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Trauma and sleep disruption in Gaza: a qualitative content analysis of war-related effects

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Abstract

Background The escalation of violence and oppression in Gaza, particularly following Hamas' military attack on Israeli settlements in the Gaza envelope on October 7, 2023, has intensified trauma and related disorders, especially sleep disturbances, exacerbating the already dire conditions of dispossession and exploitation faced by Palestinians.

Aims The present exploratory research sought to explore the impact of war-related trauma following the recent Israeli war on the Gaza Strip on sleep disturbance among Gazans.

Methods Thirty participants 14 females and 16 males, aged between 18 and 58 years (mean age for males = 31.43 years, SD = 11.12; mean age for females = 31.23 years, SD = 10.13) were recruited via snowball sampling. Interviews were analyzed through thematic content analysis.

Results Thematic content analysis of the interview transcripts led to the identification of five main themes. (1), *sleepless nights amid constant fear* (2), *children's sleep shattered by trauma*. (3), *the impact of overcrowded shelters on sleep*. (4), *mothers as guardians of sleepless nights*. (5), *health consequences of chronic sleep deprivation*. The findings highlight the negative impact of war-related trauma on the sleep of Gazans, leading to various disturbances such as nightmares, particularly among children.

Conclusions Our findings illuminate the pervasive impact of war-related trauma on the sleep patterns of Gazan refugees. This study highlights the critical importance of integrating psychological support and targeted interventions into community health initiatives, particularly for vulnerable groups such as children. Future research should focus on developing culturally sensitive interventions to mitigate the adverse effects of trauma on sleep and overall well-being in conflict-affected population.

Keywords War-related trauma, Sleep disturbance, Mental health, Gaza Strip

Theoretical background

Sleep disturbances, including insomnia, nightmares, and states of hyperarousal, are prevalent in individuals exposed to severe trauma, especially in conflict zones. Unlike ordinary sleep disruptions, trauma-induced sleep disturbances are intricately linked to neurophysiological and psychological mechanisms activated by sustained exposure to violence. Evidence consistently highlights that trauma alters sleep patterns by dysregulating the hypothalamic–pituitary–adrenal (HPA) axis,

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which ordinarily maintains homeostasis in sleep cycles. This disruption leads to chronic insomnia, particularly in populations undergoing prolonged conflict [1, 2]. In war zones, sleep becomes a hypervigilant state; trauma heightens the autonomic nervous system's activity, trapping individuals in cycles of nightmares and flashbacks that interfere with the brain's capacity to achieve restorative sleep, especially during the REM phase [3–5]. For trauma survivors, sleep disturbances are not merely secondary symptoms but are profoundly connected to the persistence of post-traumatic stress disorder (PTSD) and other anxiety-related disorders.

Trauma impacts sleep through various neurophysiological pathways that increase arousal and emotional distress. Trauma triggers the HPA axis, releasing stress hormones such as cortisol, which create a state of heightened alertness that prevents individuals from entering deep, restorative sleep. Research shows that individuals with PTSD have increased difficulty achieving REM sleep due to sustained levels of cortisol and norepinephrine, hormones that keep the body in a heightened state of readiness [3, 4]. Nightmares are particularly distressing for trauma-exposed individuals, as these nightmares often replicate traumatic events, leading to repeated awakenings and severe sleep fragmentation. According to Sheaves et al. [6], such nightmares represent the brain's failure to suppress hyperarousal during sleep, resulting in exaggerated activation of the sympathetic nervous system. This mechanism is closely tied to affective dysregulation, where the individual cannot control emotional responses during sleep, exacerbating PTSD symptoms like hypervigilance and avoidance [7, 8]. The self-reinforcing cycle between trauma symptoms and sleep disturbances hinders recovery by continuously activating the brain's fear circuitry, which prevents individuals from experiencing restful sleep. Studies confirm that these disturbances are rooted in neurophysiological disruptions that maintain the cycle of trauma, highlighting the critical need for trauma-focused sleep interventions [9].

