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Brief Report

Evaluating the Effectiveness of BREATHE for Nurse Practitioners During COVID Pandemic

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ABSTRACT

The current health care system incorporates multidimensional strategies of improving patients’ care experiences, promoting the health of populations, and reducing per capita cost of health care. These strategies include reducing readmission rates by keeping patients in the community and out of the skilled nursing facilities. Unfortunately, patients’ outcomes were severely threatened during the coronavirus disease 2019 pandemic due to staff burnout. This project evaluates the effectiveness of the BREATHE program on the perceived stress level of nurse practitioners during the coronavirus disease 2019 pandemic. Emotional exhaustion and depersonalization decreased 1 month after nurse practitioners completed the program.© 2022 Elsevier Inc. All rights reserved.

The coronavirus disease 2019 (COVID-19) pandemic has resulted in high stress levels among health care professionals, including nurse practitioners (NPs). The severity of the situation is further heightened by the limited resources and time that may be available for relieving such stress, potentially leading to burnout. In a recent study of 2,707 health care providers from 60 countries, 51% reported burnout.1 Burnout among health care workers has been found to be related to a wide range of occupational stressors such as an increased workload,2 which has been exacerbated by the COVID-19 pandemic. This high risk for burnout requires interventions that are aimed at decreasing the perceived stress level among health care professionals, which can also improve patients’ outcomes. Cimiotti et al3 concluded that “reducing burnout can improve the well-being of nurses and the quality of patient care.”(p5) Reducing burnout could be achieved through offering stress management programs.

Background and Significance

The world’s geriatric population is increasing and is projected to reach 1.5 billion by 2050.4 Adults aged 85 years and older at an increased risk of disability due to chronic conditions that may require long-term care. Between 2005 and 2030, this population will likely rise by 151% globally compared with only a 104% increase for adults aged 65 years and older.5 The number of adults that move to nursing homes is also likely to increase from 1.2 million to 2.7 million.6 With more and more of the population moving into skilled nursing facilities (SNFs), it is imperative to implement certain interventions that will help improve their health, function, and quality of life.7 The first COVID-19 case in a SNF was recorded in Seattle, WA, on February 28, 2020.8 As of October 31, 2021, a total of 719,408 COVID-19 confirmed cases and a total of 139,270 confirmed residents’ deaths were reported in nursing homes across the United States.9 The combination of increasing numbers of patients living in SNFs and COVID-19 and chronic disease merits action to prevent burnout in nurses and NPs.

Scope of the Problem

The presence of independent NPs who delivered on-site coverage in SNFs was threatened in the wake of the COVID-19 pandemic because more health professionals moved to telemedicine to limit physical time in the facilities. Videos and telephones were used as a medium to assess patients and provide appropriate treatments. Unfortunately, the older adults who strongly rely on the health care system because of their multiple comorbidities were less likely to use telemedicine or any other virtual platforms because of their lack of technological competency.10 Navigating how to use telemedicine and getting acquainted with the rules and regulations provided by the Center for Medicare and Medicaid Services regarding telemedicine use and billing, among other observed challenges, were noted to be sources of stressors to NPs who practiced in SNFs. Likewise, the stress placed on nurses who coordinated telemedicine care delivery between the NPs and patients was observed. The nurses had to teach the patients how to interact with care providers through video or telephone calls. The use of personal protective equipment created a barrier between the patient and health care providers, making treatment more difficult, and the fear of contracting the infection and subsequently spreading it to family or friends caused anxiety and stress among staff.10 Recent findings suggest that the psychological impact of the COVID-19 pandemic on health care workers includes trauma or...
Stress-related disorders, depression, and anxiety, and this is anticipated to affect patients’ outcomes adversely. It is also predicted that the pressures emerging from the pandemic and the related lockdown measures will persist even after the danger of the infection has passed.12

This pilot study was designed to evaluate the impact of the BREATHE program on the 3 subscales of the Maslach Burnout Inventory among NPs who were practicing in SNFs during the COVID-19 pandemic. The purpose was to assess if the NPs who completed the program over a 1-month period reported changes in emotional exhaustion, depersonalization, and personal accomplishment.

### Synthesis of the Literature

Stress among health care professionals can occur in 3 facets: emotional exhaustion, depersonalization, and a lack of sense of personal accomplishment.13 In the wake of the pandemic, most nursing homes limited the presence of contractors, including NPs. There were social distancing warnings, isolations, and inadequate personal protective equipment, leading to the increased use of telemedicine. Nurses who historically are burdened with a heavy workload needed to coordinate the telemedicine visits between the NPs and the patients. Regardless of the numerous studies that are available on burnout among registered nurses in the hospitals, a gap was found in the literature regarding studies with respect to burnout among NPs.8,14

### Methods

#### Participants and Setting

Ninety-eight NPs who worked remotely as part of a group of independent NPs were invited to participate in the study. The inclusion criterion was having cared for at least 10 patients who had COVID-19 in their various associated SNFs in the past 12 months.

