Climate-Induced Challenges in Humanitarian Operations: Logistical Impediments, Worker Well-being, and the Call for Comprehensive Support

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GLOBAL CONFERENCE ON LOGISTICS

CZĘSTOCHOWA UNIVERSITY OF TECHNOLOGY FACULTY OF MANAGEMENT DEPARTMENT OF LOGISTICS CZĘSTOCHOWA, 17-18 OCTOBER, 2024

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Climate-Related Disasters Overview

- - Data on the increase in climate disasters: floods, hurricanes, droughts.
- - Impact on various regions (Asia, Africa, Americas, etc.).
- - Economic and human toll over recent decades.

Key Statistic	Details
Increase in Climate Disasters	**Over the last 40 years, global climate-related disasters have increased by 80%** (source: UNDRR, 2020)
Floods	40% increase in flood-related events since 2000 (source: World Bank, 2021)
Hurricanes	5 of the 10 costliest hurricanes (in terms of damage) have occurred since 2017 (source: NOAA, 2021)
Droughts	More frequent and severe droughts affecting agriculture and water supply, particularly in Africa and Asia (source: FAO, 2021)

Impact on Regions

Region	Disaster Impact
Asia	Most affected by floods, typhoons, and cyclones. In 2020, over 50% of climate-related disasters occurred in Asia (source: UNDRR).
Africa	Struggling with droughts, desertification, and food insecurity, affecting over 50 million people (source: FAO, 2021).
Americas	Hurricanes and wildfires have caused billions in damage, particularly in the Caribbean, Mexico, and the US (source: NOAA, 2021).
Europe	Increasing heatwaves and wildfires in southern Europe (e.g., Greece, Spain), leading to massive evacuations (source: EEA, 2021).

Economic and Human Toll

Economic Toll	Human Toll
Global Losses (2020)	Climate-related disasters caused **$210 billion in damages globally** (source: World Bank, 2020)
Cost to Low-Income Countries	**Low-income countries** suffer the majority of economic losses, despite being least responsible for emissions (source: UN, 2021)
Human Casualties (2019)	**24,000 deaths** globally due to climate-related events (source: IFRC, 2019)
Displacement	Over **50 million people displaced** annually by climate disasters (source: UNHCR, 2021)

The Growing Impact of Climate Disasters: Challenges for Aid Workers

Climate Disasters Are Increasing

Disproportionate Impact on Vulnerable Regions

Human and Economic Toll is Heavy

Urgency for Targeted Interventions

Frequency and intensity of disasters like floods, hurricanes, and droughts are escalating worldwide.

Asia, Africa, and the Americas are disproportionately affected by these events.

Both **economic losses** and **human casualties** are rising, affecting aid workers' well-being.

The increase in climate disasters necessitates stronger disaster response mechanisms and support for **aid workers**.

Research Frameworks

- **Disaster Risk Reduction (DRR)**: Focuses on minimizing immediate disaster impacts through preparedness, risk assessment, and prevention (e.g., early warning systems, community preparedness).**Climate Change Adaptation (CCA)**: Builds long-term resilience by addressing climate-related vulnerabilities (e.g., climate-resilient infrastructure, sustainable land management).**Need for Integration**:Combines short-term risk management (DRR) with long-term climate resilience (CCA).
  - Strengthens local capacity, promotes sustainable recovery, and reduces future disaster costs.
  - Ensures a multi-hazard approach, addressing both traditional and climate-related risks.
  - **Example**: Integrated systems like flood defenses combined with drought-resistant agriculture for holistic disaster preparedness.

Systematic Literature Review Findings

- 654 articles reviewed, narrowed down to 18 on mental health of aid workers.

- Themes: climate change, humanitarian operations, and mental health.

- Emphasis on need for mental health support in disaster response.

Case Studies in Mental Health Challenges

- High PTSD, Depression Rates: South Sudan, Bangladesh, and conflict zones.

- Workplace Stressors: Discrimination, violence, harassment.

- Need for Organizational Support: Tailored training and interventions.