The Gaza Strip, a region with a prolonged history of conflict and political instability, presents a striking example of trauma-related sleep disturbances. Research conducted in conflict-affected populations indicates that PTSD and sleep disorders such as insomnia and nightmares are prevalent among war survivors. In Gaza, the frequency of PTSD symptoms, including sleep disturbances, is significantly higher due to chronic exposure to violence and uncertainty, with nearly 45% of war survivors meeting the criteria for PTSD [10, 11]. Prolonged violence has been shown to increase allostatic load, a concept describing the cumulative burden on physiological systems due to chronic stress. This load contributes to systemic inflammation, complicating trauma recovery

[12, 13]. Displacement compounds these sleep disruptions by undermining stability and severing essential social support systems, amplifying the psychological toll. Forced migration, particularly in Gaza, introduces existential trauma, as individuals experience the loss of home and community alongside immediate threats to physical safety [4, 11]. Neuroscientific studies on displaced populations reveal that trauma can increase amygdala activity and impair prefrontal cortex function, areas critical for emotional regulation and decision-making [14]. These neurobiological changes make it challenging for displaced individuals to manage anxiety, leading to further sleep disturbances and complicating the recovery process. The prevalence of sleep disorders in displaced Gazans underscores the compounded impact of trauma and displacement, illustrating the need for interventions that address both neurophysiological and psychosocial needs.

In response to the ongoing conflict, Gazans have increasingly used social media platforms, notably X (formerly Twitter), to share their personal experiences of sleeplessness, fear, and unrelenting anxiety. This documentation serves multiple purposes: it acts as an outlet for emotional release, a form of resistance, and a platform for raising global awareness about their daily struggles. Social media posts reveal how sleeplessness, rather than a solitary experience, becomes a shared narrative among Gazans, symbolizing resilience and collective endurance under siege. One Gazan tweeted, "I'm going to sleep not knowing if I will survive the night; this constant fear gives me nightmares of being killed every day" [15]. Such posts emphasize the blurring of lines between sleep and survival, where the act of falling asleep is imbued with existential dread. For many, insomnia and hypervigilance are documented as manifestations of the "genocide" they experience, transforming individual experiences into communal expressions of resistance. Social media also enables Gazans to engage with global audiences, turning their psychological pain into historical records that challenge narratives of normalcy and highlight the ongoing psychological toll of occupation. This digital expression, therefore, is not only therapeutic but politically charged, highlighting how Gazans cope with trauma while attempting to retain their identities amid ongoing violence.

Social support plays an essential role in alleviating trauma and improving sleep quality, particularly in conflict-affected populations. Studies indicate that strong social connections can reduce feelings of isolation and improve resilience by supporting emotional regulation and promoting a sense of belonging [15]. However, in displaced communities like those in Gaza, where traditional support networks are disrupted, individuals lack these

protective buffers, which increases their susceptibility to PTSD, anxiety, and depression [16]. Furthermore, the psychological impact of displacement is magnified by the disintegration of family and community ties, exacerbating stress. Interventions such as cognitive-behavioral therapy for insomnia (CBT-I) and imagery rehearsal therapy (IRT) are effective in addressing trauma-related sleep issues, helping individuals manage distressing thoughts and nightmares [17]. Pharmacological treatments, including selective serotonin reuptake inhibitors (SSRIs), also offer some relief by targeting both PTSD symptoms and related sleep disturbances [18]. Integrating mental health services within primary care settings is essential for displaced populations with limited access to psychiatric care. Community-based approaches that incorporate psychoeducation, peer support, and culturally sensitive therapy models can strengthen resilience by fostering social reintegration and improving emotional regulation, critical for restoring healthy sleep patterns [5].

Given earlier research [5, 7, 15] demonstrating that Palestinians in the Gaza Strip experience various forms of war-related trauma, political violence, and sleep disturbances due to the ongoing Israeli war on the region, our study aimed to explore the following questions:

First: How has the war on Gaza and the associated traumatic events affected the quality and nature of sleep among the people of Gaza?

