JGME-ALiEM Hot Topics in Medical Education: An Analysis of a Virtual Discussion on Resident Well-Being

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ABSTRACT

Background Physician well-being is garnering increasing attention. In 2016, the *Journal of Graduate Medical Education* (*JGME*) published a review by Kristin Raj, MD, entitled "Well-Being in Residency: A Systematic Review." There is benefit in contextualizing the literature on resident well-being through an academic journal club.

Objective We summarized an asynchronous, online journal club discussion about this systematic review and highlighted themes that were identified in the review.

Methods In January 2017, *JGME* and the Academic Life in Emergency Medicine (ALiEM) blog facilitated an open-access, online, weeklong journal club on the featured *JGME* article. Online discussions and interactions were facilitated via blog posts and comments, a video discussion on Google Hangouts on Air, and Twitter. We performed a thematic analysis of the discussion and captured web analytics.

Results Over the first 14 days, the blog post was viewed 1070 unique times across 52 different countries. A total of 130 unique participants on Twitter posted 480 tweets using the hashtag #JGMEscholar. Thematic analysis revealed 5 major domains: the multidimensional nature of well-being, measurement of well-being, description of wellness programs and interventions, creation of a culture of wellness, and critique of the methodology of the review.

Conclusions Our online journal club highlighted several gaps in the current understanding of resident well-being, including the need for consensus on the operational definition, the need for effective instruments to evaluate wellness programs and identify residents in distress, and a national research collaboration to assess wellness programs and their impact on resident well-being.

Introduction

Resident and faculty well-being is a current focus in graduate medical education. In contrast to the previous focus on defining burnout and detailing contributing factors, the current interest is on preventative strategies, promoting healthy habits early in training, and interventions to enhance overall physician well-being.[1,2] Many residency programs are starting to implement curricula dedicated to wellness (the set of activities that individuals engage in to promote well-being), while teaching burnout mitigation strategies.[3] There also have been calls for health care institutions and their leaders to tackle systems-based issues that contribute to physician burnout.[4]

In 2016, the *Journal of Graduate Medical Education* (*JGME*) published "Well-Being in Residency: A Systematic Review."[5] The review examined the literature on resident well-being and identified interventions that promote wellness. In January 2017, that review was the focus of an open-access, online journal club hosted by *JGME* and the Academic Life in Emergency Medicine (ALiEM) blog (http://www.aliem.com).

We summarize the themes that emerged during the weeklong, multiplatform, online discussion.

Methods

Settings and Participants

The *JGME* and ALiEM editorial boards collaboratively selected the featured article[5] for this virtual journal club. The 4 facilitators (A.C., N.B., M.L., J.S.) possessed expertise in health professions education, facility with social media, and prior experience with the online journal club format. The journal club was hosted by the ALiEM blog, which has a worldwide readership of more than 1 million views annually. Promotion of the journal club began 5 days before the discussion period, and was primarily conducted on Twitter (@ArleneSujin, @batt_doc, @M_Lin, @ShanaElisha, @sherbino), the ALiEM account (@ALiEMteam), and the *JGME* account (@JournalofGME), using the #JGMEscholar hashtag. Facilitators also contacted health professions educators and

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organizations with expertise or interest in resident well-being to promote the virtual journal club.

Intervention

The weeklong *JGME*-ALiEM Hot Topics in Medical Education online journal club was launched January 16, 2017. The design mirrored the format of previous *JGME*-ALiEM journal clubs[6,7] and followed a previously published timeline.[8] The blog post that launched the journal club (https://www.aliem.com/2017/thriving-not-surviving-residency-jgme-aliem-journal-club) included a brief background on physician well-being, a review of the featured article, and 4 discussion questions (BOX).

On January 18, 2017 (day 3), a public, live-streamed, video panel discussion was held with the author of the review, invited subject matter experts (Christopher Doty, MD; A.C.; N.B.), and a facilitator (J.S.). The video was embedded and archived within the ALiEM blog post for asynchronous viewing (https://www.youtube.com/watch?v=mkKpv-xAJJA). An edited audio of the discussion was published on the ALiEM SoundCloud account (https://soundcloud.com/academic-life-in-em/jgme-aliem-journal-club-resident-wellness). Quotes and key ideas from the panel discussion were live-tweeted by facilitators (Shana Ross, DO; N.B.; M.L.) during and immediately after the broadcast. For the entire week, participants asynchronously engaged with the journal club by commenting on the blog site and/or writing a tweet, using the #JGMEscholar hashtag.

