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Effects of a Resiliency Training Program on Immediate Post Program and Long-term Indicators of Burnout in Psychiatry Residents

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ABSTRACT

Background: The prevalence of burnout increases during the training years in most medical residencies. Efforts to reduce the prevalence of burnout and build resiliency through structured programs are underway, and some have been successful. The maintenance of the improvements, when they occur, however, has been little studied.

Aims: To test the stability of the short-term improvements one and two years later after a structured intervention in psychiatry residents

Methods: Subjects were psychiatry residents who provided informed consent and completed the program. Twenty of twenty-two available residents (90%) completed standardized assessments pre- and post- a six-session program. Sixteen of eighteen and fourteen of sixteen completed the assessments one and two years respectively after the program. Sessions were offered during protected didactic time. The sessions were one-hour in length and focused on stress response awareness, stress reduction, mindfulness, cognitive strategies, managing perceived failures and balancing life. Scores on the assessments completed pre-program, post-program, one-year post-program and two years post-program were compared. Statistical analysis comprised descriptive statistics and paired t-tests.

Results: Comparison of pre- and post-program scores showed significant decreases in perceived stress, and burnout. Comparison of post-program and one-year follow-up yielded no significant changes, specifically, no relapse. Comparison of post-program and two years after the program revealed significant increases in the measure of resiliency, and compassion satisfaction and further decreases in perceived stress. There were no increases in any measure of burnout two years after the program.

Conclusion: Increases in burnout during residency are expected and well-documented. In contrast, residents who completed this program decreased scores on indicators of burnout and increased scores on indicators of resiliency post-program, which were consistent one and two years later.

Keywords: medical residents, burnout, long term effects, resiliency program

Introduction

Burnout is a major concern for psychiatry residents and the faculty who mentor them, resulting in less than optimal care for the patients whom they serve.[1-6] Specific stressful factors such as suicidal or aggressive patients and ordering involuntary hospitalizations are faced by psychiatry residents more often than other residents[7,8]. Studies on the extent of burnout in psychiatry residents found prevalence to be approximately 30%. [2,9]

The Accreditation Council for Graduate Medical Education (ACGME)[10] has recognized the challenges posed by resident burnout and has been committed to supporting physician well-being since its inception. In 2017, the ACGME took another step to provide resources for residency and fellowship programs to address well-being by creating a well-being tools and resources page and emphasized "psychological, emotional, and physical well-being are critical in the development of the competent, caring and resilient physician." Most recently, well-being has been added as one of the Psychiatry Milestones measured regularly under the Competency of Professionalism.[11] This includes recognizing the importance of addressing personal and professional well-being, identifying resources to address well-being, proposing and promoting a plan to promote personal and professional well-being and creating institutional level interventions that support well-being.

Many program-specific efforts to address burnout have focused on prevention such as providing outlets for stress reduction and/or building skills for managing stress.[9,12-15] Lu et al.[16] concluded that most interventions are generally effective short-term, leading to improvements in indicators of burnout. Few studies have included follow-up assessments to determine the long-term benefits of interventions. The authors' preliminary study explored the impact of a resiliency program in psychiatry residents that only considered pre-post assessments.[9] Results indicated that after the resiliency program, residents who started the program burned out, decreased in perceived stress and increased in mindfulness. In another study of psychiatry and medicine residents, improvements were noted right after the program, but the benefits deteriorated six months later.[17] The relapse was attributed to stress occurring during the rest of the academic year. Riall et al.[18] found positive effects in surgery residents at a one-year follow-up, but did not report on assessments immediately post program. Szuster et al.[19] designed a controlled study of primary care and surgical residents. Booster sessions were provided for the intervention subjects 6 and 12 weeks later. When compared to the control group, intervention subjects showed significant improvements following the intervention and 12 weeks later compared to baseline. In another controlled study with gynecology resident participants, improvements in perception of job stress and reduced emotional exhaustion were reported immediately post program and after 6 months.[20] Lebares et al.[21] compared a control and an intervention group of surgical interns (n=21) at baseline, after 8 weeks of mindfulness programming and at the end of the intern year. Measures of burnout did not change in the expected direction but a reduction in perceived stress and an increase in mindfulness in the intervention group were reported.

The current study was designed to address the paucity of longer term follow up studies related to resiliency and well-being interventions. This study tests the stability of improvements observed post a six-session program offered to psychiatry interns. Assessments were repeated one and two years after the program.

Methods

PROTOCOL

This quasi-experimental, longitudinal study investigated psychiatry interns during the academic years 2019–2024 (total number 22). Participation in the resiliency training program was mandatory for interns to attend six one-hour sessions scheduled during their didactic time. Participation in data collection, however, was voluntary and residents had the option to opt out. The program was interactive, and skill based. The protocol and consent form were approved by the Institutional Review Board (IRB). Prior to participation, residents provided signed informed consent. To ensure resident anonymity, all collected data was de-identified using unique code numbers, preventing any identifiable information from being stored in our database. The residents completed questionnaires pre-program, post-program and one and two years later.

