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Original Article

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Global survey on wellness and burnout-related workplace risk factors among physical and rehabilitation medicine physicians

Aaron Jay Yang[1], Muhammad Tawab Khalil[2], Maria Gabriella Ceravolo[3], Rochelle Dy[4]

[1]Department of Physical Medicine and Rehabilitation, Vanderbilt University Medical Center, Nashville, Tennessee, USA
[2]Department of Physical Medicine and Rehabilitation, Combined Military Hospital, Gilgit, Pakistan
[3]Department of Experimental and Clinical Medicine - Marche Polytechnic University, Ancona, Italy
[4]Department of Physical Medicine and Rehabilitation, Baylor College of Medicine, Texas Children's Hospital, Houston, Texas, USA

Abstract

Objectives: This study aims to explore perceptions of well-being and burnout-related risk factors among Physical and Rehabilitation Medicine (PRM) physicians and residents worldwide using a multidimensional framework.

Patients and methods: An international cross-sectional survey was conducted between April 24th, 2023 and May 28th, 2023 and disseminated through the International Society of Physical and Rehabilitation Medicine (ISPRM). The questionnaire assessed demographic and professional characteristics, workplace-related wellness, perceived importance of well-being domains, and resilience using the Brief Resilience Scale (BRS). Multivariate logistic regression analyses were performed to identify factors associated with perceived workplace strain and resilience.

Results: A total of 358 respondents from 80 countries participated. Of all participants, 160 were male and 198 were female, with an age range of 28 to 64 years. The following workplace-related aspects were the main sources of complaint: perceived workload inequity (20%), inadequate rest opportunities (21.2%), unfair distribution of responsibilities (20.1%), workplace harassment (26.8%), and work-life imbalance (15.9%). Female physicians reported significantly higher levels of workplace strain across multiple domains, while early-career clinicians showed greater willingness to change the workplace. Resilience levels were usually moderate to high, with 62.5% of participants demonstrating average resilience and 10.9% high resilience. Male sex and older age were independently associated with higher resilience.

Conclusion: Burnout risk in PRM is primarily driven by organizational and systemic factors rather than individual characteristics. Despite relatively preserved resilience, substantial workplace stressors persist globally. Interventions should prioritize structural and cultural changes, such as improving workplace efficiency, preventing harassment, and enhancing work-life integration, alongside strategies that support individual resilience.

Keywords: Burnout, physical and rehabilitation medicine, resilience, well-being, work-life balance.

Physician burnout has emerged as a threat to healthcare systems affecting clinician well-being, patient safety, and workforce sustainability. A large-scale analysis of 7,360 United States of America (USA) physicians found a significant association between the impact of work on personal

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Correspondence: Aaron Jay Yang, MD. Department of Physical Medicine and Rehabilitation, Vanderbilt University Medical Center, Nashville, Tennessee, USA.

E-mail: aaron.yang@vumc.org

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relationships (IWPR) and physician well-being. Compared with physicians with an internal medicine subspecialty, Physical and Rehabilitation Medicine (PRM) physicians had 67% greater odds of moderate or high impact of work on personal relationships IWPR.[1]

Within the field of PRM, there is increasing evidence from USA based studies that points to substantial rates of burnout among practicing physicians and trainees. A systematic review of 1,886 PRM specialists reported burnout prevalence ranging from 48% to 62% among specialists and 22.2% to 83.3% among trainees.[2] The single largest study, a cross-sectional survey of 1,536 diplomates of the American Board of Physical Medicine and Rehabilitation (ABPMR), found that 50.7% met criteria for burnout.[3] A subsequent USA survey of 882 physiatrists reported burnout in 42.6% of respondents, whereas only 30.6% demonstrated high professional fulfillment.[4] These findings suggest that the problem is both longstanding and insufficiently addressed.