Mental Health of Aid Workers

- Scope: Synthesis of 70 studies across healthcare settings in different countries

- Objective: To explore factors affecting the mental well-being of aid workers

- Approach: Thematic analysis of literature to uncover key themes

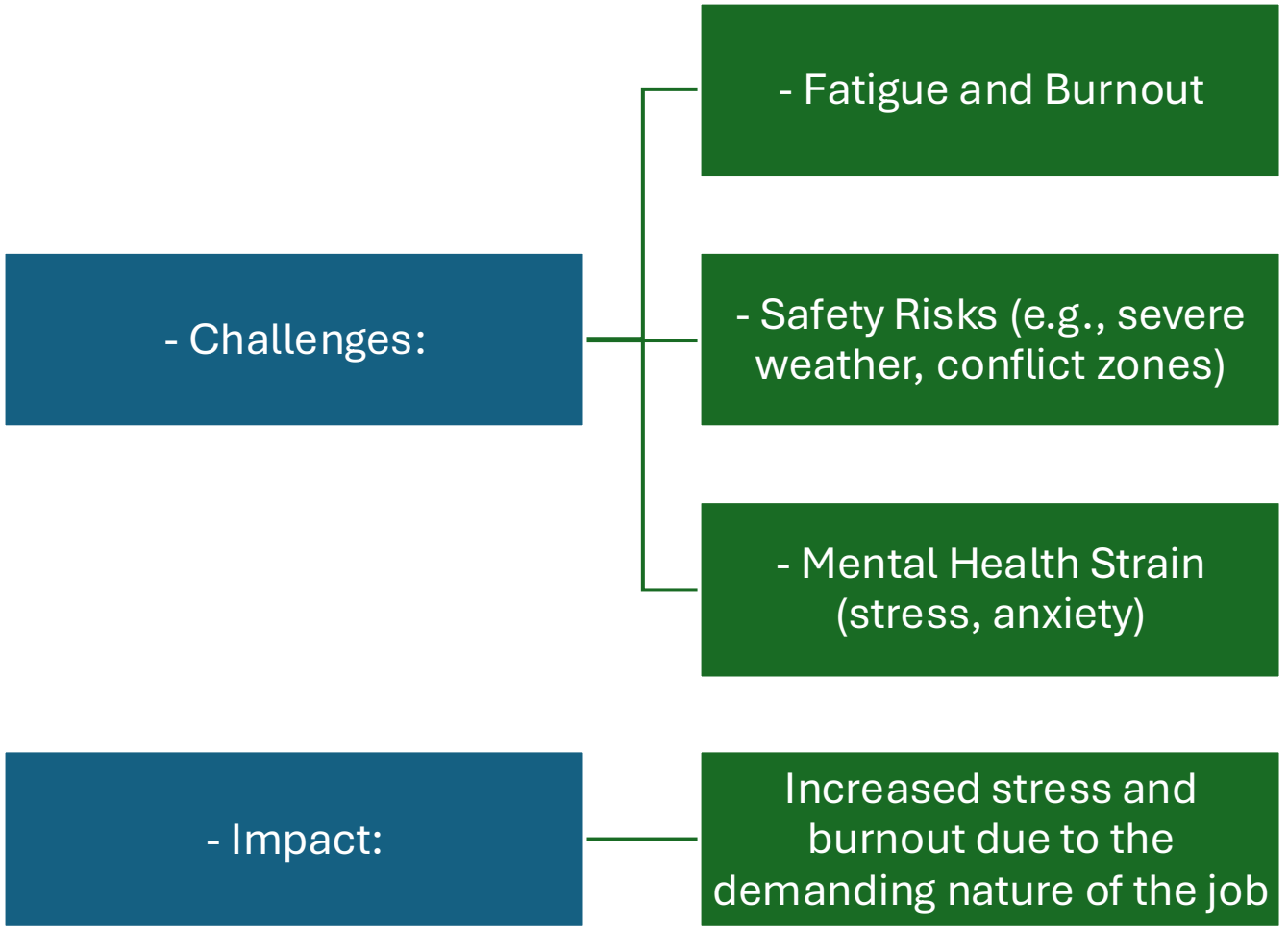
- Main Themes Identified - Burnout (129 studies)

