participants are presented in Table 1.

Table 1*: Sociodemographic and Clinical Characteristics of Participants at Baseline* (*n=57*).

Baseline characteristic	Full sample	Control group	Blog writing group

	(n=57)		(n=27)		(n=30)	
	n	%	N	%	n	%
Gender						
• Female	53	93	26	96.3	28	93.3
• Male	4	7	1	3.7	2	6.7
Marital status						
• Single	2	3.5	1	3.7	5	16.7
• Married/partnered	53	93	26	96.3	24	80
• Divorced/widowed	1	1.8	-		1	3.3
Age group						
• 18-28	3	5.3	1	3.7	2	6.7
• 29-39	40	70.2	18	66.7	21	70
• 40-50	12	21.1	8	29.6	6	20
• ≥ 62	1	1.8	-	-	1	3.3
Nursing Education level						
• Associate	9	15.8	9	33.3	11	36.7

degree						
• Bachelor's degree	48	84.2	18	66.7	19	63.3
Employment						
• Employed Full time	55	96.5	22	81.5	30	100
• Employed part time	2	3.5	5	18.5	-	-
Race						
• African American	6	10.5	6	22.2	2	6.7
• White	51	89.5	21	77.8	28	93.3
Ethnicity	6	12				
• Hispanic	3	5.3	3	11.1	-	-
• Non-Hispanic	54	94.7	24	88.9	30	100
Household Income						
• $35,000 - $49,000	28	49.1	10	37	2	6.7
• $50,000 - $74,999	20	35.1	16	59.3	2	6.7
• $75,000 - $99,900	5	8.8	1	3.7	23	76.7

• Over $100,000	4	7	-	-	3	10
Received palliative care training at workplace	53	93	27	100	29	96.7
Self-care activities						
• Journaling	16	28.1	8	29.6	30	100
• Spiritual activities	31	54.4	14	51.9	30	100
• Exercise	31	54.4	18	66.7	30	100
• Meditation	21	36.8	19	70.4	30	100
• Yoga	28	49.1	18	66.7	30	100

Note. $n = 57$ ($n = 27$ for control group, n=30 for Blog writing group). Participants were on average 36.1 years old ($SD = 6.1$).

[a] Reflects the number and percentage of participants answering "yes" to this question.

The two-sample t-test and the paired sample t-test were run on the data to determine any effect of the intervention on the three outcome variables (i.e., subjective well-being (SUBI), resilience (RSL), and post traumatic growth (PTGI) (Tables 2 & 3).

Table 2: Mean difference in (Post Traumatic Growth (PTGI), Resilience (BRS), and Subjective wellbeing (SUBI)) Post-Intervention (Within Subjects, n= 57).

Steps of mean difference	**PTGI**				**SUBI**				**BRS**				
	Mean difference	***t***	***df***	***P*-value**	**Mean difference**	***t***	***df***	***P*-value**	**Mean difference**	***t***	***df***	***P*-value**	***Cohen's d/ partial eta squared***
Within Control group (n =27)													
Step1: Pretest-posttest at wk6	-3.42	-1.10	25	.16	.62	-.34	26	.37	-.02	-.13	26	.89	-0.18/ 0.00370
Within Intervention group (n= 30)													
Step2: Pretest-posttest at wk4	-1.6	-.33	29	.37	-.07	2.58	28	<.001*	.24	2.45	29	.02*	-0.060/ 0.0037
Step 3: Posttest	2.86	1.123	29	.11	1.10	3.97	28	<.001*	-.02	-.1	26	.89	0.225/ 0.0496

wk4-posttest at wk6									3				
Step 4: Pretest-posttest at wk6	1.27	.29	29	.38	1.73	6.72	28	.008*	.18	-.81	29	.17	0.053/ 0.0029

*P <0.05, BRS: Brief resilience scores, SUBI: Subjective wellbeing, PTGI: post traumatic growth.

Note: n = 57; (Intervention (Blog writing) group = 30, Control group =27).