The assessments consisted of a demographic form, the Maslach Burnout Inventory (MBI) (including subscales Emotional Exhaustion, Depersonalization, and Personal Accomplishment). Maslach Burnout[22] is defined as high scores in Emotional Exhaustion or Depersonalization, and/or low Personal Accomplishment. The Professional Quality of Life Scale (PQoLScale) comprises three subscales (Compassion Satisfaction, Burnout, and Secondary Traumatic Stress) to assess the sense of satisfaction in doing a job well, feelings of extreme emotional tiredness due to work, and the impact of exposure to the trauma of others.[23] The Mindfulness Attention Awareness Scale (MAAS) captures the experience of mindfulness and mindlessness by scaling multiple sample statements in specific to day-to-day circumstances.[24] The Connor-Davidson Resilience Scale (CDRS) is an assessment of a subject's ability to bounce back from stressful situations.[25] The Perceived Stress Scale (PSS) questionnaire measures the extent to which subjects consider situations to be challenging.[26]

The mandatory resiliency sessions were facilitated by licensed clinicians with advanced training in psychology and psychiatry with expertise in mindfulness and stress management. The main themes of the sessions were: changing perceptions of stress, awareness of personal stress responses, identifying personal strengths, realistic appraisals of stressful situations in medicine, dealing with mistakes and perceptions of failure, formal and informal mindfulness, building the growth mindset, coping strategies, stress management through breath pacing and relaxation. Each session included an opportunity to practice skills such as relaxation, imagery, or mindfulness meditation. After the program ended, there was no formal communication on this topic with the psychiatry

residents by the program faculty and no follow-up booster sessions.

ANALYSIS

Analyses comprised descriptive statistics and paired t-test using Statistical Package for the Social Sciences (SPSS) software. To assess changes over time, paired-sample t-tests were conducted using SPSS software. The comparisons were pre-program vs post-program, post-program vs one-year follow-up, and post-program vs two-year follow-up. Significance level was set at $p < 0.05$ for the paired t-tests.

Results

At pre-test (August), there were 14 males and 9 female residents (postgraduate year, PGY-1) of average age 29 years who completed the assessments. Twelve were Caucasian, one was African American, six were Asian, three were biracial and one was other. Two of the twenty-two indicated Hispanic or Latino. Four were single; fifteen were living together or married; four were in a relationship but not cohabitating.

The first comparison was between pre – program (August) and post-program (May). Data from 20 interns (PGY-1) was available for analysis. Significant changes ($p < 0.05$) (all decreases) were observed in burnout, from the PQOL and the measure of perceived stress. A trend was observed in secondary traumatic stress $p < 0.062$).

Table 1: Pre-Program and Post-Program [N = 20 of 22 (90%)]

Variable	Pre-Program (n =20)	Post-Program (n=20)	P-value
CDRS	72.75	73.75	0.337
MBEE	18.95	19.05	0.472
MBDP	5.75	6.50	0.294
MBPA	38.70	36.90	0.182
PQOL-CS	40.50	40.15	0.395
PQOL-BO	**21.70**	**19.25**	**0.032***
PQOL-STS	18.45	16.45	0.062
MAAS	3.81	3.94	0.161
PSS	**16.95**	**14.40**	**0.019***

Note. CDRS = Connor-Davidson Resilience Scale. MBEE = Maslach Burnout Emotional Exhaustion Inventory. MBDP = Maslach Burnout Depersonalization Inventory. MBPA = Maslach Burnout Personal Accomplishment Inventory. PQOL-CS = Professional Quality of Life Compassion Satisfaction Scale. PQOL-BO = Professional Quality of Life Burnout Scale. PQOL-STS = Professional Quality of Life Secondary Traumatic Stress Scale. MAAS = Mindfulness Attention Awareness Scale. PSS = Perceived Stress Scale.

Table 2 shows the comparison between post program (May of PGY1) and follow up one (May of PGY2) and follow up two (May of PGY3). The numbers of residents responding are not consistent due to outside factors beyond our control. Data from 15 or 16 residents was available for follow up one. No significant differences in any variable were found between post-program and one year follow up implying that the changes post program were stable one year later.