- - Job Satisfaction (105 studies)
- - PTSD and Mental Health (78 studies)
- - Organizational Support (54 studies)
- - Stress Factors (66 studies)
- - Social Support (51 studies)
- - Emotional Intelligence (27 studies)
- - Occupational Settings (36 studies)
- - Coping Mechanisms (33 studies)
- - Focus: Burnout and job dissatisfaction as prevalent issues

Key Findings - Aid Workers' Mental Health

Theme	Number of Studies (out of 70)	Representative Studies
Burnout	129	[34, 35]
Job Satisfaction	105	[36, 37]
PTSD and Mental Health	78	[38, 39]
Organizational Support	54	[40, 41]
Stress Factors	66	[42]
Social Support	51	[43, 44]
Emotional Intelligence	27	[45]
Occupational Setting	36	[46]
Coping Mechanisms	33	[47]

Challenges Faced by Aid Workers



Logistical Challenges in Humanitarian Operations

- Disrupted Infrastructure: Damage to roads, bridges, and communication networks delays aid delivery.

- Timely Aid Delivery Issues: Inaccurate early warning systems and logistical breakdowns hinder efficient response.

- Resource Pressure: Constant mobility of aid workers and limited resources strain operations and lead to burnout.

Literature on mental health of aid workers

Author(s) & Year	Main Themes/Topics	Key Findings/Points	Implications/Recommendations
Altara et al. [18]	Humanitarian Crises & Public Health	Humanitarian crises impact public health with challenges in measuring health outcomes due to limited resources.	Adoption of alternative indicators or methods tailored to different humanitarian contexts.
Almonte [19]	Role of U.S. Navy Nurses in Humanitarian Efforts	Challenges faced by Navy nurses in humanitarian missions; learning from past experiences.	Need for comprehensive afteraction reports and preparedness training.
Gallardo et al [20]	Competency Sets for Disaster Management	Lack of consensus in competency terminology; emphasis on healthcare sector.	Standardized, crosssectorial competency framework for comprehensive education and training.
Gursky et al [21]	Challenges in the AsiaPacific Region	Challenges include poverty, disease rates, natural disasters; emphasis on International Health Regulations.	Professionalization of responders, standardized training, locallevel engagement, and multidisciplinary collaborations.
Guisolan et al [22]	Experiences of Humanitarian Aid Workers	Vulnerabilities to violence, health hazards, and risky behaviors among HAWs.	Tailored training and ongoing support for HAWs' safety and wellbeing.
Ager et al [23]	Mental Health of Humanitarian Aid Workers	High rates of traumatic events, depression, anxiety, PTSD, and burnout among workers.	Effective organizational support strategies.
Strohmeier et al [24]	Mental Health Challenges in ConflictRidden Areas	Alarming rates of PTSD, depression, anxiety, burnout, and hazardous alcohol consumption among workers.	Tailored interventions and organizational support.
Cardozo et al [12]	Mental Health of Humanitarian Aid Workers	High levels of stress, anxiety, and depression among workers.	Increased attention to the mental health needs of humanitarian aid workers.
Putman et al [25]	Experiences of Guatemalan Humanitarian Aid Workers	High levels of stress and trauma due to exposure to violence.	Enhanced support mechanisms for workers exposed to violence.
Connorton et al [26]	Mental Health Effects of Relief Work	Relief workers experience higher rates of anxiety, depression, and trauma symptoms compared to the general population.	Prioritize mental health support and interventions for relief workers.
Davis et al [27]	Role of Leader Humility in Humanitarian Aid Work	Leader humility is positively associated with job satisfaction and organizational commitment.	Encourage leader humility as a strategy to improve the wellbeing of humanitarian aid workers.
Vintilă et al (2023)	Impact of Fake News on Mental Health	Fake news negatively impacts the mental health of the general population and aid workers.	Address the impact of misinformation and fake news through education and awareness campaigns.
Schwartz et al [28]	Palliative Care in Humanitarian Crises	Challenges in providing palliative care due to resource constraints and cultural barriers.	Prioritize palliative care needs and address resource and cultural barriers in humanitarian crises.
Dilliott et al [29]	Resilience of Community Drug Distributors	Challenges faced by community drug distributors in Côte d'Ivoire and Uganda, including resource constraints and cultural barriers.	Focus on building resilience and addressing challenges faced by community drug distributors.