Table 3: Mean Difference in *Post Traumatic Growth, Resilience, and Subjective Wellbeing before and after Intervention (*Between Subjects, *n = 57)*

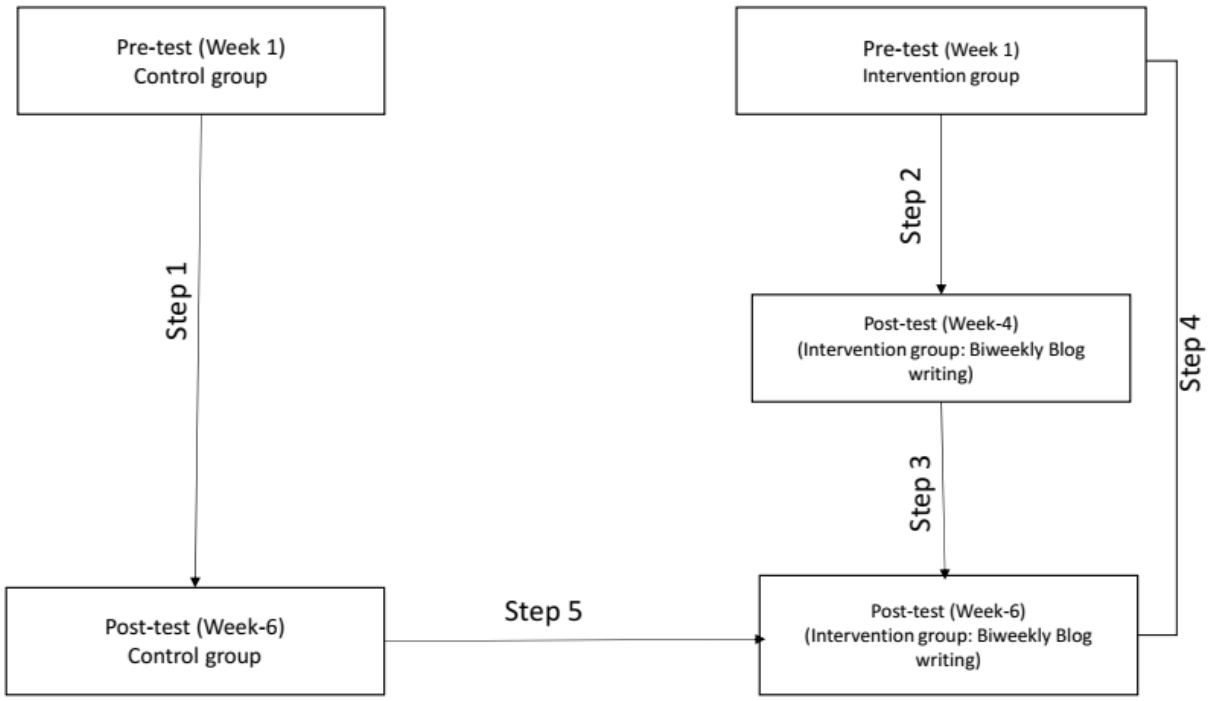
Key Outcomes (Step 5)	***M (SD)***	***t* (df)**	***P***	***Cohen's d/ partial eta squared η^2_p***
Post Traumatic Growth (PTGI)				
Intervention	72.11(*9.79*)	.751 (52)	.456	0.205/ 0.011
Control	69.92 (11.55)			
Resilience (BRS)				
Intervention	3.03 (*.314*)	-.093 (55)	.927	-0.025/ 0.0002
Control	3.04 *(.48*)			
Subjective Wellbeing (SUBI)				-

Intervention	2.43 (*1.16*)	-4.83 (49) *	<.001	1.279/ 0.323
Control	3.67 *(.73*)			

*P <0.05. Intervention (Blog writing) group n= 30, Control group n=27.

Note: Results have been considered with equal variance assumed

The mean difference between the pre-test and the post-test phase was tested at a significance level of P< 0.05. The performed study analysis included five steps; Evaluate: i) The mean difference between the pre-test and post-test phases within the control group from week 1- week 6, ii) The mean difference between the pre-test and post-test phases within the intervention group from week 1- week 4, iii) The mean difference in the post-test phase within the intervention group from week 4 to week 6, iv) Comparison of the pre-test and post-test mean differences within the intervention group from week 1- week 6, v) compare the post-test mean differences between the intervention and control groups at week 6 using the two-sample (independent) t-test. These analytical steps are presented in Figure 2.



Subjective wellbeing (SUBI): The study revealed that blog writing had a significant positive impact on the subjective well-being (SUBI) scores of participants in the intervention group. This effect was observed immediately after the intervention (step 2) and persisted in the later steps (steps 3, 4, and 5). The mean difference between the experimental and control groups ranged from 0.1% to 1.55%, indicating a potential improvement in SUBI for participants who received the intervention.

Resilience (BRS): In step 2, there was a significant difference in the mean value of resilience scores between the pre-test (baseline) and post-test (at week 4) for the intervention group (mean difference = 0.244, $P<0.005$). This difference suggests an immediate positive effect of the blog writing intervention on resilience scores, indicating a 2% probability of improvement among participants who received the intervention. However, there were no significant differences in the mean value of resilience scores in the remaining steps of the study timeline.

