

Assessment of Burnout: A Pilot Study of International Women Physicians

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ABSTRACT

Introduction: Physician burnout, wellness, and resilience have become increasingly important topics of discussion worldwide. While studies have assessed burnout globally in various individual countries, few studies directly compare or analyze gender-based physician burnout among different global regions.

Methods: Female physicians attending the Medical Women's International Association (MWIA) Centennial Congress completed the Copenhagen Burnout Inventory (CBI) which evaluates personal-, work-, and patient-related burnout using a scale of 0 to 100. Results were analyzed using descriptive statistics and 1-way ANOVA to compare burnout scores amongst women physicians from different global regions.

Results: Of 100 physicians invited to participate, 76 provided responses and 71 met the inclusion criteria. Mean burnout scores were highest amongst women from Africa in all categories. Mean work-related, patient-related, and personal-related burnout scores were significantly lower for physicians in Europe compared to Africa ($p = 0.05$) when evaluated using a 1-way ANOVA, with no statistically significant differences between other regions.

Discussion: The data suggests that there may be regional differences in the prevalence of burnout in women physicians. Various factors could play a role in explaining the higher burnout scores in female physicians in Africa, including younger average age, establishing practice during childbearing years, and significant physician shortage. Through this study, we have begun to explore the cultural and geographical context related to women's mental and physical wellbeing in the medical field. Further research should focus on the gender-specific contributors to burnout among different global regions, so that methods can be implemented on a systemic level to alleviate burnout.

INTRODUCTION

Physician burnout, wellness, and resilience have become increasingly important topics of discussion worldwide. Numerous studies have established the presence of burnout worldwide and in various individual countries. However, most studies evaluate burnout among physicians in high-income countries, with much less data regarding those in developing countries, and there are few existing studies directly comparing physician burnout rates among different countries or regions.¹

Burnout results from constant overtaxing that reduces the ability to meet physical or psychological demands at work or home. The most common instrument used to assess burnout is the Maslach Burnout Inventory (MBI), which evaluates 3

domains: emotional exhaustion (EE), depersonalization, and sense of lack of accomplishment.² Other measures of burnout include shortened versions of the MBI, the Copenhagen Burnout Inventory (CBI), and the Oldenburg Burnout Inventory.³ Although most studies have used the MBI or a shortened version, the MBI has been criticized because it does not distinguish between nonpatient-focused work, and patient-focused work.⁴

Burnout is more common in the health care field than it is in other professions, noted among medical students, residents, and practicing physicians.⁵ Internationally, almost half of physicians have reported symptoms of burnout sometime in their career.⁶ Sex-based differences in prevalence of burnout have been reported in some studies, with women often noted to be more affected than men.⁷ The coronavirus disease 2019 (COVID-19) pandemic may exacerbate this problem because women comprise a greater proportion of essential health care workers and are likely providing even more child care than usual.⁸

Resilience, which represents the ability to “bounce back,” adapt, or recover from difficult circumstances is a trait that may help physicians prevent or overcome symptoms of burnout. Resilience can be measured by a variety of methods.⁹ A survey assessing resilience and burnout among US physicians found an inverse association between resilience and burnout symptoms but also found substantial burnout rates even among physicians with the greatest resilience, indicating that physician resilience alone does not prevent burnout. In addition, moral distress or injury is being increasingly identified as a major contributor to burnout symptoms, especially for physicians working in areas with limited resources or in which previously adequate resources are no longer sufficient, such as during a

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pandemic.¹⁰ Interventions hypothesized to improve resilience and well-being include psychosocial skills training, stress management training, discussion groups, and education in mindfulness and/or communication. However, evidence for long-term effectiveness of these methods in physicians after training is limited and does not effectively address the underlying causes of burnout.¹¹