Key Findings & Implications

- Implications

- Mental Health Challenges: High rates of PTSD, anxiety, depression, and burnout among aid workers (Ager et al. [23], Strohmeier et al. [24]).
- - Organizational Support: Effective organizational support is crucial, including tailored interventions and leadership strategies (Davis et al. [27], Connorton et al. [26]).
- - Exposure to Violence & Stress: Workers in high-risk areas face significant stress, trauma, and violence (Putman et al. [25], Guisolan et al. [22]).
- - Resilience & Training: Need for professional training and resilience building to tackle challenges (Gallardo et al. [20], Gursky et al. [21]).
- - Emerging Issues: The rise of fake news impacts mental health, demanding awareness initiatives (Vintilă et al. [2023], Schwartz et al. [28]).

Recommendations:

- Prioritize mental health support, improve organizational strategies, and provide comprehensive training.

Themes

1. Mental Health Challenges	- PTSD, anxiety, depression, and burnout are common. - Need for tailored interventions and organizational support.
2. Role of Organizational Support	- Importance of leadership humility and well-structured support mechanisms. - Encourages job satisfaction and improves commitment.
3. Exposure to Violence & Trauma	- High-risk environments lead to stress and trauma, particularly in conflict areas. - Enhanced safety measures and support are essential.
4. Training & Competency Development	- Lack of standardized competency frameworks in disaster management. - Call for cross-sector and comprehensive training.
5. Impact of External Factors	- Misinformation, such as fake news, negatively impacts workers' mental health. - Need for educational and awareness campaigns.
6. Resilience & Sustainability	- Building resilience in communities and individuals is critical for long-term response efforts. - Focus on improving resource management and community engagement.
Overall Implication:	Addressing mental health, improving training, and fostering strong organizational support systems are vital for enhancing the well-being of humanitarian workers.

Conclusion and Future Research Directions

Aid workers face mental health challenges exacerbated by climate-induced disasters

Need for stronger organizational support systems

Limitations: Region-specific data and cultural biases

Future Research:

Longitudinal studies on mental health

Research on organizational interventions and technological innovations in disaster response

Climate-induced disasters are increasing in frequency and intensity.

Humanitarian workers face extreme logistical and mental health challenges.

Integrated DRR and CCA frameworks and mental health support are crucial for sustaining humanitarian efforts.