Second: How do Palestinian refugees in Gaza describe their sleep patterns, and what are the difficulties and challenges they face?

Methods

Participants

The study was carried out in November 2024 and targeted thirty Gazan refugees, selected from internally displaced Palestinian camps in the city of Rafah during the recent conflict in the Gaza Strip. The group comprised 14 females and 16 males, aged between 18 and 58 years (mean age for males = 31.43 years, SD = 11.12; mean age for females = 31.23 years, SD = 10.13). All participants were refugees residing in Palestinian camps in Rafah. They were all sufficiently eligible and spoke Arabic to complete the research tasks.

Procedures

The qualitative data were collected through thirty semi-structured interviews with Palestinian refugees living in displaced camps in Rafah. All participants (both interviewees and the interviewer) were native Arabic speakers. Research assistants in each camp acted as gatekeepers in recruiting participants. The data collection process began with interviewing the research assistants

to explain the aims and purposes of the study. The second step involved informing them about the research activities, the total number of participants to be interviewed, and the 'snowballing' technique used for selecting participants from those who accepted the invitation. The survey questions used in the interviews were designed to avoid emotional distress. Participants were informed that they could discontinue their participation at any time if they felt distressed. The investigator, a licensed mental health professional, was available for any participant who experienced an immediate negative response to the survey questions. Furthermore, all participants were given contact information for mental health services in case symptoms appeared after the survey. The study received approval from the An-Najah Institutional Review Board (IRB) before data collection began. The interviews aimed to gather information about war-related trauma, and sleep disturbance among Palestinian refugees living in internally displaced camps in Rafah during the recent Gaza conflict. Interviewees were provided with an information sheet detailing the research agenda. The shortest interview lasted approximately 35 min, while the longest lasted 60 min; most interviews were around 50 min.

Data analysis

The qualitative data collected through semi-structured interviews were initially in Arabic and were subsequently translated into English for analysis. The translation was carried out by authors, who are fluent in both Arabic and English and have experience in translating academic texts. To ensure the accuracy of the translation, several quality control measures were implemented. First, a sample of translated quotes was back-translated into Arabic by a bilingual researcher, and any discrepancies were discussed and resolved. Additionally, the translations were reviewed by a bilingual expert in Arabic-English translation to ensure linguistic and cultural accuracy. The research team conducted multiple rounds of review to ensure that the nuances of the original data were preserved. In terms of thematic analysis, the translated transcripts were analyzed using a process based on Braun and Clarke's [19] framework. The researchers familiarized themselves with the data by reading the translated transcripts multiple times, followed by open coding to identify key themes. This analysis was conducted manually to support the organization of codes. Throughout the analysis, the researchers worked to ensure that the cultural and linguistic nuances of the original Arabic data were preserved in the translation and analysis process.

We identified meaningful segments of text and created initial codes inductively, based on the data itself. Following this, we grouped similar codes into broader categories, or potential themes, through an iterative process.

For example, one of the main themes that emerged was "sleepless nights amid constant fear." As themes began to emerge, they were refined through multiple rounds of discussion among the research team to ensure they accurately represented the data. Themes were then finalized by reviewing the coded data to ensure consistency and congruence with participants' responses. Throughout this process, we kept detailed documentation of how codes were applied and how themes evolved, ensuring transparency and consistency.

Coding reliability

A random selection of transcripts was independently coded by the researchers to establish inter-coder reliability, with coding disagreements resolved through discussion until consensus was reached.

Results

Thematic content analysis of the interview transcripts led to the identification of five main themes (see Supplementary file). Theme one, *sleepless nights amid constant fear*. Theme two, *children's sleep shattered by trauma*. Theme three, *the impact of overcrowded shelters on sleep*. Theme four, *Mothers as guardians of sleepless nights*. Theme five: *Health consequences of chronic sleep deprivation*.