Posttraumatic Growth Inventory (PTGI): There was no significant difference in the mean value of PTGI in step one when comparing the pre-test and post-test phases for the intervention or control group (i.e., week 0 and week 6). Similarly, the mean value of PTGI showed consistent nonsignificant results across steps 1, 2, 3, and 4 for both groups.

Comparison of Group Means: Analysis of covariance ANCOVA was used to evaluate the mean differences between the study groups while accounting for demographic factors and self-care activities.

Table 4: *Difference in the perceived changes in Outcome measures means between the Intervention and Control group* ***(ANCOVA, n=57)***

Outcomes	Sum of squares	*df*	Mean square	*F*	*P*	η^2_p ***(partial eta squared) effect size***
Post traumatic Growth (a)						
Age	719.88	1	719.88	3.45	.06	.050
Income	542.99	1	542.99	2.60	.11	.039
Clinical area	499.72	1	499.72	2.39	.12	.036
Years as RN	91.02	1	91.02	.43	.51	.007
Designation at work	9.70	1	9.70	.04	.83	.001
Years in palliative care	164.64	1	164.64	.78	.37	.012
Yoga	0.38	1	.38	.002	.96	.000
Meditation	1425.36	1	1425.36	6.83	.01*	.095
Exercise	190.11	1	190.11	.91	.34	.014
Spirituals	19.90	1	19.90	.09	.75	.001
Journaling	710.32	1	710.32	3.40	.07	.050
Time of measurement	530.80	1	530.80	2.54	.11	.038
Total	19501.44	77				

Subjective Wellbeing (b)						
Age	23.75	1	23.75	1.73	.19	.025
Income	12.59	1	12.59	.92	.34	.013
Clinical area	19.75	1	19.75	1.44	.23	.021
Years as RN	8.76	1	8.76	.64	.42	.009
Designation at work	31.50	1	31.50	2.30	.13	.033
Years in palliative care	86.67	1	86.67	6.34	.01*	.085
Yoga	27.99	1	27.99	2.04	.15	.029
Meditation	1.03	1	1.03	.07	.78	.001
Exercise	1.64	1	1.64	.12	.73	.002
Spirituals	18.14	1	18.14	1.32	.25	.019
Journaling	7.09	1	7.09	.51	.47	.008
Time of measurement	96.18	1	96.18	7.03	.01*	.094
Total	1328.000	80				
Resilience (c)						
Age	.38	1	.38	1.41	.23	.020
Income	.12	1	.12	.47	.49	.007
Clinical area	.01	1	.01	.04	.82	.001
Years as RN	.18	1	.18	.70	.40	.010

Designation at work	.42	1	.42	1.57	.21	.022
Years in palliative care	.000	1	.000	.000	.98	.000
Yoga	.05	1	.05	.19	.65	.003
Meditation	.51	1	.51	1.92	.17	.027
Exercise	.02	1	.02	.08	.76	.001
Spirituals	.25	1	.25	.94	.33	.013
Journaling	.14	1	.14	.54	.46	.008
Time of measurement	1.17	1	1.17	4.39	.04*	.060
Total	20.985	81				

a. R Squared = .305 (Adjusted R Squared = .176)

b. R Squared = .300 (Adjusted R Squared = .177)

c. R Squared = .117 (Adjusted R Squared = -.037)

*P <0.05. Note: interaction effect was not included as none were significant.

Table 4 shows ANCOVA results indicating that several covariates (i.e., demographics and self-care activities variables) were found to be statistically significant. Post Traumatic Growth was significantly associated with meditation ($F(1, 77) = 6.83$, $p = .01$). Age and journaling ($F(1, 77) = 3.45$, $p = .06$; $F(1, 77) = 3.40$, $p = .07$) showed trends towards affecting PTGI but were not statistically significant. In terms of subjective well-being, years in palliative care ($F(1, 80) = 6.34$, $p = .01$) and the time of measurement ($F(1, 80) = 7.03$, $p = .01$) were found to be significant factors. Indicating that subjective well-being was higher after engaging in the blog writing intervention. Resilience scores were not affected by the covariates included in the analysis and it only affected by the time of measurement ($F(1, 81) = 4.39$, $p = .04$). The R Squared values suggest a moderate proportion of variance in post-traumatic growth and subjective wellbeing, but they explain a smaller portion of the variance in resilience. These

findings highlight the importance of demographic factors and self-care activities in enhancing post-traumatic growth and subjective well-being.