Factors associated with burnout in the US include younger age, work-home conflict, female sex, excessive work, low level of autonomy, and lack of support at work.¹² Burnout also varies by specialty. Higher risks of burnout in resident physicians in the US were associated with training in urology, neurology, emergency medicine, and general surgery.¹³ Physician burnout is a worldwide phenomenon. In a comprehensive review of 182 studies of physician burnout in 45 countries, the estimated prevalence of burnout, assessed using the MBI in most studies, was 72%.⁴ One meta-analysis that correlated physician burnout across regions worldwide noted that EE was negatively associated with autonomy, positive work attitudes, and quality and safety culture. Emotional exhaustion was positively associated with constrained organizational structure, conflicts/incivility/violence, and contributors to poor mental health.¹⁴ This same analysis pointed out that physicians in the Americas experienced higher EE when work-life conflict was strong and coping strategies were ineffective. European physicians experienced lower EE when they had positive work attitudes. In fact, a culture of quality and safety, career development opportunities, and problem-focused coping correlated with decreased EE in physicians in the Americas.¹⁴ Most prior studies have focused on burnout among physicians in high-income countries, with much less data regarding those in developing countries.¹ In addition, many of these studies have not disaggregated data by sex and thus cannot provide a sex-based analysis of global burnout, associated risk factors, and effective prevention and/or coping strategies. Although studies of burnout specifically in women physicians are rare, there are a few studies that highlight the scope of burnout in women globally. One study of 2414 women physicians in Hungary, using the MBI, found moderate to severe levels of EE in 51%, sense of lack of personal accomplishment in 68%, and depersonalization in 38%.¹⁵ A study of 1345 physicians (62.5% women) in Portugal, using the CBI, found scores of 48.6 and 42.5 for personal-related and work-related burnout, respectively, and 24.1 for patient-related burnout.^{16,17} In the CBI, a score of 50% indicates the response “sometimes or somewhat” to the question.

Rotenstein et al,⁴ in their systematic review on physician burnout, uncovered marked global variability in prevalence estimates, burnout definitions, and assessment methods. Moreover, this comprehensive review affirmed limitations

of the commonly used MBI, which may be due to its fundamental construct.⁴ Although systematic reviews have been performed to assess existing research on burnout among physicians from various countries, these reviews used multiple burnout inventories and did not investigate differences, such as sex-based cross-cultural burnout data, among physicians from different countries.

No known prior original research studies have addressed international differences in burnout risk factors and prevalence among female physicians. Given the impact of burnout, the increasing number of women in medicine, and the different systems and societies in which they work, it is important to identify region-specific prevalence and risk factors and to seek methods to strengthen resilience and well-being. The objective of this pilot study was to obtain preliminary data regarding burnout in women physicians attending an international meeting and examine the data by global region to identify areas for additional research.

METHODS

All physicians attending the “Work-Life Balance/ Preventing Burnout” session at the Medical Women’s International Association (MWIA) Centennial Congress (in New York City in July 2019) were invited in person to complete the CBI. The CBI was chosen to assess burnout because of the limitations of the MBI, discussed previously. Inclusion criteria included a terminal medical degree (MD, DO, or international equivalent); active work in health care or academia; female and aged 18 years or older; and ability to read, understand, and speak English. Retired physicians and medical/premedical students were excluded.

Women physicians who met the inclusion criteria were asked to complete an anonymous hard-copy survey about their demographics as well as the CBI. This inventory evaluates personal-, work-, and patient-related (related to one’s work with patients) burnout using a scale of 0 to 100. Results were analyzed using descriptive statistics and 1-way ANOVA. This study was approved by the institutional review board at Nova Southeastern University, Fort Lauderdale, Florida.

RESULTS

Of the 100 physicians invited to participate, 76 (76%) provided responses, and 71 met the inclusion criteria. Because only 1 participant was from South America, her data were not included in the analysis. Demographic data and mean burnout scores related to work, patients, and personal life are shown in [Tables 1](#) and [2](#).