Organizational drivers, rather than individual vulnerabilities, are consistently identified as dominant contributors to burnout.[2] Increasing administrative burden, practice inefficiencies, limited resources, and reduced professional autonomy have been cited as key drivers of strain.[4,5] Protective factors, by contrast, include teamwork and collaboration, alignment of personal and institutional values, meaningful clinical engagement, and control over schedule and workload.

Despite well-documented challenges within USA practice settings, global data describing PRM physician well-being remain limited. A survey of PRM physicians and trainees in Saudi Arabia reported burnout in over 80% of respondents during the novel coronavirus disease 2019 (COVID-19) pandemic, while a multi-center study of rehabilitation physicians in China identified substantial levels of emotional exhaustion, depersonalization, and reduced personal accomplishment.[6,7] These findings suggest that occupational distress among rehabilitation physicians extends beyond high-income Western healthcare systems. However, data from low- and middle-income countries (LMICs) remain sparse.

As well-being is multidimensional encompassing physical, psychological, social, spiritual, intellectual, and economic domains, understanding how these domains are perceived across diverse health systems is essential for informing effective and culturally adaptable strategies. In the present study, we aimed to investigate perceptions of well-being and map burnout-related workplace risk factors among PRM physicians and residents worldwide using a multidimensional framework, and to identify factors associated with workplace strain and resilience.

PATIENTS AND METHODS

This international cross-sectional study was conducted by the International Society of Physical and Rehabilitation Medicine (ISPRM) Education Committee. A questionnaire was developed by the study investigators and reviewed by the ISPRM Education Committee for content validity and clarity. Workplace wellness items were adapted from previously published measures of work-related stress and organizational well-being, and resilience was assessed using the validated Brief Resilience Scale (BRS).[8-10] The survey was distributed electronically through ISPRM mailing lists, professional networks, and social media platforms. Participation was voluntary and anonymous. Data collection occurred between April 24th, 2023 and May 28th, 2023, with three reminder e-mails sent during the study period. All participants were informed that their participation was entirely voluntary and that no personally identifiable information was collected. Participants were also informed of their right to withdraw from the survey at any time prior to submission, without penalty. A written informed consent was obtained from each participant. The study protocol was approved by the Institutional Review and Ethical Committee of CM Hospital, Gilgit, NUMS (Date: 13.04.2026, No: 2026/09/trg). The study was conducted in accordance with the principles of the Declaration of Helsinki.

Survey instrument

An online questionnaire entitled “Survey on Well-Being Perception and Risk of Burnout in PRM Physicians and Residents” was

developed. The survey addressed five domains: demographics, professional characteristics, perceived workplace-related wellness, perceived importance of wellness domains, and resilience. Demographic variables included age, sex, country of practice, years of clinical practice, employment setting (public or private), rehabilitation setting, clinical domains of practice, interdisciplinary collaboration, and leadership responsibilities. The conceptual framework was grounded in a multidimensional model of well-being (physical, psychological, social, spiritual, intellectual, and economic). A structured set of 31 items adapted from the Work-Related Stress Questionnaire assessed perceived safety, adequacy of training, workload fairness, distribution of responsibilities, autonomy, professional development opportunities, workplace harassment, work-life balance, perceived respect, team climate, and alignment of professional values.[8]

Responses were recorded using a five-point Likert scale (Strongly agree, Slightly agree, Neutral, Slightly disagree, and Strongly disagree). For negatively worded statements (items 4, 5, 8, 9, and 27), responses of Strongly agree or Slightly agree were considered indicative of work-related strain. These items were: (4) I suffered from mobbing (demotion, isolation, exclusion from the flow of information, unequal treatment, etc.); (5) I am subject to verbal harassment or behaviors likely to harm my dignity; (8) I notice situations of discomfort or disturbances related to my daily work (e.g., lack of initiative, nervousness, headache, muscle pain); (9) My sex identity is an obstacle to my value at work; and (27) I would change my workplace if I could. For the remaining 26 positively worded statements, responses of Strongly disagree or Slightly disagree were considered indicative of work-related strain.