4.2. Acceptability and Utility of the Intervention: Post surveys included open-ended descriptive questions to ask participants for their responses and feedback about the intervention to determine the acceptability and utility and to suggest further improvements in the study. Findings suggested that participants found that the intervention helpful in reflecting on their past traumas and challenges associated with their personal and professional work lives. Below are some of the themes generated from the blog narratives obtained from the participants.

4.2.1. Self-awareness and healing: Nearly all participants said that blog writing was helpful and allowed self-awareness, personal reflections, and healing. Participants also said that 'it was helpful in their 'mental journey', 'deepen understanding of own self', 'reflection on self-growth', 'record footprints', daily emotions, and mood. It was interesting to note that the word 'healing' was used more than 20 times in participants' narratives. Participants reported that the intervention helped them to self-reflect on their moral injuries and trauma, generated insight, and promoted their self-awareness. Several words used to appraise the intervention included meaningful, therapeutic, helpful, and supportive activity. Examples of participants' narratives are given below:

> *I believe some healing took place and has continued in my understanding of past experiences and my work.*
>
> *It allows me to think more calmly and deal with the trauma I have encountered, giving me a better meaning in life. it helped me heal the trauma am experiencing. Help me in stress relief, help me to better stabilize my emotions. Helped me reflect on my past which had a great effect on me. It helped make my time useful and helped me come out of this mess. Feel calm.*
>
> *Writing about traumatic events can help ease the emotional stress of negative experiences… I feel good when I reflect on the trauma I've been through and connect and heal through SOPHIE.*

4.2.2. Sense of Personal growth and wellbeing: Participants reported feelings such as 'calmer self', happy, and found a sense of personal growth and well-being. One of the participants reported that writing blogs helped them 'Not to ignore the trauma as it will halt your capabilities'

and guided them towards ‘better wound healing’. The writing intervention allowed them to do a life review, rethink about their values, perspectives and worldviews and work towards developing a positive attitude towards life. Some of the quotes are presented below:

SOPHIE helped me to take responsibility for my thoughts, find meaning in trauma, stay open to myself, and develop new worldviews.

Helped me do a life review. I could reevaluate where some change is needed for better balance and happiness.

4.2.3. Self-care and well-being: The regular blog writing allowed them to identify and express their fears and vulnerabilities. They found it as a form of selfcare practice to reconnect with self and find meanings in their actions to promote their resilience and well-being. A few quotes below:

Using SOPHIE made me feel vulnerable sometimes. Vulnerability is also a sign of courage. When we embrace who we are and how we feel, we become more resilient and braver.

Writing blogs made me strong and helped me to reevaluate my values and beliefs. it was a kind of therapeutic journal which I haven’t done in a while.

5. Discussion

Our study is of its first kind to evaluate the SOPHIE framework using structured blog writing intervention and its effectiveness for improving the subjective wellbeing, resilience, and post-traumatic growth outcomes among palliative care nurses. An expressive blog intervention guided by SOPHIE represents a safe and risk-free approach to extend selfcare practices among vulnerable palliative care nurses.

Our findings showed a significant mean difference in participants’ subjective well-being outcomes post intervention at 6 weeks and potential improvements in participants’ resilience outcomes post intervention at 4 weeks suggesting the effectiveness of the SOPHIE framework in improving nurses’ resilience and well-being. The study adds to the knowledge that applying SOPHIE as a methodology for blog writing intervention generate self-reflexivity and improve the subjective well-being of palliative care nurses.

It was evident that writing blogs using SOPHIE as a guide offered participants a method of chronicling their thoughts and feelings conveniently and privately. Blog writing as a self-reflexive intervention has been used in several other studies also and found to improve mental health and well-being. For example, [32] supported the idea that blog writing enables participants to reflect on their vulnerabilities and reshape their situations and emotions with less pressure and at a pace they are comfortable with. Blog intervention carries multiple practical merits as it is non-invasive, inexpensive, and presents minimal risks for the participants. Moreover, blogs are convenient as they offer increased privacy and anonymity and encourage more personal space for emotional expression and self-reflection [19]. Similarly, the positive effects of self-reflective writing on subjective well-being align with the findings of [33], who discovered that expressive writing leads to improvements in both physical and psychological well-being. Park and Blumberg [34] also discussed how journaling, as a form of expressive writing, effectively enhances emotional and subjective well-being.