Table 2: Post-Program, One-Year Follow Up and Two-Year Follow Up [N = 15 of 18 (83%), 16 of 18 (89%), or 14 of 16 (88%) as noted]

Variable	N	Post-Program	One Year Follow Up	Two Year Follow Up	P-value
CDRS	15	75.47	77.47		.215
	14	**71.93**		**79.93**	**.002***
MBEE	16	16.75	15.13		.169
	14	21.50		19.36	.248
MBDP	16	6.06	4.75		.108
	14	8.07		5.93	.116
MBPA	16	37.75	37.63		.469
	14	36.64		38.93	.232
PQOL-CS	16	41.25	41.81		.294
	14	**38.36**		**41.36**	**.006***
PQOL-BO	16	17.88	19.19		.195
	14	21.43		19.64	.109
PQOL-STS	16	15.63	14.75		.242
	14	16.57		16.79	.441
MAAS	16	4.19	4.35		.125
	14	3.91		4.16	.117
PSS	16	13.00	12.75		.427
	14	**16.43**		**12.36**	**.005***

Note. CDRS = Connor-Davidson Resilience Scale. MBEE = Maslach Burnout Emotional Exhaustion Inventory. MBDP = Maslach Burnout Depersonalization Inventory. MBPA = Maslach Burnout Personal Accomplishment Inventory. PQOL-CS = Professional Quality of Life Compassion Satisfaction Scale. PQOL-BO = Professional Quality of Life Burnout Scale. PQOL-STS = Professional Quality of Life Secondary Traumatic Stress Scale. MAAS = Mindfulness Attention Awareness Scale. PSS = Perceived Stress Scale.

The next analysis compared the variables between post program (May of PGY1) and two years later (May of PGY3). Data from 14 of 16 residents (88%) was available for analysis. Significant decreases in perceived stress were observed. Significant increases in Connor-Davidson resiliency, and compassion satisfaction (from the PQOL) were also found.

Discussion

The results of this study confirm the long-term effectiveness of a structured intervention program on reducing indicators of burnout in psychiatry residents. Improvements immediately following the intervention include significant changes in the burnout subscale from the PQOL scale and a significant decrease in perceived stress. These findings support other studies from our group showing similar results.[9] There was no relapse and no worsening between post-program and one-year follow-up, implying that the changes were stable at one year. In addition, data collected two years later demonstrated that the positive effects (significant decreases in perceived stress, significant increase in resiliency and compassion satisfaction) continue to be observed beyond the last intervention session, without formal booster sessions or further interaction with the program facilitators.

It is interesting to note that despite stressors that are a part of psychiatry residency[7], the measure of perceived stress decreased in this study from the initial pre-program to post-program measurement and again from post-program to the two-year follow-up. Lebares et al. studied surgical residents and found a similar result, in that measures of burnout did not improve, but a reduction in perceived stress was reported. [21] Is it possible that there is some skill that residents are learning with the intervention programs, such as mindfulness or changes in how they appraise stress situations, that leads to a reduction in perceived stress over time? It is important to identify with further research which specific parts of an intervention program are the most likely to produce positive change.

The small time commitment of a program like this, which can contribute to well-being and decrease the risk of burnout, is important to note. The consequences of burnout include increased medical errors, reduced patient satisfaction and outcomes, physicians leaving an organization and medicine as a career, or retiring early. [27-28] Emotional exhaustion, one aspect of burnout, has also been associated with physician suicide along with an increase in many medical illnesses, including cardiovascular disease, diabetes, pain, prolonged fatigue, headaches, gastrointestinal issues, respiratory problems, substance use disorders, mood disorders, and severe injuries. [27-28] It is also important to recognize that a resiliency or well-being program is just one part of a comprehensive approach to promoting resident well-being. One criticism of resiliency or well-being programs is that since most programs focus on the individual physician, burnout is seen as a personal failure to cope rather than acknowledging the flawed system. It is important to support our residents by giving them time to learn or enrich the resiliency skills they already have. Institutions must acknowledge that some of the root causes of resident stress lies with the structure of the residencies. System-based interventions that support manageable workloads, allow residents more control, and provide access to additional support should be developed.[29]

The results of our current study can only be applied tentatively because of study limitations. Although there were no formal sessions offered between post-program and two years after the program, we cannot fully attribute the improvements at year two to the original program, since psychiatry residents receive formal training in cognitive behavioral therapy and other evidence-based therapies. Non-specific factors (e.g. peer support and interaction) may have contributed to the stability of the improvements. The small sample, which was gathered in only one setting, represents another limitation. Incomplete data at follow-up for some variables may indicate response and reporting bias, as noted by Chaukas et al.[17]

The lack of a control group is another limitation since we cannot rule out other factors (e.g. the passage of time) as accounting for the results. A quasi-control may exist based on reports of expected changes in resident burnout during the years of residency. Studies conducted by Koressel et al.[30] and Ricker et al.[31] showed that burnout does not decline during residency but rather increases. Without the intervention described herein, it would be reasonable to expect worsening burnout, not the observed decreases.

Conclusions

The results of this study confirm the effectiveness of a structured intervention program on preventing worsening burnout in psychiatry residents. The findings are preliminary support for the stability of the improvements one and two years later.

Initial results of this program (pre-post program comparison in a small sample of the residents) were published in *Discover Psychology* but did not include all the residents or any of the follow up data reported herein.[9]

A poster of preliminary results was presented at the American Psychiatric Annual Meeting, May 2024. New York City

Conflict: Authors have no conflicts to declare.

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