Participants also rated the perceived importance of wellness across 10 domains using a six-point scale addressing safety, equity, career development, clinical responsibilities, professional relationships, institutional belonging, and social recognition.[9] Resilience was assessed using the BRS, which evaluates the capacity to recover from stress using six statements rated on a five-point Likert scale.[10] Mean of six items was calculated (reverse coding for items 2, 4 and 6) where score of 1.00-2.99 indicates low resilience, 3.00-4.30 indicates normal resilience, and 4.31-5.00 indicates high resilience.

Statistical analysis

Statistical analysis was performed using the Stat View version 5.0 software (SAS Institute, Cary, North Carolina, USA). Descriptive data were presented in mean ± standard deviation (SD), median (min-max) or number and frequency, where applicable. Proportions were calculated for categorical variables and compared using the chi-square test. Demographic variables showing significant associations with questionnaire scores or response levels in the univariate analyses were entered into multivariate logistic regression models to identify independent predictors of workplace-related stress, perceived wellness, and resilience. A two-sided p value of < 0.05 was considered statistically significant.

RESULTS

A total of 358 responses were collected from 319 PRM physicians and 39 residents across 80 countries (Supplementary Table 1). Seventy-five percent of respondents were ISPRM members. The European (EURO) region accounted for the largest proportion of respondents (46.4%), followed by the Pan American Health Organization (PAHO) (29.0%) (Figure 1). Of all participants, 160 were male and 198 were female, with an age range of 28 to 64 years. years. Age distribution was broad, with women representing 56% of respondents and predominating in younger age groups (Table 1).

Professional experience

Mid-career physicians were most represented. Residents and respondents with fewer than five years of professional experience accounted for 17.6% of the sample (Figure 2).

Participants worked across diverse rehabilitation settings, including acute care (9.2%), general post-acute rehabilitation (16.8%), specialized post-acute rehabilitation (15.9%), general outpatient services (24.3%), specialized outpatient services (19.5%), and community-based rehabilitation (3%). Overall, 67% were employed within public healthcare systems and 19% in private practice.

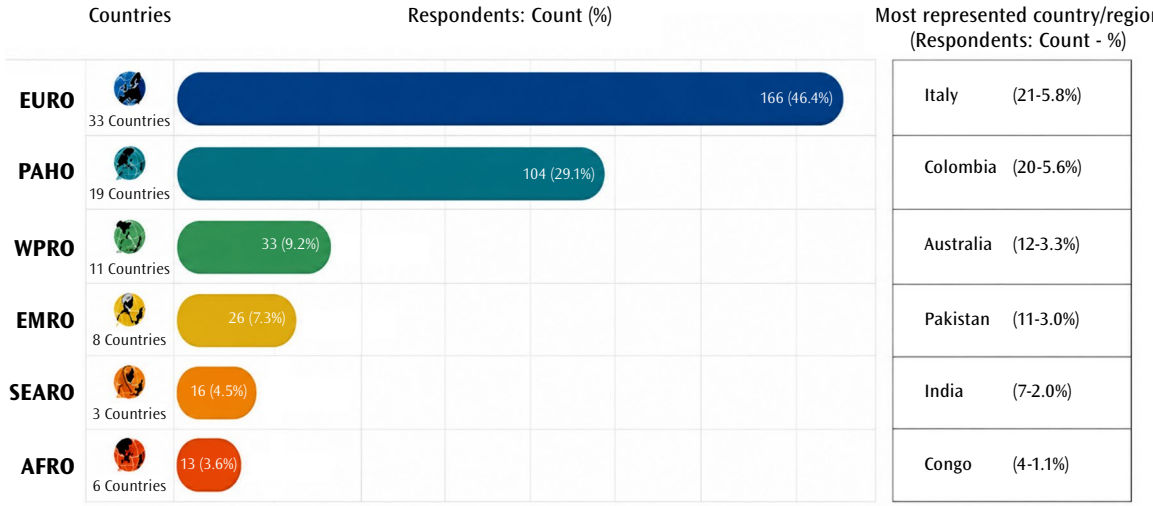

Figure 1. Distribution of respondents by WHO region.