Theme one: sleepless nights amid constant fear

In Gaza, the night has transformed into a harrowing ordeal, a terrifying stretch where sleep is elusive, overshadowed by the fear of death. As one young girl described, *"The night is scary; I cannot sleep,"* encapsulating the collective fear that blankets Gaza as each evening falls. Another resident, displaced and struggling with trauma, reflects on his attempts to sleep, saying, *"Whenever I go to bed and start sleeping, I wake up terrified by the sounds of explosions."* This collective trauma reverberates in their voices, where sleep has shifted from a necessary reprieve to a haunting reminder of the persistent violence.

One Gazan mother, trying to soothe her children, shared, *"I can't promise them safety, but I stay awake beside them, praying they'll make it through the night."* In these quiet, uncertain hours, every parent becomes a protector in ways they never imagined. Another resident echoed this fear, *"Each time I close my eyes, I think of the bombs falling. Sleep is no longer sleep; it's a step closer to death."* In Gaza, sleep has become a battleground, where survival feels as fleeting as a dream, marked by a constant anticipation of the unimaginable.

Theme two: children's sleep shattered by trauma

Children in Gaza have been stripped of the simple peace that sleep should offer, forced to endure nightmares born

from real-life horrors. A mother of four, describes the fear her children feel at night: *"My children are afraid to sleep, and I am afraid for their lives too."* Another mother, speaks of the memories that haunt her whenever she tries to rest. Having lost three of her seven children to bombings, she shares, *"Every time I close my eyes, I see my children in front of me, so I'm afraid to sleep."* For Gazan parents, the night represents a struggle not only to protect their children physically but to shield them from the psychological scars that sleep now bears.

"I hear my daughter cry in her sleep, calling out for her father," shared another mother whose husband was killed in a bombing. The nights are full of haunted silences and frightened whispers. A father recounted his son's fears, saying, *"He wakes up screaming, asking if we're going to be hit tonight. I don't know what to say. There is no comfort."* These testimonies illustrate how sleep, once a symbol of peace, has become an inescapable nightmare for Gaza's youngest, who carry the burdens of fear and loss into every dream.

Theme three: the impact of overcrowded shelters on sleep

In overcrowded shelters, where privacy and comfort are nonexistent, sleep becomes a scarce commodity. A father sheltering in a school, describes the conditions:

The situation in the schools is horrible. They are overcrowded, with no toilets, no food, no water, and no privacy whatsoever. So I decided to come back with my family to my bombed house and live in whatever space was left standing

For many Gazans, the idea of rest is tied not just to physical safety but also to the comfort of a private, familiar place—both of which have been stripped away. The displacement and lack of shelter push individuals to seek makeshift solutions, further heightening the trauma associated with sleep.

"We sleep in shifts now," explained one mother, *"because we can't all close our eyes at the same time. Who will watch over us?"* In these overcrowded spaces, sleep is rationed out like food, taken sparingly and guarded. Another resident described their experience as *"sleeping with one eye open,"* alert to every sound, ready to flee at a moment's notice. The crowded shelters have robbed Gaza's residents of the safety and peace that sleep should bring, leaving them in a state of constant wakefulness and heightened anxiety.

Theme four: mothers as guardians of sleepless nights

Gazan mothers bear the weight of sleepless nights, standing as sentinels over their children in an attempt to shield them from the chaos outside. As a poet from Gaza, writes in *This is Gaza*: *"In Gaza, a mother doesn't sleep."*

She listens to the darkness, inspects its margins, and sorts sounds one by one to select a story she can sing as a lullaby to her children.” This role that mothers take on reflects a powerful commitment to safeguarding their children, even as they themselves endure sleepless nights, listening for the telltale signs of approaching danger. These mothers are awake long after their children fall asleep, *“standing before death as a shield,”* offering their vigilance in place of peace.