Resilience plays a crucial role in safeguarding nurses' employment status and mitigating the negative effects of the pandemic [35]. After completion of the study program, findings revealed a notable increase in resilience among participants who underwent a blog writing intervention. While the improvement in resilience scores was not consistently statistically significant over time, it indicated a potential boost in resilience levels. Given the connection between resilience and post-traumatic growth in improving the well-being of healthcare professionals. This change is vital and could be investigated for its long-term effect in future studies. Findings suggest improvement in the subjective well-being post-intervention; however, it did not show any significant improvement in post-traumatic growth, possibly because the intervention was implemented for a shorter time i.e., four weeks only. Given that post-traumatic growth is a gradual process, longer intervention periods may be necessary to observe significant changes. Previous studies among intensive care unit nurses suggest that higher resilience scores correlate with greater post-traumatic growth, indicating that nurses with greater resilience experience personal growth and cope better with professional challenges following a traumatic experience [36,37,38,39,40]. While the relationship between resilience and post-traumatic stress has been established in prior literature, most of these studies have used psychological education or multimodal intervention strategies for enhancing post-traumatic growth among nurses for varying lengths of time. Evidence suggests that post-traumatic growth occurs over time, it is an

ongoing process and not a static outcome [30]. Very little research is available enhancing post-traumatic growth especially the use of writing or blogs only as an intervention among nurses and therefore there is a need to extend the SOPHIE framework to different settings and to test its long-term effectiveness. It has been noted that resilience scores were not impacted by the independent effect of demographics or self-care activities but rather were only impacted by the time of measurement (i.e., before the blog writing intervention or after). This reflects that changes in resilience scores were more favourably affected by the blog writing intervention. Our findings suggest that intervention can be an effective approach to increase resilience levels among nurses in palliative care settings.

Our findings also showed mean differences in the PTGI scores among participants who used self-care activities such as meditation. Other studies conducted during the pandemic have also shown that meditation and mindfulness improve the mental health and psychological and spiritual wellbeing outcomes among nurses [41,42]. Meditation and mindfulness programs are increasingly being used for emotional and behavioural management in different vulnerable populations and have shown several beneficial effects such as stress reduction, decreases in depression and other harmful behaviours, improved coping, self-control, and relationships within self and others [43,44].

Post-intervention surveys asked about the feedback responses of blog intervention among the participants. Notably, all the participants in the intervention group reported that writing blogs using the SOPHIE framework provided them with an opportunity to share and express their experiences, emotions, and feelings and to seek support. Similarly, the narrative analysis from the blogs also showed that the intervention was viewed as a process of self-discovery, and disclosure [24]. Participants reported that writing blogs helped them to reflect on their strengths and weaknesses and build their confidence and ability to strive for more meaningful things in life. Writing blogs kept them focused, not to judge themselves harshly, and to find positive ways to guide and support themselves (O'Toole, 2018). The process of self-reflection allowed them to comprehend and explore their journey of meaning-making affecting their sense of professional fulfilment and empowerment [24]. Participants reflected on how they have constructed their identities both as a person and professionals. The weekly blog kept them engaged in deep and ongoing reflection to make sense of their outer and inner world. SOPHIE template encouraged them to reflect on their perceived notions of self through the dimensions of time, social

interactions, and relational well-being. Narrative inquiry using blog or expressive writing as therapeutic interventions served as a valuable tool for understanding communication dynamics and self-awareness within personal and professional boundaries, and organizational settings across different disciplines. Giving voice to research participants enabled them to co-construct knowledge throughout this exploration process by narrating their accounts [45].

It is important to note that the SOPHIE framework was used for the first time to develop this blog writing intervention to generate self-reflexivity in promoting the subjective well-being, resilience, and personal growth of palliative care nurses. Further research is necessary to explore its effectiveness and applicability in different settings and among different population groups. This study sets the stage for future investigations into the SOPHIE framework's potential benefits for improving the subjective well-being, resilience and post-traumatic growth of nurses and other healthcare providers on a larger scale in different clinical and community settings.

Study Limitations: There were several limitations. In this study, participants were sourced from various healthcare institutions without regard to their geographical distribution. This recruitment strategy may have inadvertently allowed for the possibility that some participants were concurrently involved in unmeasured psychoeducational or supportive programs, potentially affecting the study's results. Furthermore, the lack of measurement for the control group at week 4 limited the ability to compare immediate intervention effects accurately, highlighting the need for uniform data collection schedules in future research. The self-reported nature of the study's outcome measures also raises the concern that participants may have provided responses bias that they perceived to be socially desirable, leading to an increase in positive outcomes. A retrospective recall bias might have affected participants blog responses given that they were asked to recall and reflect on their past events. Due to the long implementation of this workshop intervention and time commitment to complete the 8 blogs, a high attrition rate was observed. Future studies need to consider follow-up calls to withdraw participants and participating participants with compensatory value to get feedback on other possible factors for withdrawal to be addressed and plan appropriate strategies to address them.