WHO, World Health Organization; EURO, European Region; PAHO, Pan American Health Organization; WPRO, Western Pacific Region; EMRO, Eastern Mediterranean Region; SEARO, South East Asia Region; AFRO, African region.

Clinical activity most frequently involved musculoskeletal disorders (43.2%) and neurological conditions (32.5%), whereas 24% reported managing functional limitations of mixed etiology.

Perceived workplace-related wellness

Analysis focused on survey statements receiving more than 15% concern-related responses. Several domains emerged as potential contributors to burnout risk, including experiences of workplace harassment (26.8%), perceived unfair workload and responsibility distribution (20%), limited rest opportunities (21.2%), and difficulties achieving work-life balance (15.9%). A substantial proportion of respondents (38.8%) reported willingness to change their workplace, if possible (Supplementary Table 2).

Table 1. Distribution by age range and sex

	Sex		Total	
Age range	Male/Female (n)	Male/Female (%)	n	%
< 30 years	8/13	4.4 / 6.5	21	5.9
31-40 years	32/72	20.1/36.3	104	29.0
41-50 years	34/47	21.3/23.7	81	22.6
51-60 years	39/43	24.5/21.7	82	22.9
> 60 years	47/23	29.5/11.6	70	19.5
Total	160/198	100/100	358	100

No statistically significant associations were observed between workplace-related wellness and age or the World Health Organization (WHO) region. Female respondents reported significantly higher levels of perceived workplace strain across several domains (Table 2).

Multivariate logistic regression analysis confirmed that female sex was independently associated with higher levels of perceived workplace uneasiness across several domains, whereas age and geographic background were not significantly associated with response distribution. Shorter professional experience (< 20 years) was independently associated with a greater willingness to change workplace.

Perceived importance of wellness domains

All evaluated domains were highly valued. The patient-physician relationship received the highest importance ratings, followed by career opportunities, clinical responsibilities, and relationships with colleagues. No significant associations were observed between importance ratings and demographic or professional variables (Table 3).

Resilience assessment

The BRS results indicated overall moderate-to-good resilience levels. Approximately 62.5% of respondents had mean BRS scores between

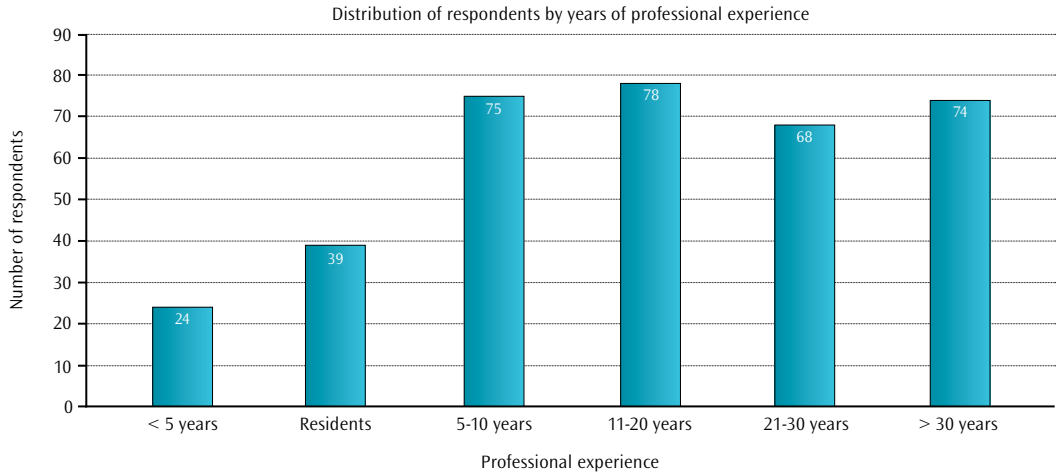

Figure 2. Distribution of respondents by years of professional experience (n = 358).

