Hot off the Press: Randomized trial of therapy dogs versus deliberative coloring (art therapy) to reduce stress in emergency medicine providers.

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Hot off the Press: Randomized trial of therapy dogs versus deliberative coloring (art therapy) to reduce stress in emergency medicine providers.

Discussing: Kline JA, VanRyzin K, Davis JC, Parra JA, Todd ML, Shaw LL, et al. Randomized trial of therapy dogs versus deliberative coloring (art therapy) to reduce stress in emergency medicine providers. Acad Emerg Med. 2020; 27(4):266-75.

Abstract

Although emergency medicine is an incredibly rewarding profession, it is undeniably marked by significant levels of stress. We discuss a study by Kline et al published in Academic Emergency Medicine, April 2020, looking at dog therapy and art therapy as possible interventions to reduce emergency provider stress on shift. We provide critical analysis of the article, and summarize the social media discussion and a podcast in which the authors discuss their work.

Background

Although emergency medicine is an incredibly rewarding profession, it is undeniably marked by significant levels of stress. Reports of burnout are high across medicine, and even higher in emergency medicine.[1,2] Burnout is associated with a loss of empathy and compassion towards patients, decreased job satisfaction, and shorter careers in medicine.[3,4] Thus, we need to explore any and all tools that could combat burnout. There is some prior literature that exposure to animals decreases stress.[5,6] Theoretically, time spent deliberately coloring as a mindfulness practice could also decrease stress.[7] Therefore, these authors designed a prospective, randomized trial comparing the effects of dog therapy, deliberate coloring, and control on stress levels for emergency department providers.[8]

Article Summary

This is a prospective, single-center, controlled trial that examined the effects of dog therapy and art therapy on stress during emergency provider shifts. They included nurses, residents, and staff physicians. Approximately hallway through a shift, providers were randomized to either spend time with a therapy dog or spend time coloring a mandala. Both activities took place in a quiet room separate from the clinical area. A convenience sample of providers who were not offered either activity was used as a control. Stress was measured using a validated score and a visual analogue scale at the beginning to the shift, about 30 minutes after the therapeutic encounter, and towards the end of the shift. The results were mixed, with one primary outcome demonstrating a decrease in stress in the dog therapy group, while the other primary outcome showed no statistically significant benefit.

Quality Assessment

This is a fascinating study that addresses the very important issue of burnout with some creative potential solutions. Adequately concealing allocation would be logistically difficult in such a study, but the authors apparently succeeded, as evidenced by participants being surprised (or even disappointed) by their group assignment. Scheduling interventions at specific times can be very difficult, and maybe even stressful, in emergency medicine, and stress is probably not evenly distributed over most emergency shifts. Therefore, we wonder whether the intervention would have been more successful if available when the clinicians felt they needed it (on

demand), rather than at a specific scheduled time during the shift. The primary outcome relied on self-assessment using a visual analogue scale, but these assessments could represent many factors other than stress. (For example, participants may simply be indicating their enjoyment of dogs). That being said, the decrease in cortisol levels in both intervention groups corroborates the theory that the interventions may relieve stress. Ultimately, when considering overall clinician well-being, the most important outcome is long term stress and mental health. This study only measured stress during a single shift, which is an important outcome in itself, but may not extrapolate into the more important long-term well-being. The use of a convenience sample as the control is another possible limitation, as those participants could have been selected on shifts that were more or less stressful than the intervention groups. However, the authors make the reasonable argument that randomizing participants who anticipated seeing a dog into a quiet room with nothing to do might actually increase stress (the nocebo effect), creating an artificially large gap between the groups that would not be reproduced in real life. Finally, considering the underlying theory that "humans have an innate desire to focus on nature", we do find it curious that the two interventions took place in a room without windows. Perhaps future studies should explore the potential additive benefits of such activities occurring outside.

Key Results

They enrolled 127 providers, but five withdrew because they thought their shift was too busy to participate. 47% were resident physicians, 23% were attending physicians, and 30% were nurses. The coloring intervention took a median of five minutes and 26 seconds. In the dog group, providers spent a median of five minutes and 49 seconds with the dogs and had significant interaction with both the dog and the dog's handler. Self-reported stress based on the visual analogue scale appeared to decrease in the dog therapy group, while it remained level or increased in the art therapy and control groups. However, the only statistically significant change seen using the validated stress scale was an increase in stress from the beginning to the end of the shift in the control group. Salivary cortisol levels (a secondary outcome) were lower at the end of the shift in both intervention groups than in the control group.