Analysis

Blog comments, tweets (tagged with, or linked to, the #JGMEscholar hashtag), and a transcript of the video panel discussion were analyzed. One author (A.C.) independently conducted a thematic analysis via line-by-line coding and categorization using Microsoft Excel (Microsoft Corporation, Redmond, WA). Several strategies were used to maintain coding rigor, including creating an electronic audit trail of key analysis decisions and engaging in reflexivity (ie, investigators reflecting on the influence of experience and assumptions and how that may affect the analysis of data). Two investigators (N.B. and M.L.) reviewed the results. Suggestions from this audit were merged via a consensus process into the final code set used for thematic analysis.

As an indirect measure of the effect of this virtual journal club, web analytics were captured for the week of the journal club and the following week. Participation was captured using data available from Google Analytics (blog website; Google, Mountain View, CA), Symplur Healthcare (Twitter hashtag #JGMEscholar; Symplur LLC, Los Angeles, CA), YouTube (video; YouTube, San Bruno, CA), and SoundCloud (podcast; SoundCloud Limited, Berlin, Germany).

What was known and gap
Despite a growing focus on physician well-being, information on effective assessments and wellness programs is lacking.

What is new
A virtual journal club connected a systematic review, expert discussion, and sharing of opinions via social media.

Limitations
The platform may introduce bias by omitting input from participants unfamiliar or uncomfortable with this medium.

Bottom line
The discussion highlighted a need for a consensus definition of well-being and collaboration to gather evidence on effective screening tools and wellness programs.

Results

Web analytics describing participant engagement are reported in the TABLE, and the FIGURE shows the geographic distribution of participants. Over the first 14 days, the blog post was viewed 1070 unique times across 52 different countries and 130 different participants on Twitter posted 480 tweets using the hashtag #JGMEscholar.

The thematic analysis identified 5 domains: (1) the multidimensional nature of well-being; (2) measurement of well-being; (3) description of wellness programs and interventions; (4) creation of a culture of wellness; and (5) critique of the methodology of the published review.

The Multidimensional Nature of Well-Being

A major theme that emerged related to the multiple factors that contribute to a resident's overall well-being.

BOX Questions Providing Framework for the Online *JGME*-ALiEM Education Journal Club Discussion

1. This systematic review identified factors (eg, basic physical needs, social relationships, autonomy, development of competence) that correlate with wellness. What does the construct "wellness" mean?
2. Only a single investigator was part of this study? Why? Does this threaten the reliability of the articles selected and the abstraction of relevant data?
3. What can we do to decrease the stigma associated with participating in mental wellness programs or seeking mental health resources?
4. Do you have a wellness program in your residency program? If yes, what does it include? How does it work? What are the benefits? If no, what type of program would you like to see implemented? Why?

TABLE
Aggregate Social Media Analytic Data for the Journal Club Discussions (January 16–29, 2017)

Social Media Analytic Aggregator	Metric	Metric Definition	Count
Google Analytics	Page views	Number of times the webpage containing the post was viewed	1070
	Number of cities	Number of unique jurisdictions by city as registered by Google Analytics	347
	Number of countries	Number of unique jurisdictions by country as registered by Google Analytics	52
ALiEM blog post	Number of site comments	Number of comments made directly on the website in the blog comments section	14
Symplur Healthcare hashtag analytics for #JGMEscholar	Number of tweets	Number of tweets containing the Twitter hashtag #JGMEscholar	480
	Number of unique Twitter participants	Number of unique Twitter participants who included the hashtag #JGMEscholar	130
	Twitter impressions	How many impressions or potential views of #JGMEscholar tweets appear in users' Twitter streams, as calculated by number of tweets per participant, multiplied by the number of followers of that participant	1 147 078
YouTube analytics for video panel discussion	Number of views	Number of times the YouTube video was viewed	182
SoundCloud analytics for audio-only version of video panel discussion	Number of listens	Number of times the podcast version of the YouTube video was listened to on the SoundCloud platform	481

Although there was wide agreement with this multidimensional concept, participants differed in their opinions on the combination of the contributing factors. No consensus on a universal definition of wellness or its components was reached.