Another mother describes the silent courage required to maintain this watchfulness. *“We lie awake beside our children, listening to their breaths, wondering if we can shield them from the terror around us,”* she shares. These sleepless nights weigh heavily on Gazan mothers, whose resilience is tested to its limits as they persist, serving as human barriers against the trauma that permeates every aspect of their children’s lives. In Gaza, the act of staying awake is more than a sacrifice—it is a lifeline, an unwavering commitment to their role as protectors in a land ravaged by conflict.

Theme five: health consequences of chronic sleep deprivation

The long-term consequences of sleep deprivation are devastating, leading to severe health issues for Gazans. One resident shared, *“My body is giving up. I feel tired all the time, but I can’t rest; sleep has become a foreign thing.”* Sleep deprivation in Gaza leads to chronic exhaustion, with individuals reporting constant fatigue, impaired concentration, and heightened irritability. *“I feel my body weakening,”* one woman states, *“and my mind is foggy; it’s like I’m slowly fading.”* For these individuals, the lack of sleep is not merely a nightly inconvenience but a constant, cumulative threat to their well-being.

Psychological effects are also rampant, with many experiencing symptoms of PTSD and hypervigilance. A father described his perpetual alertness, saying, *“I can recognize the bombs by their sound now. We no longer sleep; we wait.”* This prolonged deprivation exacerbates feelings of anxiety and trauma, reinforcing a cycle of insomnia and exhaustion. Proper sleep is crucial for mental health and well-being, but for Gazans, this basic need remains unfulfilled, turning their lives into a continuous struggle against both physical depletion and emotional despair.

Discussion

The pervasive sleep disturbances faced by Gazans under siege, including chronic insomnia, nightmares, and hyperarousal, illustrate the severe and multifaceted impact of ongoing trauma. The testimonies collected from Gazans mirror the findings of many studies on sleep disruption in conflict zones, presenting sleep as a battleground where the effects of violence and instability

persist long after daylight fades. Trauma alters neurophysiological pathways, particularly by dysregulating the hypothalamic–pituitary–adrenal (HPA) axis, which typically helps regulate stress and maintain sleep cycles. In conflict-ridden areas, prior research [1, 2] show that this dysregulation leads to chronic insomnia, with individuals caught in a cycle of heightened alertness and fragmented sleep. The testimonies from Gaza, in which individuals express perpetual fear of falling asleep, underscore the persistent activation of stress responses that make restful sleep almost impossible.

Nightmares, often reliving traumatic events, are another common experience reported by Gazans. Previous studies [3, 4] note that trauma-exposed populations experience nightmares that directly replicate the violence they have witnessed. This recurrence of trauma during sleep prevents the brain from reaching the restorative phases of the sleep cycle, especially REM sleep, critical for emotional processing and recovery. The Gazan testimonies reflect this, as individuals describe waking repeatedly, trapped in recurring nightmares that evoke the horrors of bombings and destruction. This resonates with research highlighting that nightmares in trauma survivors represent the brain’s failure to suppress hyperarousal, reinforcing the activation of the sympathetic nervous system even in sleep [6].

The concept of a “state of exception,” as proposed by Agamben [20], is deeply relevant to the experiences of Gazans, who exist in a suspended legal and existential state under constant threat. For Palestinians, sleep is frequently interrupted by bombings and military operations, depriving them of a sense of safety within their own homes [21–23]. As Agamben argues, the deprivation of basic rights and normalcy in a “state of exception” results in a stripping away of identity, where the continuity of self and routine—symbolized by stable sleep—breaks down. In Gaza, where homes are destroyed and displacement is ongoing, the “place” required for restful sleep, as described by Levinas [21], is lost, turning sleep into an arena of fear and exposing individuals to ongoing psychological harm.

