



Letter to the Editor

Long-term physiological impact of PTSD on Yazidi women in Northern Iraq refugee camps



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Dear Editor,

We would like to commend the authors for their comprehensive study on the physiological and anthropometric impact of post-traumatic stress disorder (PTSD) in Yazidi women traumatised by ISIS attacks in 2014.¹ This study offers important insights into how prolonged trauma affects mental and physical health by highlighting significant physiological changes in women diagnosed with PTSD. This study is a valuable contribution to understanding trauma in displaced and marginalised communities. Here, we would like to provide further reflection on some key aspects and implications of these findings.

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Firstly, the study highlighted significant increases in blood pressure (BP), heart rate (HR), and body mass index (BMI) in the PTSD group compared to the control group. The link between chronic PTSD and metabolic health is significant, as seen in the increased BMI and waist circumference (WC), indicating a link between stress and metabolic dysfunction.² Neuroendocrine factors may be responsible for these changes, particularly dysregulation in the hypothalamic-pituitary-adrenal (HPA) axis. Increased cortisol levels due to chronic stress may increase visceral fat, contributing to the observed changes in BMI and WC.³ These physiological responses suggest that trauma survivors are at higher risk of developing metabolic disorders, emphasising the need for integrative interventions that target both psychological and physiological aspects of health.⁴

Furthermore, the study findings showing a significant decrease in blood oxygen saturation (SpO₂) in the extreme PTSD group are particularly concerning. The reduction in SpO₂ may be related to altered breathing patterns resulting from hyper-arousal or chronic anxiety, which are common in PTSD patients.⁵ These changes indicate the potential for PTSD to trigger changes beyond conventional psychological symptoms, affecting respiratory function and overall oxygenation.⁶ The chronicity of PTSD symptoms also appeared to exacerbate these effects, with women who experienced PTSD symptoms for more than five years showing more pronounced physiological changes.⁷ These chronic effects suggest that the ongoing impact of trauma can have increasingly complex health consequences over time, requiring timely and long-term interventions.⁸

In addition, we would like to emphasise the implications of this study regarding the environment of care. The comparison between the internal and external control groups,

where the internal group showed similar physiological changes, reflects how living conditions in refugee camps can amplify stress and affect health.⁹ Factors such as limited healthcare access and challenging environmental conditions in these camps may exacerbate PTSD symptoms and prolong recovery,¹⁰ indicating the need for increased healthcare resources and mental health support in such environments.

In conclusion, this study highlights the complex and multifaceted effects of PTSD on physiological health, with a particular emphasis on trauma-induced cardiovascular and metabolic risks. Future research should consider longitudinal approaches to explore how PTSD interventions can alter these physiological impacts, ultimately improving health outcomes for individuals affected by trauma. Comprehensive treatment strategies that address both the mental and physical effects of PTSD are essential for populations experiencing prolonged trauma, particularly in neglected communities.

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Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

Authors contributions

Rikas Saputra: Conceptualization, Formal Analysis, Data curation, Supervision, Writing – original draft, Writing – review & editing. Yenni Lidyawati: Conceptualization, Formal Analysis, Supervision, Investigation, Writing – original draft, Writing – review & editing. Rizky Andana Pohan: Writing – review & editing. Sesilianus Fau: Writing – original draft, Writing – review & editing. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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