3.00 and 4.30, corresponding to average resilience; 10.9% scored above 4.31, indicating high resilience; and the remaining 26.6% scored below 3.00, reflecting low resilience.

Univariate analyses examining the association between BRS categories and demographic variables revealed significant relationships with sex and age. These associations were confirmed in multivariate logistic regression models, which demonstrated their independent effects: males (odds ratio [OR] = 2.0; 95% confidence interval [CI]: 1.2-3.4) and individuals aged over 60 years

Table 2. Survey questions receiving more than 15% responses describing concerns about the addressed issue. (Sex-related differences are also presented)

	% concerned responses		
	Males *vs.* Females	Total sample	
Statement	%	%	*p**
I am satisfied with the physical characteristics of my workplace (available spaces, brightness, noise)	14.4 *vs.* 23.5	19.5 Slightly or strongly disagree	0.004
I suffered from mobbing (demotion, isolation, exclusion from the flow of information, unequal treatment…)	21.3 *vs.* 30.7	26.8 Slightly or strongly agree	0.004
I can benefit from adequate rest breaks during work	14.4 *vs.* 26.6	21.2 Slightly or strongly disagree	0.04
My work rhythms are sustainable	10.6 *vs.* 27.2	20.0 Slightly or strongly disagree	0.0001
I notice situations of discomfort or disturbances related to my daily work (lack of initiative, nervousness, headache, muscle pain...	37.0 *vs.* 45.4	41.7 Slightly or Strongly agree	NS
The workload assigned to me is fair	15 *vs.* 23	20.0 Slightly or Strongly disagree	0.001
The distribution of responsibilities in the workplace is fair	15 *vs.* 24.1	20.1 Slightly or Strongly disagree	0.01
My salary is adequate for my workload and responsibilities	31.4 *vs.* 44.9	38.9 Slightly or Strongly disagree	NS
I have the resources and tools necessary to do my job well	16.3 *vs.* 23.6	20.4 Slightly or Strongly disagree	0.03
I have the possibility to reconcile work and private life well	10.0 *vs.* 20.6	15.9 Slightly or Strongly disagree	0.0009
I would change my workplace if I could	35.1 *vs.* 41.8	38.8 Slightly or Strongly agree	NS

* Chi-Square test; NS, not significant.

Table 3. Distribution (%) of the responses rating the importance assigned to the following aspects of own well-being

Ranking	1	2	3	4	5
Domains of wellness	%	%	%	%	%
Safety and protection against work-related stress	5.6	9.5	14.2	24	46.5
Equity policies	7.6	9.2	16.8	23.5	42.8
Career opportunities and professional development	7.0	8.4	11.2	20.4	52.9
Type of clinical responsibilities	4.8	7.2	13.1	31.9	42.8
Relationship with the colleagues	6.7	4.4	12.9	26	49.9
Relationship with the patients	5.9	5.9	11.7	21.8	54.6
Relationship with the caregivers	4.8	5.9	17.1	33.3	38.9
The sense of belonging to a respected Institution	5.9	8.1	19.3	24.6	42.0
The importance of my work for the community	7.0	5.9	14.8	22.7	49.6
The importance of my work for my family members	5.6	10.3	18.8	28.3	37.0