For the generalizability of future research findings, it is recommended that subsequent studies account for additional confounding factors that could influence the results, taking into consideration the variability in resource availability across different healthcare systems and any

other therapeutic interventions that participants might have been exposed to before and during the study period, and consider editing the blog questions to specifically guide participants to focus on the targeted traumatic event it is applied for. Also, consider the time needed for some included variables to address them appropriately.

Implications for policy and practice: Our study highlighted several implications for palliative care policies and practices supporting nurses' overall health and wellbeing. Given that SOPHIE-guided blog writing is a low-cost, flexible, and scalable intervention, it could be integrated into existing mental health and well-being initiatives for nurses and other healthcare providers working in palliative and end of life care settings. Nurse leaders and managers should integrate SOPHIE-guided blog writing into professional development programs and resilience training workshops. The application of such low cost and self-reflexive interventions can enhance job satisfaction, reduce turnover and improve retention among nurses. Future research is needed to evaluate the efficacy of SOPHIE-guided blog writing intervention in larger samples of nurses and other healthcare providers in palliative care and other health settings.

Declaration

The ethics declaration for this study is in accordance with the Declaration of Helsinki

Ethics approval and consent to participate

Ethical clearance was obtained from the Purdue University IRB before commencing data collection.

Human Ethics and Consent to Participate in declarations.

Verbal and written consent were secured from participants prior to data collection.

Availability of data and materials

All supporting data for this manuscript are available

Conflict of interest

We declare that there is no conflict of interest in the study.

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Abbreviations

ANCOVA-Analysis of Variance

BRS-Brief Resiliency Scale

IRB- Institutional Ethical Review Board

NPT-'Nurses' Psychological Trauma

PC- Palliative care

PTSD-post-traumatic stress disorder

PTGI-Posttraumatic Growth Inventory

RSL-Resilience

SOPHIE-Self-exploration on Ontological, Phenomenological, Humanistic, Ideological, and Existential

SPSS- Statistical Package for the Social Sciences.

SUBI-Subjective Wellbeing Inventory

US- United States

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References (Please revise these references with red mark and use [ ] to number the series.)

1. Ogińska-Bulik N. Secondary traumatic stress and vicarious posttraumatic growth in nurses working in palliative care–the role of psychological resilience. Ppn 2018;27(3):196-210. https://doi.org/10.5114/ppn.2018.78713.

2. De Kock JH, Latham HA, Leslie SJ, Grindle M, Munoz SA, Ellis L, et al. A rapid review of the impact of COVID-19 on the mental health of healthcare workers: Implications for

supporting psychological well-being. BMC Public Health 2021;21(1):104. https://doi.org/10.1186/s12889-020-10070-3.

3. Tornøe KA, Danbolt LJ, Kvigne K, Sørlie V. The challenge of consolation: Nurses' experiences with spiritual and existential care for the dying-a phenomenological hermeneutical study. BMC Nurs 2015;14:62. https://doi.org/10.1186/s12912-015-0114-6.

4. Salimi S, Pakpour V, Rahmani A, Wilson M, Feizollahzadeh H. Compassion satisfaction, burnout, and secondary traumatic stress among critical care nurses in Iran. J Transcult Nurs 2020;31(1):59-66. https://doi.org/10.1177/1043659619838876.

5. Alharbi J, Jackson D, Usher K. The potential for COVID-19 to contribute to compassion fatigue in critical care nurses. J Clin Nurs 2020;29(15-16):2762-4. https://doi.org/10.1111/jocn.15314.

6. Lin KG, Yang BX, Luo D, Liu Q, Ma SM, Huang R, et al. The mental health effects of COVID-19 on health care providers in China. Am J Psychiatry 2020;177(7):635-6. https://doi.org/10.1176/appi.ajp.2020.20040374.

7. Padmanathan P, Lamb D, Scott H, Stevelink S, Greenberg N, Hotopf M, et al. Suicidal thoughts and behaviour among healthcare workers in England during the COVID-19 pandemic: A longitudinal study. PLoS One 2023;18(6):e0286207. https://doi.org/10.1371/journal.pone.0286207.

8. Chidambaram P, Garfield R, Neuman T. COVID-19 has claimed the lives of 100,000 long-term care residents and staff. Kaiser Family Foundation. 2020 Nov. Available from: https://www.kff.org/policy-watch/covid-19-has-claimed-the-lives-of-100000-long-term-care-residents-and-staff/

9. Andhavarapu S, Yardi I, Bzhilyanskaya V, Lurie T, Bhinder M, Patel P, et al. Post-traumatic stress in healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. Psychiatry Res 2022;317:114890. https://doi.org/10.1016/j.psychres.2022.114890.