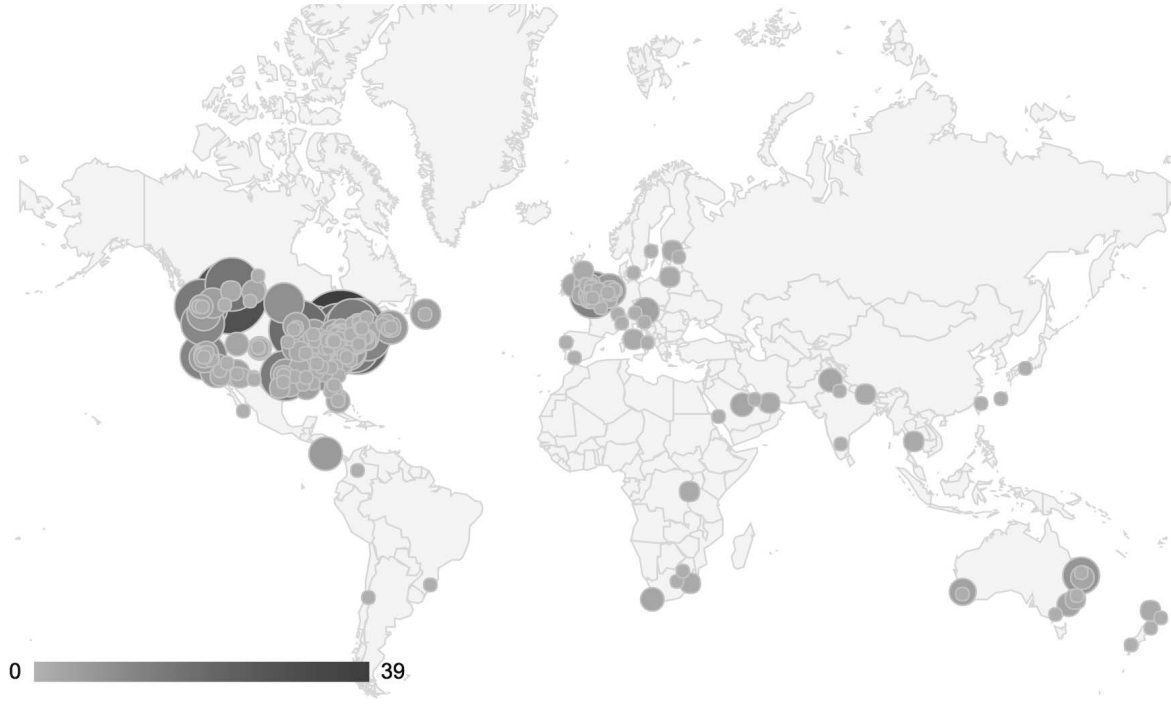
Three different models of multidimensional well-being (each containing a different set of factors) were explored. The psychology research model of well-being by Ryan and Deci[9,10] identified 3 psychological needs that lead to well-being when fulfilled: (1) autonomy; (2) competence; and (3) relatedness. These essential psychological needs must be satisfied for an individual to thrive. For example, a resident may be highly competent in delivery of patient care, but if not granted sufficient autonomy, he or she may feel thwarted and resentful. Conversely, if an attending allows an intern to manage all major patient care decisions, the intern may feel stressed and unhappy. Finally, without a nurturing social environment that supports human connection (ie, relatedness), neither autonomy nor competence will be sufficient for any resident to feel truly well. This model has been substantiated across both observational and experimental studies[11,12] and Raj[5] highlighted it in her systematic review.

A majority of participants in the virtual journal club discussions emphasized that a wellness program must include more than fatigue mitigation, exercise habits, and smoking cessation. Comments related to social aspects of wellness referenced the American College of Emergency Physicians' Wellness Wheel[13] frequently, which overlaps with the social relatedness need identified in the psychological model. Character traits, such as resilience, grit, and emotional intelligence, also were mentioned frequently in the discussions. Although they do not constitute a model of well-being, they can influence a resident's experience and perception of stress.