Author's Comments

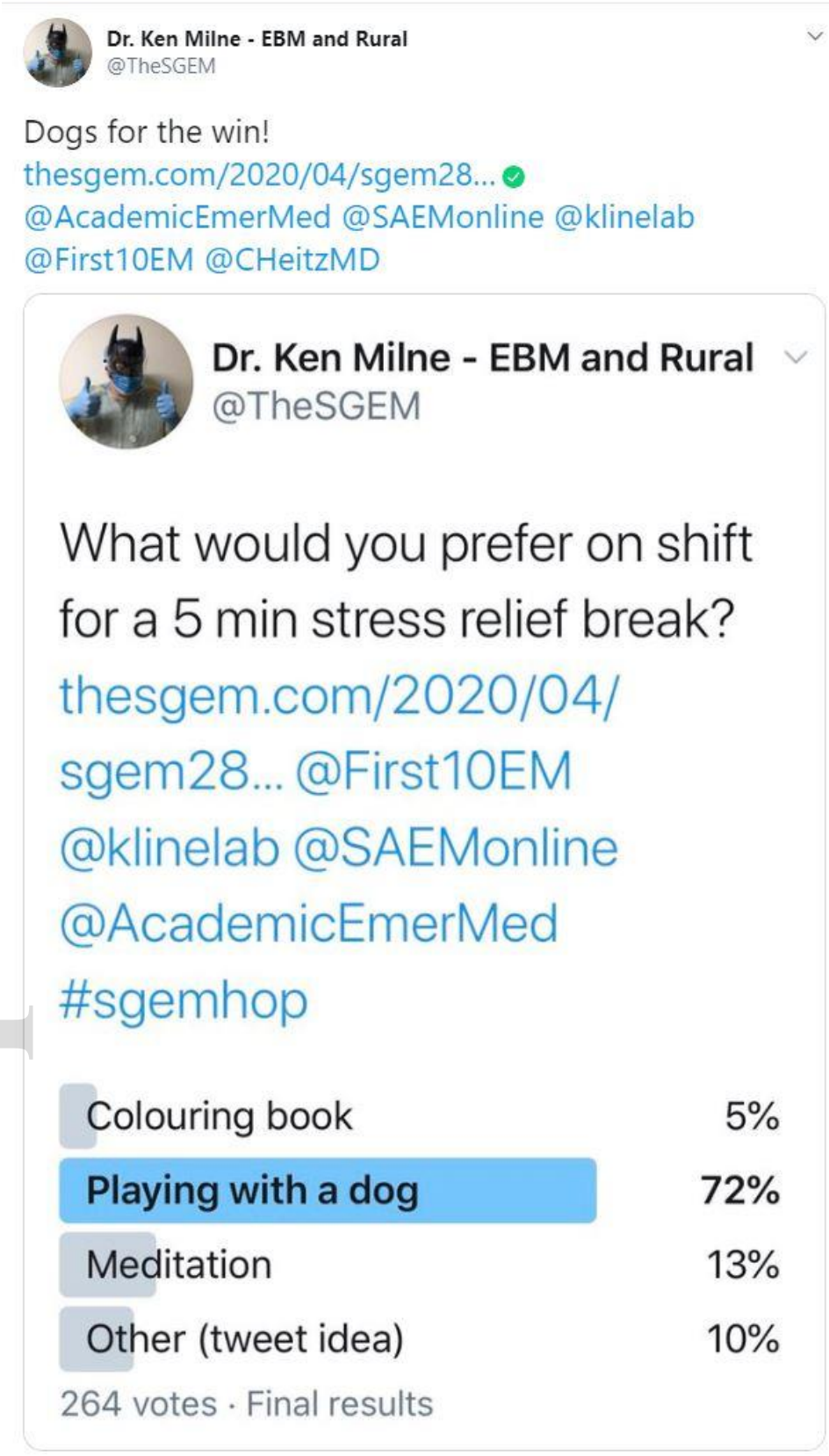
Novel approaches to managing stress and burnout are welcomed in emergency medicine, especially during the current COVID-19 pandemic. We think breaks during busy emergency

department shifts are essential, both for your own health, but also to help you concentrate on your next patients. Dog therapy during emergency shifts is promising, and hospitals with existing dog therapy programs could consider allowing access to staff, but at this point the intervention should be considered unproven.

Top Social Media Commentary

Mike and Carole MacKenzie: One of our locum docs brings his lab every now and then when he works. The dog just lays quietly inside the ER entrance. You can't walk by and not reach down and give her a pat. And it is very calming, for patients, family and staff.

Frankie Scherff: were the dogs asked how their shift was?



LaFollette (@Lafoller): #SGEMHOP back at it again just when and how we need it - 5 minutes with a pup face improves your perceived stress on shift. Although anyone else notice what the controls were assigned to color?!