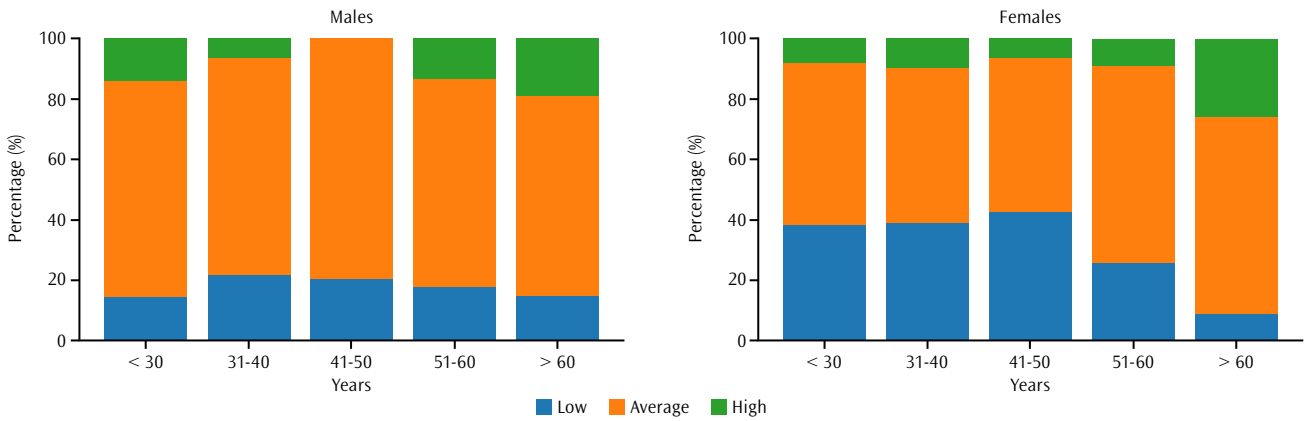

Figure 3. Distribution of respondents by resilience (BRS) category (low/average/high), age range, and sex.
BRS, Brief Resilience Scale.

(OR = 2.3; 95% CI: 1.0-5.4) had significantly higher odds of exhibiting above-average resilience (Figure 3).

DISCUSSION

In the present study, we evaluated perceptions of well-being and burnout-related risk factors among PRM physicians and residents worldwide using a multidimensional framework. Our findings are consistent with evidence that occupational distress among physicians remains a significant concern and is driven largely by workplace and organizational factors. Although physician burnout in the USA has improved from pandemic peaks, rates remain elevated compared with other workers, highlighting the continued need for system-level interventions.[11] Similarly, a recent national survey of Canadian physiatrists reported burnout in approximately 42% of respondents, with higher odds among women and lower odds among those with greater relational compassion.[12] Similar findings have been reported in LMIC settings, including Bangladesh, where rehabilitation physicians face growing service demands and resource constraints.[13] This is important, as physicians working in LMICs frequently face additional pressures, including rehabilitation workforce shortages and fewer opportunities for professional development.[14] Together with our global sample, these findings suggest that key drivers of occupational distress are consistent across diverse PRM settings despite differences in healthcare systems and practice environments.

Workplace harassment was the most prominent workplace concern identified in our survey. This finding aligns with evidence linking workplace mistreatment, high job stress, and poor communication with burnout among healthcare professionals.[15] These observations support organizational models of well-being that emphasize workplace culture and efficiency as key determinants of professional fulfillment and burnout.[16]

Consistent with our multivariate findings, national data continue to demonstrate higher distress among women physicians than men, despite modest improvements since 2022.[17] Organizational factors such as workload, autonomy, recognition, and belonging may contribute to these disparities, highlighting the need for institutional solutions. Early-career clinicians in our cohort also reported greater intent to change employers, consistent with evidence linking administrative burden, workplace inefficiencies, and limited workplace control to turnover intentions. These trends may have important implications for PRM workforce retention and access to rehabilitation services.

The BRS assesses the capacity to recover from stress rather than the upstream drivers of distress.[10] Although resilience is consistently associated with lower burnout and can be enhanced through targeted interventions, it does not fully mitigate the effects of chronic organizational strain. As reflected in the WHO's 2024 technical consultation and the CDC/NIOSH Impact Wellbeing™ guidance for hospital leaders, durable progress requires system-level changes, reducing administrative friction, ensuring adequate staffing, preventing mistreatment, and building leadership accountability, alongside supports that strengthen individual coping.[18,19]