Mean work-related, patient-related, and personal burnout scores were significantly lower for physicians in Europe compared with Africa ($p = 0.05$) when evaluated using a

Table 1. Demographics for study participants and years after medical school^a

Characteristic	Total	Geographic region				
		Africa	Asia	Australia	Europe	North America
Number (%)	70 (100)	22 (31.0)	5 (7.0)	3 (4.2)	14 (19.7)	26 (36.6)
Mean age (range), y	54 (22-89)	46.48	63.00	62.33	57.43	56.12
Years after medical school, percent of participants						
< 10	14	14	20	0	14	15
10-20	28	55	0	0	14	23
> 20	58	32	80	100	71	62

^a Totals may not equal 100% because of rounding.

Table 2. Mean burnout scores by geographical region in 70 women physicians

Region	Number (% of total)	Mean burnout score (SD) ^a		
		Work-related	Patient-related	Personal-related
Africa	22 (31.0)	45 (24.5)	39 (25.0)	51 (22.0)
Asia	5 (7.0)	26 (24.0)	32 (17.0)	35 (20.5)
Australia	3 (4.2)	45 (15.5)	31 (14.0)	50 (23.0)
Europe	14 (19.7)	25 (11.0)	18 (9.2)	32 (11.5)
North America	26 (36.6)	41 (22.0)	30 (23.5)	47 (19.0)

^a Score of ≥ 50 on the Copenhagen Burnout Inventory indicates a high level of burnout. SD = standard deviation.

1-way ANOVA. No other significant differences between regions were identified.

DISCUSSION

In this pilot study, patient-related, personal, and work-related burnout scores for women physicians were highest in those practicing in Africa and were lowest in Europe. Scores for women physicians in North America were also lower compared with Africa. These data suggest that regional differences in the prevalence of burnout in women doctors may exist.

High scores of burnout among physicians from Africa, particularly in the personal burnout domain, could reflect younger average age, attempt to establish practice during childbearing years, or substantial physician shortage. These findings are consistent with those from a 2019 systematic review of physician burnout in Sub-Saharan Africa.¹ Up to 80% of physicians in the included African countries reported burnout, and many of the studies found differences in prevalence based on sex.¹ The differences found in the present study may be explained by varying work environments and resources in these regions. African countries, for example, make up the majority of countries with health worker shortages reported by the World Health Organization.¹⁸ Workload, lack of institutional support, and interpersonal and professional conflicts have been found to

affect development of burnout in this area.¹ Pentecost and Cousins¹⁹ describe the distressing socioeconomic conditions and the competing demands of doctors in Africa and suggest using the framework of endurance as opposed to resilience. According to the authors, endurance invites a different relationship of the self and takes into account social and historical factors. Despite regional differences, an endurance framework is relevant to clinical context globally.¹⁹

Our findings of lower burnout levels in older, female, European participants align with data from the European General Practice Research Network Burnout Study Group showing that older female doctors had less burnout. This study found that job satisfaction, country of residence in Europe, substance abuse disorder, male sex, and younger age were strongly associated with burnout.²⁰

A possible explanation of the differences in burnout seen for women in Europe compared with Africa and the US may be that local health care systems across regions have varying cultural expectations and policies for a women's role as a caretaker and for accommodating women's roles outside medicine.²¹⁻²⁴ Expectations of the woman as primary caretaker for the family may play a role by creating a conflict between work and the home.²¹⁻²⁴ In contrast to some European cultures, in African cultures, the woman is expected to care for children and for aging or ill family members. Caregivers of Asian and Hispanic heritage have also described strong cultural prescriptions for women to have a caregiving role in their families, whereas those of European heritage face somewhat different cultural expectations.²⁵ These can be broad generalizations, however, because some countries in Europe provide varying lengths of mandatory and nonmandatory maternity leave for physicians, but other countries, including the US, do not have specific policies.²⁶ Physician mothers in the US have noted insufficient time off after childbirth and limitations in necessary accommodations and support after returning to work.²⁷ The impact of these factors requires further study to determine if implementing policies that increase maternity leave and support mothers after they return to work would affect the risk of burnout. In addition, women's expected

caretaking roles are lifelong.²⁸ Further studies should focus on how cultural expectations of women to provide career long family support have an impact on patient care and physician well-being across countries, with an emphasis on the role of career long family leave.