10. Amberson T. Postpandemic psychological recovery and emergency nursing: Creating a narrative for change. J Emerg Nurs 2021;47(3):362-5. https://doi.org/10.1016/j.jen.2021.03.002.

11. Foli KJ. A middle-range theory of nurses' psychological trauma. ANS Adv Nurs Sci 2022;45(1):86-98. https://doi.org/10.1097/ANS.0000000000000388.

12. Foli KJ, Reddick B, Zhang LS, Krcelich K. Nurses' psychological trauma: “They leave me lying awake at night”. Arch Psychiatr Nurs 2020;34(3):86-95. https://doi.org/10.1016/j.apnu.2020.04.011.

13. Foli KJ, Zhang LS, Reddick B. Predictors of substance use in registered nurses: The role of psychological trauma. West J Nurs Res 2021:193945920987123. https://doi.org/10.1177/0193945920987123.

14. Foli KJ, Thompson JR. The influence of psychological trauma in nursing. Sigma; 2019 Jun 17.

15. American Nurses Foundation survey report Pulse on the Nation’s Nurses Survey Series: 2022 Workplace Survey. Nurses Not Feeling Heard, Ongoing Staffing and Workplace Issues Contributing to Unhealthy Work Environment. https://www.nursingworld.org/~4a209f/globalassets/covid19/anf-2022-workforce-written-report-final.pdf

16. Francis ME, Pennebaker JW. Putting stress into words: The impact of writing on physiological, absentee, and self-reported emotional well-being measures. Am J Health Promot 1992;6(4):280-7. https://doi.org/10.4278/0890-1171-6.4.280.

17. Ruini C, Mortara CC. Writing technique across psychotherapies-from traditional expressive writing to new positive psychology interventions: A narrative review. J Contemp Psychother 2022;52(1):23-34. https://doi.org/10.1007/s10879-021-09520-9.

18. Reinhold M, Bürkner PC, Holling H. Effects of expressive writing on depressive symptoms—a meta-analysis. Clin Psychol Sci Pract 2018;25(1):e12224. https://doi.org/10.1111/cpsp.12224.

19. Barak A, Grohol JM. Current and future trends in Internet-supported mental health interventions. J Technol Hum Serv 2011;29(3):155-96. https://doi.org/10.1080/15228835.2011.616939.

20. Foli KJ. A middle-range theory of nurses' psychological trauma. ANS Adv Nurs Sci 2022;45(1):86-98. https://doi.org/10.1097/ANS.0000000000000388.

21. Ali G, Snowden M. SOPHIE (self-exploration through ontological, phenomenological, humanistic, ideological and existential expressions):A mentoring framework. Mentorship, Leadership, and Research. Cham: Springer International Publishing, 2018:107-16. https://doi.org/10.1007/978-3-319-95447-9_8.

22. Foucault M. Afterward: the subject and power. In: Dreyfus H, Rabinow P, editors. Michel Foucault: Beyond Structuralism and Hermeneutics. 2nd ed. Chicago: University of Chicago Press; 1982. p. 208-26.

23. Sagan O. An interplay of learning, creativity and narrative biography in a mental health setting: Bertie's story. Art, Creativity and Imagination in Social Work Practice. ■■: Routledge, 2019:53-63. https://doi.org/10.4324/9781315876504-5.

24. Ali G, Lalani N. Approaching spiritual and existential care needs in health education: Applying SOPHIE (self-exploration through ontological, phenomenological, and humanistic, ideological, and existential expressions), as practice methodology. Religions 2020;11(9):451. https://doi.org/10.3390/rel11090451.

25. Wattis J, Rogers M, Ali G, Curran S. Spiritually competent practice and cultural aspects of spirituality. Advanced Practice in Nursing. Cham: Springer International Publishing, 2021:23-42. https://doi.org/10.1007/978-3-030-71464-2_2.

26. Diener E. Subjective well-being. The science of happiness and a proposal for a national index. Am Psychol 2000;55(1):34-43. 10.1037/0003-066X.55.1.3427. Nima AA, Cloninger KM, Persson BN, Sikström S, Garcia D. Validation of subjective well-being measures using item response theory. Front Psychol 2020;10:3036. https://doi.org/10.3389/fpsyg.2019.03036.

28. Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The brief resilience scale: Assessing the ability to bounce back. Int J Behav Med 2008;15(3):194-200. https://doi.org/10.1080/10705500802222972.

29. Salisu I, Hashim N. A critical review of scales used in resilience research. IOSR J Bus Manag 2017;19(4):23-33. https://doi.org/10.9790/487x-1904032333.

30. Tedeschi RG, Calhoun LG. TARGET ARTICLE: "posttraumatic growth: Conceptual foundations and empirical evidence". Psychol Inq 2004;15(1):1-18. https://doi.org/10.1207/s15327965pli1501_01.

31. Seidmahmoodi J, Rahimi C, Mohamadi N. Resiliency and religious orientation: Factors contributing to posttraumatic growth in Iranian subjects. Iran J Psychiatry 2011;6(4):145-50. https://pmc.ncbi.nlm.nih.gov/articles/PMC3395957/

32. Kim B, Gillham DM. The experience of young adult cancer patients described through online narratives. Cancer Nurs 2013;36(5):377-84.10.1097/ncc.0b013e318291b4e9

33. Klein K. Stress, expressive writing, and working memory. The writing cure: How expressive writing promotes health and emotional well-being.. Washington: American Psychological Association, 2004:135-55. https://doi.org/10.1037/10451-007.

34. Park CL, Blumberg CJ. Disclosing trauma through writing: Testing the meaning-making hypothesis. Cogn Ther Res 2002;26(5):597-616. https://doi.org/10.1023/A:1020353109229.

35. Finstad GL, Giorgi G, Lulli LG, Pandolfi C, Foti G, León-Perez JM, et al. Resilience, coping strategies and posttraumatic growth in the workplace following COVID-19:A narrative review on the positive aspects of trauma. Int J Environ Res Public Health 2021;18(18):9453. https://doi.org/10.3390/ijerph18189453.

36. Mealer M, Conrad D, Evans J, Jooste K, Solyntjes J, Rothbaum B, et al. Feasibility and acceptability of a resilience training program for intensive care unit nurses. Am J Crit Care 2014;23(6):e97-105. https://doi.org/10.4037/ajcc2014747.

37. Mealer M, Jones J, Meek P. Factors affecting resilience and development of posttraumatic stress disorder in critical care nurses. Am J Crit Care 2017;26(3):184-92. https://doi.org/10.4037/ajcc2017798.

38. Yılmaz G. Professional quality of life in nurses: Compassion satisfaction and compassion fatigue. Psi Hem Derg 2018: 9(3):205-211 https://doi.org/10.14744/phd.2018.86648.

39. Yılmaz G, Üstün B, Günüşen NP. Effect of a nurse-led intervention programme on professional quality of life and post-traumatic growth in oncology nurses. Int J Nurs Pract 2018;24(6):e12687. https://doi.org/10.1111/ijn.12687.

40. Xu X, Hu ML, Song Y, Lu ZX, Chen YQ, Wu DX, et al. Effect of positive psychological intervention on posttraumatic growth among primary healthcare workers in China: A preliminary prospective study. Sci Rep 2016;6:39189. https://doi.org/10.1038/srep39189.

41. Accoto A, Chiarella SG, Raffone A, Montano A, de Marco A, Mainiero F, et al. Beneficial effects of mindfulness-based stress reduction training on the well-being of a female sample during the first total lockdown due to COVID-19 pandemic in Italy. Int J Environ Res Public Health 2021;18(11):5512. https://doi.org/10.3390/ijerph18115512.

42. Taylor EJ, Ada HM, Dupée C, Jordan M, Radovich P, Boyd KC, et al. Tragedy or transformation? Online survey of nurse spirituality during the COVID pandemic. J Clin Nurs 2023;32(17-18):6287-97. https://doi.org/10.1111/jocn.16668.

43. Allen TD, Henderson TG, Mancini VS, French KA. Mindfulness and meditation practice as moderators of the relationship between age and subjective wellbeing among working adults. Mindfulness 2017;8(4):1055-63. https://doi.org/10.1007/s12671-017-0681-6.

44. Yun JY, Kim JW, Myung SJ, Yoon HB, Moon SH, Ryu H, et al. Impact of COVID-19 on lifestyle, personal attitudes, and mental health among Korean medical students: Network analysis of associated patterns. Front Psychiatry 2021;12:702092. https://doi.org/10.3389/fpsyt.2021.702092.

45. O' Toole J. Institutional storytelling and personal narratives: Reflecting on the ‘value’ of narrative inquiry. Ir Educ Stud 2018;37(2):175-89. https://doi.org/10.1080/03323315.2018.1465839.