



## OPEN ACCESS

EDITED AND REVIEWED BY  
Wulf Rössler,  
Charité University Medicine Berlin, Germany

\*CORRESPONDENCE  
Ulrich Wesemann  
✉ uw@ptzbw.org

RECEIVED 16 August 2024  
ACCEPTED 19 August 2024  
PUBLISHED 30 September 2024

CITATION  
Wesemann U, Sahebi A and Himmerich H  
(2024) Editorial: Impact of deployment in  
disaster situations on the mental health of  
emergency responders.  
*Front. Psychiatry* 15:1481901.  
doi: 10.3389/fpsy.2024.1481901

COPYRIGHT  
© 2024 Wesemann, Sahebi and Himmerich.  
This is an open-access article distributed under  
the terms of the [Creative Commons Attribution  
License \(CC BY\)](#). The use, distribution or  
reproduction in other forums is permitted,  
provided the original author(s) and the  
copyright owner(s) are credited and that the  
original publication in this journal is cited, in  
accordance with accepted academic  
practice. No use, distribution or reproduction  
is permitted which does not comply with  
these terms.

# Editorial: Impact of deployment in disaster situations on the mental health of emergency responders

Ulrich Wesemann<sup>1\*</sup>, Ali Sahebi<sup>2,3</sup> and Hubertus Himmerich<sup>4</sup>

<sup>1</sup>Department of Psychiatry, Psychotherapy and Psychotraumatology, Bundeswehr Hospital Berlin, Berlin, Germany, <sup>2</sup>Department of Medical Emergencies and Health in Disasters and Emergencies, Ilam University of Medical Sciences, Ilam, Iran, <sup>3</sup>Non-communicable Diseases Research Center, Ilam University of Medical Sciences, Ilam, Iran, <sup>4</sup>Department of Psychological Medicine, Institute of Psychiatry, Psychology & Neuroscience (IoPPN), King's College London, London, United Kingdom

## KEYWORDS

emergency responder, military personnel, disaster, mental health, crisis intervention [MeSH], deployment (military), PTSD, risk and resilience factors

## Editorial on the Research Topic

### Impact of deployment in disaster situations on the mental health of emergency responders

The mental health consequences of intentionally engineered catastrophic events for emergency responders can be more severe than those caused by accidents or natural disasters (1, 2). The same mental health risks apply to soldiers during attacks and firefights in foreign military operations (3). Individual preparations and follow-ups have been recommended in order to minimize mental health reactions (4). Differentiation of these mental health effects according to occupational groups, gender, age, event, and other accompanying factors such as spatial and temporal proximity to the event, equipment, tasks performed on site (clearly regulated, professional affiliation, etc.), personal impact, and other factors, are necessary (5, 6).

Various studies have shown that emergency responders from different professions react differently to a major disaster (7, 8). Most studies have focused on post-traumatic stress disorder (PTSD), but the range of mental health effects is far wider. This means that often not only the emergency responders themselves are affected, but the negative effects are also felt in the family relationships (9).

There are numerous publications on the psychological effects of disasters on emergency personnel, but there is comparatively little systematic research on training programs to prevent such negative effects. Therefore, we proposed a Research Topic that covers these aspects and could lead to better pre- and post-deployment training, more individualized crisis intervention, and destigmatization. In this context, [Amini et al.](#) evaluated a training program to improve the knowledge, functional skills and attitudes of disaster responders. As the program proved successful in all aspects mentioned, it is a good example of why more efforts should be made to develop and deliver more individualized programs. A similar, but somewhat more specialized approach was taken by [Lin et al.](#) They investigated the extent to which psychiatrists are prepared to deal with mental health problems following disasters. They found that although staff are highly experienced and qualified, postgraduate psychiatric

training programs in this area still have room for improvement. This applies to the non-pharmacological approaches of dealing with stress-related symptoms.

Ziehr and Merkt describe their concept of strategic resilience as the result of psychological, physical and cognitive resilience. It aims to minimize the weaknesses of the individual constructs by implementing this generalized approach. This multidimensional construct covers different perspectives from military, economic or stress research. This concept can be used by different organizations to develop their own stress management preparation programs. These so-called “problem-oriented interventions” have proven successful in previous evaluations.