References

- [1] Guideline MENTAL HEALTH AND PSYCHOSOCIAL SUPPORT IN EMERGENCY SETTINGS IASC Reference Group on Mental Health And Psychosocial Support in Emergency Settings 2007 Endorsed by IASC Principals, (n.d.).
- [2] Disaster Rescue and Response Workers - PTSD: National Center for PTSD, (n.d.). https://www.ptsd.va.gov/professional/treat/type/disaster_response_work.asp (accessed January 12, 2024).
- [3] Addressing the mental health crisis amongst emergency response workers, (n.d.). https://www.openaccessgovernment.org/addressing-mental-health-crisis-emergency-response-workers/153772/ (accessed January 12, 2024).
- [4] V. Metcalfe, E. Martin, S. Pantuliano, Risk in humanitarian action : towards a common approach ?, (2011).
- [5] U. News, Climate and weather related disasters surge five-fold over 50 years, but early warnings save lives - WMO report | UN News, (n.d.). https://news.un.org/en/story/2021/09/1098662 (accessed January 12, 2024).
- [6] Undrr, Promoting Synergy and Alignment Between Climate Change Adaptation and Disaster Risk Reduction in the Context of National Adaptation Plans, (2021). www.undrr.org (accessed January 12, 2024).
- [7] Climate change: "Adapt or die" warning from Environment Agency - BBC News, (n.d.). https://www.bbc.co.uk/news/science-environment-58883234 (accessed January 12, 2024).
- [8] C.Y.S. Foo, A.K. Tay, Y. Yang, H. Verdeli, Psychosocial model of burnout among humanitarian aid workers in Bangladesh: role of workplace stressors and emotion coping, Confl. Health. 17 (2023) 1–12. https://doi.org/10.1186/S13031-023-00512-1/TABLES/4.
- [9] C. Plakas, Burnout, Compassion Fatigue, and Secondary Traumatic Stress Among Humanitarian Aid Workers in Jordan, (n.d.).
- [10] Official development assistance (ODA) - OECD, (n.d.). https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/official-development-assistance.htm (accessed January 12, 2024).
- [11] S. Cordner, M. Tidball-Binz, Humanitarian forensic action — Its origins and future, Forensic Sci. Int. 279 (2017) 65–71. https://doi.org/10.1016/J.FORSCIINT.2017.08.011.
- [12] B. Lopes Cardozo, T.H. Holtz, R. Kaiser, C.A. Gotway, F. Ghitis, E. Toomey, P. Salama, The mental health of expatriate and Kosovar Albanian humanitarian aid workers, Disasters. 29 (2005) 152–170. https://doi.org/10.1111/J.0361-3666.2005.00278.X.
- [13] M.B.C. Roy, S. Selvarajan, Vulnerability to Climate Induced Natural Disasters with Special Emphasis on Coping Strategies of the Rural Poor in Coastal Orissa , India, (2002).
- [14] Climate change: "Invest $1.8 trillion to adapt" - BBC News, (n.d.). https://www.bbc.co.uk/news/science-environment-49635546 (accessed January 12, 2024).
- [15] D. Tranfield, D. Denyer, P. Smart, Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review, Br. J. Manag. 14 (2003) 207–222. https://doi.org/10.1111/1467-8551.00375.
- [16] D. Denyer, D. Tranfield, Producing a systematic review, Sage Handb. Organ. Res. Methods. (2009).
- [17] M.J. Page, J.E. Mckenzie, P.M. Bossuyt, I. Boutron, T.C. Hoffmann, C.D. Mulrow, L. Shamseer, J.M. Tetzlaff, E.A. Akl, S.E. Brennan, R. Chou, J. Glanville, J.M. Grimshaw, A. Hróbjartsson, M.M. Lalu, T. Li, E.W. Loder, E. Mayo-Wilson, S. Mcdonald, L.A. Mcguinness, L.A. Stewart, J. Thomas, A.C. Tricco, V.A. Welch, P. Whiting, D. Moher, The PRISMA 2020 statement: an updated guideline for reporting systematic reviews, (n.d.). https://doi.org/10.1136/bmj.n71.
- [18] C. Altare, W. Weiss, M. Ramadan, H. Tappis, P.B. Spiegel, Measuring results of humanitarian action: adapting public health indicators to different contexts, Confl. Heal. 2022 161. 16 (2022) 1–8. https://doi.org/10.1186/S13031-022-00487-5.