Measurement of Well-Being

More questions than concrete answers emerged during discussion on measuring resident wellness. The discussion identified 2 primary reasons for accurate measurement: (1) assessing the effectiveness of wellness interventions and programs, and (2) supporting new Accreditation Council for Graduate Medical Education standards that specify screening of residents' well-being.[14] However, despite those clearly identified needs, no consensus was reached on how to best address either of them.

Known tools that measure well-being were discussed, including the Maslach Burnout Inventory (MBI), the Connor-Davidson Resilience Scale, the World Health Organization Well-Being Index, a modified Postgraduate Hospital Educational Environment Measure, and general self-reflection. Strengths



FIGURE

Geographic Distribution of Visitors to the Online Journal Club Blog Post on Academic Life in Emergency Medicine (ALiEM)

Note: The top 10 visits by city were Toronto, Ontario, Canada (39 views), Calgary, Alberta, Canada (29), Chicago, Illinois (25), New York, New York (21), undetermined (20), Hamilton, Ontario, Canada (20), Rochester, New York (19), Edmonton, Alberta, Canada (16), Kingston, Ontario, Canada (16), and Vancouver, British Columbia, Canada (15).

and weaknesses of those tools were discussed on social media, without 1 tool achieving primacy over the others.

A debate emerged over the idea of creating a "wellness milestone" or designating wellness as a core competency during residency. Of the ACGME specialty-specific milestones, none address well-being, and only the milestones for pediatrics and emergency medicine address resident wellness in some form.[14] Several discussants advocated for a new wellness milestone, noting it would emphasize resident wellness at a national level. In contrast, critics suggested a wellness milestone might lead to false reporting due to the stigmatization of a "bad" wellness grade.

Description of Wellness Programs and Interventions

A variety of wellness programs and interventions were mentioned during the virtual discussion. They ranged from individual activities to institutional programs and addressed various aspects of the multidimensional well-being model. Participants offered initiatives currently being implemented in their own programs and institutions, including wellness lectures, guided mindfulness and meditation exercises, facilitated group discussions, retreats, social gatherings, coaching, good nutrition when working clinically, wellness journal clubs, and team-building exercises. Institutional programs primarily consisted of confidential access to mental health services. Individual activities included journaling and meditation.

Despite the programs and interventions cited, it was noted that few, if any, had evidence of efficacy. The paucity of literature in this area was identified by the expert panel discussion, and echoed during the online discussion.

There was an expressed need for a centralized database of resident wellness programs and interventions, as well as aggregating data on their effectiveness. Recent systematic reviews suggested only a modest to equivocal benefit for selected interventions.[15,16] Raj[5] commented that, in their efforts to address resident wellness, many residency programs and organizations, unaware of proven or unproven interventions, often reinvent the wheel and create redundancy. The efficiency and shared economy of a centralized database would allow redirection of efforts toward research to evaluate the efficacy of existing interventions.

Creation of a Culture of Wellness

Creating a culture of wellness, in addition to explicit wellness interventions discussed prior, will require implementation of targeted interventions to address the hidden curriculum in medicine that teaches residents they must be invincible. This segment of the discussion focused primarily on changing the negative aspects of the current culture. Participants identified shame and stigma associated with any type of weakness as a major element of the hidden curriculum and as a significant barrier to seeking help for depression and other mental illness. A subject matter expert (C.D.) commented that no one wants "to be seen as the weak link in the chain." Participants viewed suicide as a potential tragic result of current cultural norms in medicine.

Likely compounding the shame and stigma of weakness is the fear of professional repercussions for seeking help. One faculty member participant commented on the need for a transparent process to reduce that fear. If residents understood that seeking mental health support would not automatically result in probation or impede future employment, then it might be more feasible.

The discussion noted that shame and stigma surrounding the disclosure of mental health conditions present a significant barrier to residents seeking psychological and emotional support and care. Depression, stress, and burnout are viewed as signs of weakness, rather than understandable consequences of training and learning to care for patients. The normalization of those feelings via positive role-modeling was widely supported by many participants and by the experts on the video panel. One of the more powerful drivers of the hidden curriculum derives from the behaviors and attitudes of faculty, mentors, and residency leadership. Journal club participants commented that this group has the power to enable positive change or perpetuate a negative workplace. Peer support and social networks were also identified as means to create a culture of wellness. Sharing stories of personal struggles and fallibility among coresidents can also help normalize feelings of inadequacy.

