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Mindfulness Promoting Blood Pressure and Stress Reduction in a Northwest Priest Community

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Abstract

Literature exploring burnout and stress among clergy is well-established, but recent research suggests this population may face higher risk for chronic comorbidities, including cardiovascular disease. A northwest priest community approached a local school of nursing requesting blood pressure screening and health promotion through nonpharmacologic interventions. The purpose of this project was to determine the effect of a mindfulness-based intervention on blood pressure (BP) and stress over a time period of eight weeks. Pre-treatment and post-treatment scores and BPs were compared and yielded a statistically significant improvement. Findings from this project inform the nurse practitioner's care of individuals looking for cost-effective nonpharmacological treatment of hypertension.

Keywords: Mindfulness, Priests, Clergy, Blood Pressure, Disparity, Barriers, Wellness

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The average age of a Catholic priest in the United States in 1975 was 35 years (Kane, 2017). In 2009, the average age was 63, reflecting the national aging trend of Catholic clergy (Kane, 2017). The Catholic priest population not only face the disease burden brought by aging; stress and burnout are prevalent among priests and clergy, and research is emerging on health disparities in this population (Bopp, Baruth, Peterson, & Webb, 2013; Lindholm, Johnston, Dong, Moore, & Ablah, 2016). As a profession, clergy are noted to have higher rates of disease when compared to the general population, including hyperlipidemia and hypertension (Adams, Hough, Proeschold-Bell, Yao & Kolkin, 2017; Bopp et al., 2013; Proeschold -Bell & McDevitt, 2012; Koller, Blanchfield, Vavra, Andrusyk, & Altier, 2012). Unlike most clergy, Catholic priests do not have spouses or children to encourage health promotion. Despite the need for support of the priest population, there is a paucity of research exploring priests' physical and mental health and interventions to meet these needs (Koller et al., 2012). Paradoxically, priests who, throughout their lives have served vulnerable communities, are often found facing aging and disease issues alone.

The Population

The university community of focus is one of 247 degree-granting Catholic institutions in the United States, with 31 priests residing on campus from the religious order known as the Congregation of Holy Cross (CHC) (Association of Catholic Colleges and Universities, 2017). While the order supports this community through lodging, food, and insurance, it is not a Continuing Care Retirement Community. Priests are expected to independently manage routine care appointments and health promotion until declining to a state of health requiring a higher level of care. The priest is then often stabilized in the hospital to be flown to an assisted living

facility at Notre Dame in South Bend, Indiana. This resettling creates a gap in care and transitional trauma. The Father Superior is the default case manager for the community's health crises, and has expressed concern over chronic illnesses which he believes may be preventable through education and health promotion. Both the CHC and the School of Nursing (SON) hope to create a synergistic relationship through health promotion for the priests and the development of nursing experience for the SON.

Mindfulness and Hypertension

This priest community expressed a desire for more frequent BP monitoring and nonpharmacologic interventions. A wealth of literature supports the use of Mindfulness Based Stress Reduction (MBSR) as an affordable, simple, and effective method to ease psychological distress and reduce blood pressure and autonomic responsiveness (Ditto, Eclache, & Goldman, 2006; (Campbell, Labelle, Bacon, Faris, & Carlson, 2012; Palta, et al., 2012). While efficacy of these nonpharmacologic methods is encouraging, the time intensive nature of MBSR may be a barrier for certain populations.

Body scan meditation (BSM), a component of MBSR, is a calming, somatic-oriented practice in which the participant's attention is guided across different regions of the body; it was first introduced into clinical practice by Jon Kabat-Zinn (Dreeben, Mamberg, & Salmon, 2013). While less literature explores modified and simplified mindfulness practice like BSM, two studies have correlated MBSR components with BP reduction (Chen, Yang, Wang, & Zang, 2013; Ditto et al., 2006). A simpler and modified mindfulness intervention involving BSM, diaphragmatic breathing, and postural adjustment could be a meaningful intervention for the priest population.

Overview

This pilot project was conducted in a northwest university priest community. A Doctor of Nursing Practice (DNP) student served as the principal investigator (PI) of this project, and received a grant from Sigma Theta Tau International, Omicron Upsilon. Project approval was obtained from the institutional review board of the university. Participants were recruited through flyers placed in common gathering areas and an email sent by the order's Father Superior. Enrollment began in January of 2018. Eleven priests aged 27-95 who were interested in learning mindfulness techniques elected to participate. Eligibility requirements were CHC membership and status as a resident on campus. All participants provided informed consent.