A lack of programs designed to strengthen strategic resilience can lead to a higher risk for mental disorders and undesirable behavior. Research is needed to specifically identify such reactions. Zhang et al. investigated nurses in the post-pandemic era. They found mediating effects of low social support and high presenteeism on turnover intention and post-traumatic stress disorder among nurses. These results can be used for targeted prevention work. Social support from employers, adapted working time models and the prevention of presenteeism could all contribute to this. Even if a completely flexible design seems unrealistic for most organizations, adjustments can be made in at least some areas. Muysewinkel et al. showed that good preparation is central to crisis management. This applies not only to the response to terrorist attacks but ultimately to operations in all major disasters. Preparation and training should not only focus on psychological and ethical aspects, but also on performance. The better prepared the emergency services are for crises, the more likely they are to be successful in such situations.

In addition to a lack of social support, Ebrahim et al. found that female gender, direct exposure to critical incidents and alcohol consumption are important risk factors for post-traumatic stress disorder (PTSD) in police officers. Langner et al. found high pre-existing burdens in military personnel as risk factor for developing burnout syndrome post-deployment. Focusing on these aspects prior to deployment could help tailor programs more specifically to the needs of the emergency service personnel.

## References

- Birkeland MS, Greene T, Spiller TR. The network approach to posttraumatic stress disorder: a systematic review. *Eur J Psychotraumatol.* (2020) 11:1700614. doi: 10.1080/20008198.2019.1700614
- Bromet EJ, Atwoli L, Kawakami N, Navarro-Mateu F, Piotrowski P, King AJ, et al. Post-traumatic stress disorder associated with natural and human-made disasters in the World Mental Health Surveys. *Psychol Med.* (2017) 47:227–41. doi: 10.1017/S0033291716002026
- Wesemann U, Renner KH, Rowlands K, Kohler K, Huttermann N, Himmerich H. Incidence of mental disorders in soldiers deployed to Afghanistan who have or have not experienced a life-threatening military incident—a quasi-experimental cohort study. *Front Public Health.* (2024) 12:1357836. doi: 10.3389/fpubh.2024.1357836
- Kazemzadeh M, Shafiei E, Jahangiri K, Yousefi K, Sahebi A. The preparedness of hospital emergency departments for responding to disasters in Iran; a systematic review and meta-analysis. *Arch Acad Emerg Med.* (2019) 7:e58.
- Prioux C, Marillier M, Vuillermoz C, Vandentorren S, Rabet G, Petitclerc M, et al. PTSD and Partial PTSD among First Responders One and Five Years after the Paris Terror Attacks in November 2015. *Int J Environ Res Public Health.* (2023) 20(5):4160. doi: 10.3390/ijerph20054160
- Neria Y, Nandi A, Galea S. Post-traumatic stress disorder following disasters: a systematic review. *Psychol Med.* (2008) 38:467–80. doi: 10.1017/S0033291707001353
- Tahernejad S, Ghaffari S, Ariza-Montes A, Wesemann U, Farahmandnia H, Sahebi A. Post-traumatic stress disorder in medical workers involved in earthquake response: A systematic review and meta-analysis. *Heliyon.* (2023) 9:e12794. doi: 10.1016/j.heliyon.2023.e12794
- Burkle FM. Opportunities lost: political interference in the systematic collection of population health data during and after the 2003 war in Iraq. *Disaster Med Public Health Prep.* (2021) 15:144–50. doi: 10.1017/dmp.2019.136
- Wesemann U, Rowlands K, Renner KH, Konhäuser L, Köhler K, Himmerich H. Impact of life-threatening military incidents during deployments abroad on the relationships between military personnel and their families. *Front Psychiatry.* (2024) 15:1419022. doi: 10.3389/fpsy.2024.1419022

In summary, our Research Topic covers risk factors, prevention, specific training to improve preparedness and resilience as well as the mental health consequences and their management in emergency responders who are sent to disaster situations. We thank the international group of authors from Belgium, China, Ethiopia, Germany, Iran, Japan and Taiwan for their excellent contributions to this Research Topic. We also thank the reviewers who gave useful feedback and thus helped to improve the manuscripts. Whilst a single Research Topic cannot cover all relevant facets, we hope that this article collection can make a valuable and significant contribution to the field.

## Author contributions

UW: Writing – original draft. AS: Writing – review & editing. HH: Writing – original draft.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.