Critique of the Methodology of the Published Review

The limitations of a systematic review conducted by a single individual were highlighted during the panel discussion, which was also mentioned by Raj,[5] as the potential for bias due to a single author deciding on the inclusion or exclusion of studies. Potential bias may also exist in the conclusions drawn. This discussion, however, did not identify additional articles or other sources of evidence that challenged the analysis of the systematic review.

Discussion

The *JGME*-ALiEM journal club discussion of a systematic review on resident well-being highlighted some promising areas in the literature, as well as several knowledge gaps. These included the need for consensus on an operational definition of resident well-being, the development of effective instruments and tools to identify residents in distress, and national collaboration to generate data on the effectiveness of wellness interventions and programs.

In the virtual discussion of the need for a definition of physician well-being, while participants agreed on the multidimensional nature of the construct, there was no agreement on the specific components that make up a resident's overall state of well-being. Two factors were common to most discussions: *social networks* and *a sense of purpose or meaning*. The need for social connections has been described extensively in the well-being literature.[9,10] Traditional frameworks also identify the lack of healthy social interactions and social development as the root cause of disorders such as depression, anxiety, posttraumatic stress disorder, and other mental illnesses. Positive frameworks focus on the benefits of supportive social networks to promote optimal health and life satisfaction. A sense of purpose has also been supported in multiple models of human engagement that include positive psychology,[17] self-determination theory,[10] and Maslow's hierarchy of needs.[18]

Potentially related to the lack of a common definition is the lack of accepted, validated tools to assess resident well-being. Multiple assessment tools were highlighted during the virtual discussion without a consensus on the best measures. Despite the widespread use of the MBI for medical trainees, that tool has come under more scrutiny in recent years, as educators reconceptualize well-being as more than the absence of burnout.[19] Questions arose regarding the frequency of assessments and whether that should be formally incorporated into accreditation requirements. At the time of the virtual journal club, the ACGME had not yet released its standards for assessment of well-being,[14] but other countries, such as Canada, had already adopted explicit requirements to formally assess well-being in trainees. The 2015 CanMEDs framework specifies that physicians should maintain a commitment to resilience for sustainable practice, responsibility to one's own well-being, and creation of a culture that recognizes, supports, and responds effectively to colleagues in need.[20]

Participants in the online discussion argued for and against both of those approaches. Supporters cited that setting an accreditation requirement elevates the importance of a competency and ensures universal implementation of programs to foster well-being. Opponents cited that setting a requirement may result in unintended shaming of residents who do not achieve that criterion.

The journal club discussion did not touch on recent ACGME initiatives focused on resident well-being. This may be due to the timing of the virtual journal club, which occurred only a few months after the announcement of those changes.

Positive psychology may offer an alternative framework in which to consider resident wellness. This model emphasizes the active pursuit of personal fulfillment, rather than the avoidance of illness. Notably, the authors of the widely adopted MBI also endorse this view. Expanding on their work on occupational burnout, they have explored the concept of work engagement as the antipole of burnout.[17] While *burnout* is characterized by emotional exhaustion, cynicism, and depersonalization, work engagement is defined by vigor, dedication, and absorption in one's work. The Utrecht Work Engagement Survey (UWES) is a brief self-assessment tool that has been translated and tested in multiple languages and is found to be negatively correlated with the MBI.[17] Future studies on resident well-being could utilize the UWES, or similar measures, to assess for goals of well-being and engagement, rather than merely the absence of burnout.

The discussions highlighted a need for research to assess the effectiveness of wellness programs and interventions. The online discussion also called for collaboration across specialties to create more interventions (without redundancy of effort).

Conclusion

JGME-ALiEM Hot Topics in Medical Education online journal club provided a venue for an asynchronous, international discussion across multiple social media platforms to explore the important and timely topic of resident wellness. The discussion highlighted several gaps in the current understanding of resident well-being and a need for greater collaboration to create effective interventions.

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