- [19] A.L.C. Almonte, Humanitarian Nursing Challenges: A Grounded Theory Study, Mil. Med. 174 (2009) 479–485. https://doi.org/10.7205/MILMED-D-01-7908.
- [20] A. Ripoll Gallardo, A. Djalali, M. Foletti, L. Ragazzoni, F. Della Corte, O. Lupescu, C. Arculeo, G. Von Arnim, T. Friedl, M. Ashkenazi, P. Fisher, B. Hreckovski, A. Khorram-Manesh, R. Komadina, K. Lechner, M. Stal, C. Patru, F.M. Burkle, P.L. Ingrassia, Core Competencies in Disaster Management and Humanitarian Assistance: A Systematic Review, Disaster Med. Public Health Prep. 9 (2015) 430–439. https://doi.org/10.1017/DMP.2015.24.
- [21] E.A. Gursky, F.M. Burkle, D.W. Hamon, P. Walker, G.C. Benjamin, The changing face of crises and aid in the Asia-Pacific, Biosecur. Bioterror. 12 (2014) 310–317. https://doi.org/10.1089/BSP.2014.0025.
- [22] S.C. Guisolan, M. Ambrogi, A. Meeussen, F. Althaus, G. Eperon, NC-ND license Health and security risks of humanitarian aid workers during field missions: Experience of the International Red Cross, (2022). https://doi.org/10.1016/j.tmaid.2022.102275.
- [23] A. Ager, E. Pasha, G. Yu, T. Duke, C. Eriksson, B.L. Cardozo, Stress, mental health, and burnout in national humanitarian aid workers in Gulu, northern Uganda, J. Trauma. Stress. 25 (2012) 713–720. https://doi.org/10.1002/JTS.21764.
- [24] H. Strohmeier, W.F. Scholte, A. Ager, Factors associated with common mental health problems of humanitarian workers in South Sudan, PLoS One. 13 (2018). https://doi.org/10.1371/JOURNAL.PONE.0205333.
- [25] K.M. Putman, J.J. Lantz, C.L. Townsend, A.M. Gallegos, A.A. Potts, R.C. Roberts, E.R. Cree, M. de Villagrán, C.B. Eriksson, D.W. Foy, Exposure to violence, support needs, adjustment, and motivators among Guatemalan humanitarian aid workers, Am. J. Community Psychol. 44 (2009) 109–115. https://doi.org/10.1007/S10464-009-9249-5.
- [26] E. Connorton, M.J. Perry, D. Hemenway, M. Miller, Humanitarian relief workers and trauma-related mental illness, Epidemiol. Rev. 34 (2012) 145–155. https://doi.org/10.1093/EPIREV/MXR026.
- [27] E.B. Davis, K. Barneche, J.D. Aten, L.R. Shannonhouse, D.C. Wang, D.R. Van Tongeren, D.E. Davis, J.N. Hook, Z.J. Chen, G.T. Lefevor, S.E. McElroy-Heltzel, E.L. Elick, L. Van Grinsven, E.K. Lacey, T.R. Brandys, P.K. Sarpong, S.A. Osteen, K. Shepardson, The multilevel correlates, contributions, and consequences of leader humility in humanitarian aid work, Front. Psychol. 14 (2023). https://doi.org/10.3389/FPSYG.2023.1188109/FULL.
- [28] L. Schwartz, E. Nouvet, S. de Laat, R. Yantzi, O. Wahoush, W.A. Khater, E.M. Rwililiza, I. Abu-Siam, G. Krishnaraj, T. Amir, K. Bezanson, C.S. Wallace, O.B. Sow, A.A. Diallo, F.B. Diallo, L. Elit, C. Bernard, M. Hunt, Aid when 'there is nothing left to offer': Experiences of palliative care and palliative care needs in humanitarian crises, PLOS Glob. Public Heal. 3 (2023) e0001306. https://doi.org/10.1371/JOURNAL.PGPH.0001306.
- [29] D. Dilliott, D. Addiss, C. Thickstun, A.M. Djima, E. Comoe, L. Thompson, S. Neema, M. Amuyunzu-Nyamongo, A. Wung-Buh, D. McFarland, M. Gyapong, A. Krentel, A mixed-methods exploration into the resilience of community drug distributors conducting mass drug administration for preventive chemotherapy of lymphatic filariasis and onchocerciasis in Côte d'Ivoire and Uganda, PLOS Glob. Public Heal. 2 (2022) e0000700. https://doi.org/10.1371/JOURNAL.PGPH.0000700.
- [30] Q. Yan, The use of climate information in humanitarian relief efforts: a literature review, J. Humanit. Logist. Supply Chain Manag. 13 (2023) 331–343. https://www.emerald.com/insight/2042-6747.htm (accessed January 11, 2024).
- [31] A.L.C. Almonte, Humanitarian nursing challenges: a grounded theory study, Mil. Med. 174 (2009) 479–485. https://doi.org/10.7205/MILMED-D-01-7908.