Implications for policy and practice

Our results support prioritizing organizational interventions tailored to PRM practice settings: (1) prevent and address harassment through just-culture policies, confidential reporting, and prompt remediation; (2) improve workplace efficiency by redesigning workflows, staffing models, and documentation to reduce low-value tasks; (3) strengthen culture of wellness via wellness-centered leadership behaviors, transparent communication, recognition, and values alignment; (4) enhance schedule control and predictable coverage to support work-life integration; and (5) implement equity-focused strategies that close sex gaps in autonomy, sponsorship, and advancement. These actions are concordant with global and national frameworks calling for structural change to protect health worker well-being.[16-20]

Future directions

Given the cross-sectional design and reliance on risk indicators rather than a validated burnout instrument, future PRM research should employ longitudinal designs with standardized burnout measures (e.g., Maslach Burnout Inventory [MBI] or Professional Fulfillment Index [PFI]) using pragmatic trial designs across diverse health systems. Organization-level strategies (e.g., documentation reduction, team-based models, ambient artificial intelligence scribes) for their impact on PRM clinician well-being and patient outcomes are a priority.[16,19,21]

Limitations

Nonetheless, this study has several limitations that should be acknowledged. First, burnout itself was not directly measured with a validated diagnostic instrument; instead, we assessed perceived workplace risks and resilience, precluding direct prevalence estimates and comparisons with studies using the MBI or related tools. Although the survey incorporated items derived from previously published instruments and included the validated BRS, the overall questionnaire was not formally validated as a unified instrument. Therefore, measurement bias related to the assessment of workplace wellness perceptions cannot be excluded. Second, a survey response rate could not be calculated in this study. The questionnaire was distributed through multiple overlapping dissemination channels, including ISPRM communications, national and regional professional networks, and social media platforms, making it impossible to determine the total number of eligible physicians who were exposed to the survey invitation. Since participants were encouraged to share the survey within

their professional communities, the invitation extended beyond the formal membership of ISPRM and its national societies. This broad dissemination strategy enabled participation from physicians and trainees practicing in countries not formally represented by an ISPRM national member society, resulting in responses from 80 countries. Third, participation was voluntary, introducing the possibility of self-selection bias, whereby physicians with greater interest in wellness-related issues or stronger opinions regarding workplace experiences may have been more likely to participate. In addition, although respondents represented 80 countries across all WHO regions, participation was not evenly distributed. Nearly half of the respondents originated from the WHO European Region, and together the European and Pan American regions accounted for approximately 70% of the total sample. This regional imbalance may reflect differences in ISPRM engagement, survey dissemination networks, internet accessibility, and English-language participation. Consequently, the findings may be more representative of PRM physicians practicing in Europe and the Americas than those working in underrepresented regions, including Africa, parts of Asia, and the Eastern Mediterranean. However, the inclusion of respondents from many countries provides valuable preliminary insight into global patterns of workplace well-being and burnout-related risk factors in PRM.

In conclusion, in a global PRM cohort, perceptions of unfair workload, limited rest, work-life challenges, and workplace harassment were prominent risk signals for distress. Female clinicians reported higher strain, and early career respondents expressed a greater inclination to change workplaces. These patterns, consistent with multispecialty evidence, reinforce that structural and cultural determinants, more than individual traits, drive occupational well-being in PRM. Sustainable improvement requires organizational action to improve efficiency, prevent mistreatment, and cultivate a culture of wellness, complemented by support that strengthens individual coping and resilience. Future international studies should seek more balanced regional representation to better evaluate potential geographic and health-system differences in physician well-being.

Declaration of Conflicting Interests

The authors declare that there are no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Author Contributions

A.Y., R.D., M.C., T.K.: Idea/concept, design, control/supervision, analysis and/or interpretation, literature review, writing the article, critical review, references and fundings, materials; M.C., T.K.: Data collection and/or processing

Data Availability

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

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AI Disclosure

The authors declare that artificial intelligence (AI) tools were not used, or were used solely for language editing, and had no role in data analysis, interpretation, or the formulation of conclusions. All scientific content, data interpretation, and conclusions are the sole responsibility of the authors. The authors further confirm that AI tools were not used to generate, fabricate, or 'hallucinate' references, and that all references have been carefully verified for accuracy.

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