Differing compensation models in various countries may also affect the risk of burnout. Models that focus on productivity have been identified as risk factors for burnout in men and women, with higher risk of burnout among physicians who are compensated and valued on the basis of the number of patients seen or procedures performed.²⁹ The impact of various compensation models on risks of burnout and their impact on addressing student debt also needs investigation and analysis by sex because medical school costs vary by country, with some countries having medical schools that are free of charge.^{30,31}

Patient-related burnout scores in our pilot study were lowest among the CBI categories in all regions except Asia. The predominance of low patient-related burnout is consistent with many international studies of CBI-assessed burnout in Africa, Asia, and North America and the maintenance of feelings of professional accomplishment among physicians despite other indicators of burnout.³²⁻³⁸ This finding can be used to reimagine health care delivery and restructure health care systems to return the emphasis to the patient-physician interaction, rather than clerical and workforce concerns, in order to reduce burnout and promote physician well-being.

Limitations of this pilot study include the small sample size and the selected population. Because this investigation was intended as a pilot study, no conclusions can be drawn regarding prevalence or causes of burnout. In fact, a systematic comparison was not possible especially given the heterogeneity of data available and complexity surrounding burnout globally. However, the results identify some differences around the world and point to the need for further research in a larger population of women doctors.

As with any public health issue, we must take a preventive approach to burnout. We must focus on change in organizational structure/process, ensure adequate health care resources, return some degree of practice autonomy to physicians, tailor professional development programs that align with individual physicians' needs and practice environment, and eliminate bias and harassment, along with efforts at building resilience and encouraging stress reduction, mindfulness-based strategies, and health-promoting behaviors.³⁹

Health care professionals' stress and burnout interfere with therapeutic relationships, detract from the patient experience and quality of care, and risk increased attrition from the physician workforce.⁴⁰ Incongruence between personal and health system values and work overload contribute

considerably to physician burnout, whereas value congruence and a focus on humanism substantially predicts professional efficacy in addition to the well-being of physicians.⁴¹⁻⁴³ In addition, given the inconsistent relationship between resilience and burnout, the focus on improving rates of burnout must be on institutional and societal change, rather than individual interventions for physicians.

On the basis of the observations from this initial pilot study, further research could address the causes and severity of burnout in women physicians by geographical region. Specifically, research should evaluate the impact of physician-underrepresented minority status (race and lesbian, gay, bisexual, transgender, and queer) and the relationship of burnout to factors such as age, cultural expectations, years of practice, clinical specialty, hospital or outpatient practice, hours worked, caretaking, and other gendered responsibilities at home. Other areas of potential investigation include the relationship of resilience and endurance to burnout, physician-patient dynamics, the impact of humanism on burnout and well-being, differences in international health care systems, and the effects of the COVID-19 pandemic.

CONCLUSION

Given the increasing number of women in medicine, global physician shortages, and the impact of burnout on physician wellness and patient care, solutions tailored to geographical region and culture must be developed to reduce physician burnout. The international dialogue must be continued to assess strategies that have been successful in various countries, and methods must be tailored to implement them within the health care system in each area of the globe. ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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Authors' Contributions

Farzana S. Haffizulla, MD, FACP, FAMWA, served as principal investigator for this study and participated in every aspect of the study and manuscript preparation inclusive of study design, data collection, data analysis, critical review, drafting and editing of the manuscript, and submission of the final manuscript. Connie B.

Newman, MD, FACP, FAHA, FAMWA, participated in study design, data analysis, critical review, and drafting and editing of the final manuscript. Shivani A. Kaushal participated in data analysis and review and editing of the final manuscript. Caitlin A. Williams, MS, participated in data analysis and review and editing of the final manuscript. Anisa S. Haffizulla participated in the overall study and survey design, data analysis, critical review, and drafting and editing of the final manuscript. Patrick Hardigan, PhD, participated in data analysis and review and editing of the final manuscript. Kim Templeton, MD, FAAOS, FAOA, FAMWA, participated in study design, data analysis, critical review, and drafting and editing of the final manuscript. All authors have given final approval to the manuscript.

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