#### Design and Measurement

The Maslach Burnout Inventory questionnaire consists of 22 questions that measure emotional exhaustion, depersonalization, and personal accomplishment.15 This tool was used in a pre- and postsurvey design to gather NPs’ perceived stress levels before and after the intervention during the COVID-19 pandemic. The internal consistency, reliability, and validity of the Maslach Burnout Inventory questionnaire were validated using the Cronbach alpha coefficient. All 3 subscales demonstrated high internal consistency with Cronbach alpha coefficient values of 0.837, 0.869, and 0.881, and the test-retest reliability was high (P < .001).16

#### Data Collection

In week 1, a presurvey link was emailed to all the NPs’ work email addresses. Participants were deidentified by instructing them to create their unique survey IDs. In week 2, NPs who met the inclusion criterion proceeded to the BREATHE program, which was open to them over a 1-month period with unlimited access at the NPs’ convenience. One week after the intervention, a post-intervention survey was sent to the NPs to assess the immediate impact of the intervention. They completed a 5-point Likert scale that consisted of 5 questions assessing the NPs’ satisfaction with using the BREATHE program. Four weeks postintervention, the NPs completed a final survey to assess the overall effect of the program on their stress levels.

#### Data Analysis

Data were analyzed with descriptive statistics, including percentages and measures of central tendency and dispersion using Microsoft Excel. To answer the primary research question, mean scores of the Maslach Burnout Inventory questionnaire were compared over the 3 time points using repeated measures analysis of variance. The survey IDs appearing in the 3 data sets allowed for responses to be linked.

#### Financial Disclosure

The BREATHE program was licensed for a minimum of $600 per 100 participants. The Maslach tool over the 3 timepoints cost $730.
regardless of the number of participants. The total cost for the project was $1,330.00. Part of this cost was paid with a grant of $1,000.00 from the Sigma Theta Tau Mu Chapter and the project leader covered the balance of $330.00.

**Ethical Considerations**

Consent to participate in the study was obtained from the participants. Surveys were anonymous. All data were kept on a password-protected computer under lock and key. The NP group does not have an institutional review board, but the survey was approved by the company’s clinical leaders. The study was reviewed and approved as exempt by the University of Connecticut Institutional Review Board.

**Results**

Of the 98 invited participants, 64.7% (n = 66) responded to the presurvey; 39.4% (n = 26) of the respondents met the inclusion criterion and proceeded to complete the consents and presurvey. Twenty-five of them were women, and 1 was a man; 46.2% (n = 12) of them went on to access the BREATHE program. Of the 12 participants who completed the BREATHE program, 83.3% (n = 10) completed the postsurvey (9 women and 1 man). The mean age of these 10 respondents was 40.3 years (range, 36–45 years).

The mean for emotional exhaustion for the 10 participants at the beginning of the study was 3.5, indicating that the respondents felt emotionally exhausted several times a month on average but not every week. This mean decreased after completing the BREATHE program over a 1-month period, indicating that the respondents felt emotionally exhausted only a few times a month. Immediately after the program, there was a significant decrease in emotional exhaustion \( (P = .002) \) and depersonalization \( (P = .03) \). There was no significant change in personal accomplishment \( (P = .09) \). On the 5-point Likert scale, NPs reported 90% overall satisfaction using the BREATHE program.

**Final Postintervention Survey**

Of the 10 participants who completed the initial postsurvey, 70% (n = 7) completed the final survey. The aggregated means of the 7 participants were compared over the 3 time points (Table). It was noted that emotional exhaustion consistently decreased over the 3 time points, whereas depersonalization decreased immediately postintervention but remained the same 1 month after the program. Personal accomplishment remained higher throughout the 3 time points. A single-factor analysis of variance was used to plot the graph in Figure 2, showing the 3 time points for the 7 participants.

The \( P \) values were recalculated over the 3 time points for the 7 participants who completed the BREATHE program and the 2 postintervention surveys. The \( P \) value for emotional exhaustion remained significant at .001.

**Discussion**

**Limitation of Study**

The main limitation of this project was the low participation in the program, which may reflect the stress that NPs may be experiencing during the pandemic.

**Significance**

Although past studies have shown that nurses who participated in the BREATHE program demonstrated a reduction in the Nurse Stress Scale at the end of the program,\(^{17,18}\) the literature search for this study did not find any previous research on the implementation of the BREATHE program among NPs. It can be concluded that this study was the first to examine the effect of the BREATHE program among NPs.

In the study by Hersch et al.,\(^{17}\) the BREATHE program was open to the participants over 3 months. In the study by Dutton and Kozachik,\(^{19}\) nurses who accessed the BREATHE program over 2 months showed a significant improvement in most areas of the Nurse Stress Scale. Although the average amount of time spent on the program in the study by Hersch et al was 43 minutes, it was 85 minutes in the study by Dutton and Kozachik. In this study, NPs spent an average of 136 minutes on the BREATHE over 1 month. As anticipated, there was a decrease in emotional exhaustion and depersonalization reported by the NPs after 1 month of completing the program. This positive impact of the study is expected to improve patients’ care outcomes. Hence, this study may serve as a reference for further studies regarding access and use of the BREATHE program and stress management among NPs in SNFs and other health care settings.

**Conclusion**

The ongoing COVID-19 pandemic has been a challenge to the world at large. The uniqueness of the COVID-19 pandemic and the lack of emergency preparedness were significant sources of stress to health care workers who were at the forefront of caring for patients. The loss of patients and the emotional stress that followed set the stage for health care workers, including nurses and NPs, to be at an increased risk for mental health issues such as anxiety and depression.\(^{10}\) This quality improvement project showed that the BREATHE program was helpful in managing stress among NPs who were practicing in SNFs during the COVID-19 pandemic. Therefore, it is important for health care employers and the government to implement similar strategies to combat COVID-19–associated stress among health care professionals.

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