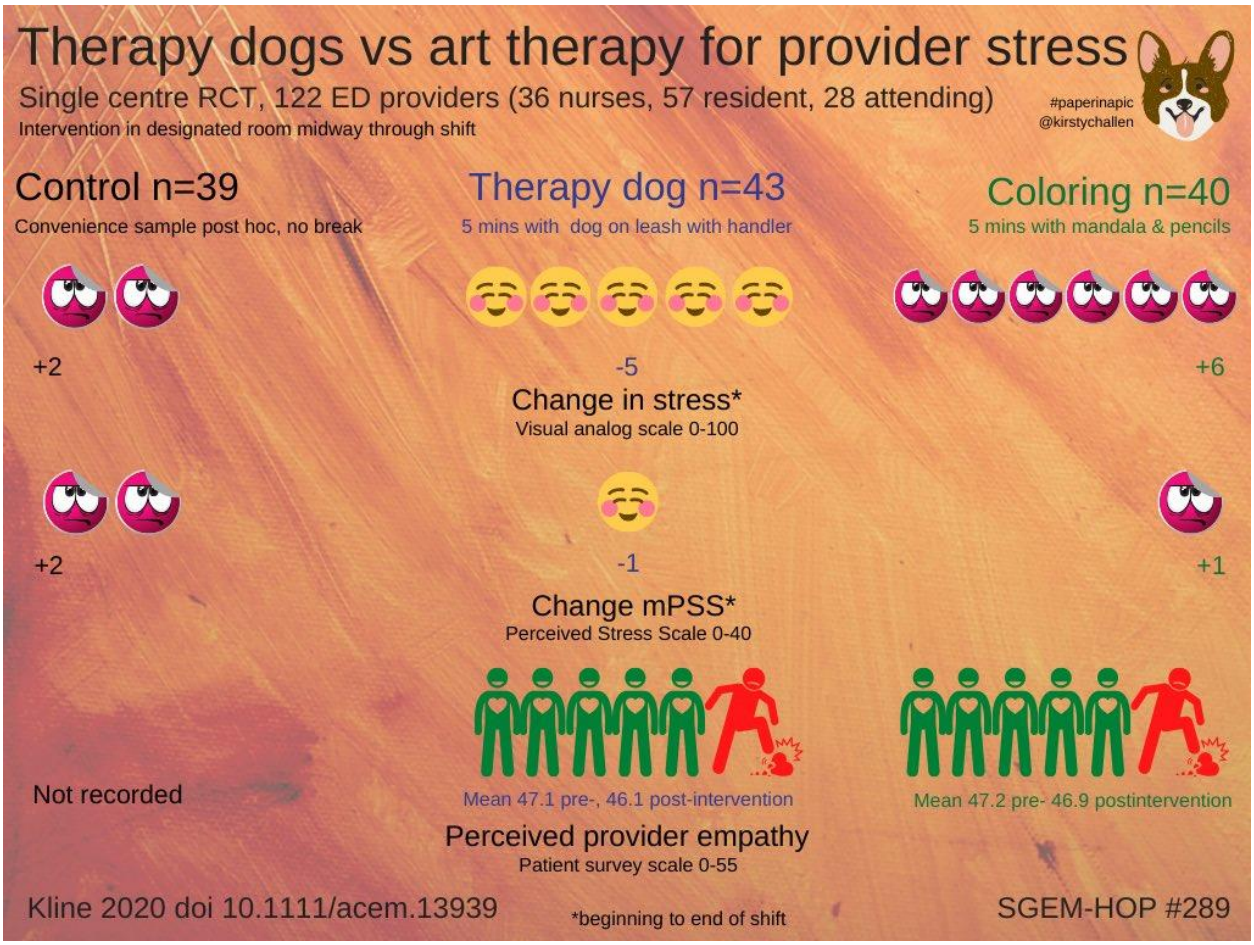
Plague Doctor (@azmanrocks): I have issues with dogs, massage would've been perfect for me. It doesn't even have to be human. Those massage chairs in malls are great.

Renato Melo (@Renato_Melo_): Music.... Music makes me feel alot better after a stressful shift...more precisely heavy metal...😀

Kez (@kezhound): Guaranteed bathroom break WITH a snack. (in a non COVID era I'd prefer the dog)

Brittney Hockey RN submitted one of the completed mandalas:

Paper in a Pic by Dr. Kristy Challen:



Take to Work Points

Stress and burnout are far too common among emergency providers. It is essential that we develop techniques to address these issues. Although neither dog therapy nor art therapy can be considered proven interventions based on this study, the concept of interventions to reduce emergency provider stress is fundamentally good, and each emergency department should consider how best to care for their own staff members.

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