Implementation occurred over an eight-week period. The first week, participants attended a pre-intervention assessment performed by the PI. Participants received blood pressure screening and completed an intake form and Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983). During weeks two and three, priests participated in two mindfulness-based seminars followed by daily home practice and monitoring of three variables: the PSS and systolic and diastolic blood pressure (SBP, DBP). This intervention, a mindfulness-based seminar, involved two one-hour interactive sessions led by a former Buddhist monk and author of multiple publications on mindfulness practice. The mindfulness expert's experience as a spiritual practitioner was an asset, augmenting engagement through paralleling eastern and western faith practices. Topics involved education on mindfulness neurobiology and physiologic benefits and guided body scan meditation, diaphragmatic breathing, and walking mindfulness.

The goal was to use these modified mindfulness tools for three minutes, three times daily. During the eight-week implementation period each participant met weekly with the PI for

BP measurement and documentation of mindfulness practice. On week eight a final BP and PSS were obtained.

Results

Pre and post measures of BP and PSS among the eleven priests participating were compared through data analysis. Statistical Package for the Social Sciences (SPSS) was used to perform 2-tailed t-tests and a repeated measures analysis of variance (RM-ANOVA).

Independent T-test.

Independent two-tailed t-tests were conducted to evaluate the hypotheses that participants' post-intervention SBP, DBP, and PSS would show a significant reduction compared to the respective pre-intervention SBP, DBP, and PSS. Indeed, as compared to the pre-intervention SBP and DBP, participants showed a statistically significant reduction in both categories (Table 1). Similarly, participants' DBP and PSS after the mindfulness intervention demonstrated statistically significant reduction (Table 1).

RM-ANOVA

An RM-ANOVA was conducted to examine the effects of mindfulness meditation on DBP over the period of eight weeks. Results indicated a significant difference among the six time points (Table 2). Planned contrasts with a Bonferroni correction revealed that average DBP during week 1 significantly differed from average DBP during weeks 6, 7, and 8. A RM-ANOVA was also conducted to examine SBP over an eight-week period, revealing no statistically significant correlation.

Discussion

These results are consistent with previous studies examining the effectiveness of mindfulness-based interventions, showing reduction of BP and stress after implementation of

mindfulness practice. While much of past research focuses on more time-intensive mindfulness practices, this project adds to the research by suggesting that practicing mindfulness for as little as three minutes, three times daily, may yield physiologic benefits.

These findings also add to current literature by presenting value in a population with established spiritual practices. The mindfulness practices used added to established practices such as the rosary and prayer through the unique element of physiologic engagement.

The Nurse Practitioner's Role

Nurse Practitioners may work with clergy as patients, and awareness of existing disparities faced by clergy may promote a more thorough assessment of patient's support systems and health management. Results of this project suggest that even modified, simplified mindfulness practices may be a meaningful complementary treatment for hypertension or adjunct to antihypertensives. Some participants in this population had declined pharmacotherapy for other comorbidities; patients who prefer to avoid pharmacologic intervention may find that mindfulness is a cost-effective alternative.

Conclusion

Mindfulness therapy may be a simple and cost-effective tool to promote BP and stress reduction. Certain physiologic mindfulness practices such as BSM and diaphragmatic breathing add to existing spiritual practices. Primary care NPs play an important role in health promotion and patient-centered care and may offer mindfulness as one tool to promote blood pressure and stress reduction to promote wellness.

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Tables

Table 1

Paired Independent T-Test Results

Measure	Mean	Standard Deviation	T-value	Degrees Freedom	P-value	Effect Size
PSS Pre Score	11.81	5.93	--	--	--	--
PSS Post Score	8.73	5.68	2.61	10	.026	.53
DBP Pre Score	76.72	8.29	--	--	--	--
DBP Post Score	70.55	8.7	3.10	10	.011	.73
SBP Pre Score	131.48	21.87	--	--	--	--
SBP Post Score	121.06	10.49	2.24	10	.049	.64

Note: PSS: Perceived Stress Score; DBP: Diastolic Blood Pressure; SBP: Systolic Blood Pressure

Table 2

RM-ANOVA DBP

Week #	Mean	Standard Deviation	P Value (v. week 1)
RM-ANOVA overall analysis	--	--	.006
Week 1	78.29	9.40	--
Week 4	72.19	8.69	.141
Week 5	74.67	8.81	.181
Week 6	68.29	5.50	.023
Week 7	70.29	5.34	.042
Week 8	70.90	6.84	.026