- [32] S.C. Guisolan, M. Ambrogi, A. Meeussen, F. Althaus, G. Eperon, Health and security risks of humanitarian aid workers during field missions: Experience of the International Red Cross, Travel Med. Infect. Dis. 46 (2022). https://doi.org/10.1016/J.TMAID.2022.102275.
- [33] M. Vintilă, G.M. Lăzărescu, A. Kalaitzaki, O.I. Tudorel, C. Goian, Fake news during the war in Ukraine: coping strategies and fear of war in the general population of Romania and in aid workers, Front. Psychol. 14 (2023). https://doi.org/10.3389/FPSYG.2023.1151794/FULL.
- [34] B.F. Piko, Burnout, role conflict, job satisfaction and psychosocial health among Hungarian health care staff: A questionnaire survey, Int. J. Nurs. Stud. 43 (2006) 311–318. https://doi.org/10.1016/j.ijnurstu.2005.05.003.
- [35] E. Grunfeld, T.J. Whelan, L. Zitzelsberger, A.R. Willan, B. Montesanto, W.K. Evans, Cancer care workers in Ontario: prevalence of burnout, job stress and job satisfaction, C. Can. Med. Assoc. J. 163 (2000) 166. /pmc/articles/PMC80206/ (accessed January 18, 2024).
- [36] M.J. Crawford, T. Adedeji, K. Price, D. Rutter, Job satisfaction and burnout among staff working in community-based personality disorder services, Int. J. Soc. Psychiatry. 56 (2010) 196–206. https://doi.org/10.1177/0020764009105702.
- [37] C. Renzi, S. Tabolli, A. Ianni, C. Di Pietro, P. Puddu, Burnout and job satisfaction comparing healthcare staff of a dermatological hospital and a general hospital, J. Eur. Acad. Dermatology Venereol. 19 (2005) 153–157. https://doi.org/10.1111/J.1468-3083.2005.01029.X.
- [38] A.H. Boudoukha, E. Altintas, S. Rusinek, C. Fantini-Hauwel, M. Hautekeete, Inmates-to-staff assaults, PTSD and burnout: profiles of risk and vulnerability, J. Interpers. Violence. 28 (2013) 2332–2350. https://doi.org/10.1177/0886260512475314.
- [39] S. Mitani, M. Fujita, K. Nakata, T. Shirakawa, Impact of post-traumatic stress disorder and job-related stress on burnout: a study of fire service workers, J. Emerg. Med. 31 (2006) 7–11. https://doi.org/10.1016/J.JEMERMED.2005.08.008.
- [40] S.M. Townsend, R. Campbell, No Title, J Forensic Nurs, 2009. https://doi.org/10.1111/J.1939-3938.2009.01040.X.
- [41] B. Lopes Cardozo, C. Gotway Crawford, C. Eriksson, J. Zhu, M. Sabin, A. Ager, D. Foy, L. Snider, W. Scholte, R. Kaiser, M. Olff, B. Rijnen, W. Simon, No Title, PLoS One, 2012. https://pubmed.ncbi.nlm.nih.gov/22984592/ (accessed January 18, 2024).
- [42] N. Sardiwalla, H. VandenBerg, K.G.F. Esterhuyse, No Title, Cancer Nurs, 2007. https://pubmed.ncbi.nlm.nih.gov/18025922/ (accessed January 18, 2024).
- [43] J.A. van der Laan Smith, Understanding foreign exchange risk: An instructional simulation exercise, Issues Account. Educ. 28 (2013) 181–195. https://doi.org/10.2308/iace-50311.
- [44] S.H. Hamaideh, Burnout, social support, and job satisfaction among Jordanian mental health nurses, Issues Ment. Health Nurs. 32 (2011) 234–242. https://doi.org/10.3109/01612840.2010.546494.
- [45] G. Görgens-Ekermans, T. Brand, Emotional intelligence as a moderator in the stress-burnout relationship: a questionnaire study on nurses, J. Clin. Nurs. 21 (2012) 2275–2285. https://doi.org/10.1111/J.1365-2702.2012.04171.X.
- [46] S. Yang, P. Meredith, A. Khan, No Title, Asian J Psychiatr, 2015. https://doi.org/10.1016/J.AJP.2015.04.005.
- [47] R.R. Whitebird, S.E. Asche, G.L. Thompson, R. Rossom, R. Heinrich, No Title, J Palliat Med, 2013. https://doi.org/10.1089/JPM.2013.0202.
- [48] B.N. Smith, R.A. Vaughn, D. Vogt, D.W. King, L.A. King, J.C. Shipherd, No Title, Anxiety Stress Coping, 2013. https://doi.org/10.1080/10615806.2011.634001.