Levinas’s notion of sleep as a relationship with place offers insight into the profound impact of forced displacement on Gazans’ sleep. In his philosophy, Levinas emphasizes that sleep entails security, a rootedness in place where one feels safe to let go of consciousness. Displacement in Gaza, however, has deprived families of their homes, severing the link between sleep and security. In overcrowded shelters with no privacy, noise, and a lack of basic resources, Gazans describe sleep as something that can only be taken in “shifts,” an activity rationed out of necessity rather than rest. Gazans’ disconnection from a secure place to sleep reflects Levinas’s idea that a lack of

rootedness disrupts sleep's protective function, reinforcing feelings of vulnerability and displacement.

Social media serves as a modern outlet for Gazans to document their experiences of sleep disturbances, converting individual stories of sleepless nights into a shared narrative that underscores the communal trauma endured by the population. The use of platforms like X (formerly Twitter) allows Gazans to express a collective resilience and psychological resistance. Posts describing nights filled with fear, such as *"I'm going to sleep not knowing if I will survive the night,"* highlight the blurred lines between sleep and survival, where sleep is infused with existential dread. This digital space serves not only as a therapeutic outlet but as a form of resistance that preserves the memory of suffering, challenging narratives that would render this trauma invisible. Agamben's notion of "bare life"—the reduction of individuals to their survival instincts—is countered here by Gazans' efforts to assert their stories in the public domain, thereby resisting the erasure of their lived experiences under occupation.

The psychosocial impacts of sleep disturbances in Gaza are compounded by the breakdown of social support systems, which traditionally offer resilience against trauma. Studies have consistently shown that social networks play a crucial role in moderating the psychological effects of trauma, particularly in enhancing emotional regulation and reducing isolation [18]. However, the displacement experienced by Gazans disrupts these support structures, increasing their vulnerability to anxiety, PTSD, and depression [16]. Traditional community ties are eroded as families are separated, and individuals are forced into temporary shelters, further alienating them from sources of psychological support [22, 23]. For children, the trauma of displacement exacerbates sleep disturbances, as illustrated in accounts from mothers who describe their children's struggles with nightmares and insomnia.

The long-term health consequences of chronic sleep deprivation in Gaza are significant, posing risks to both physical and psychological health. Chronic exhaustion and heightened irritability are commonly reported, with individuals feeling that they are slowly deteriorating due to sleeplessness. This reflects findings from studies on the impact of sustained trauma and deprivation [2, 9], which document the development of severe mental health issues, including PTSD, depression, and hyper-vigilance. Continuous sleep disruption heightens the autonomic nervous system's alert state, creating a cycle of trauma that prevents individuals from achieving restorative sleep. For Gazans, sleeplessness is not a temporary disruption but a prolonged state that deteriorates their well-being, transforming sleep into a haunting reminder of their precarious existence. The findings of the current study reflect previous research conducted on populations

with experiences similar to those of Gazans. Ahmed [24] found that Yazidi children and adolescents suffered from various mental and psychological disorders due to the traumatic events following the ISIS invasion of Iraq and Syria in 2014. The most common disorders identified were PTSD, depression, anxiety, and other mental and psychiatric issues.

The testimonies from Gaza highlight how sleep has become a barometer for the psychological and physical toll of sustained conflict, serving as a window into the broader trauma of living under the Israeli military occupation. The link between trauma and sleep disruption is not merely a physiological response but reflects the erasure of a sense of home, safety, and stability. Addressing these disturbances requires comprehensive interventions that consider the neurophysiological, psychological, and social dimensions of trauma. Community-based approaches that incorporate psychoeducation, culturally sensitive therapy models, and peer support can play a pivotal role in rebuilding resilience among displaced Gazans. Integrating mental health services with primary care is essential, as sleep disturbances in trauma-exposed populations are often intertwined with broader health challenges. A holistic approach that addresses both the immediate psychological needs and the systemic deprivation experienced in Gaza is necessary to mitigate the long-term consequences of trauma and sleep deprivation. Moreover, providing electronic mental health support (eMHPSS) for Gazans would be beneficial in offering remote mental health assistance, helping to prevent further trauma and mental health issues. This is especially important due to the destruction of mental health institutions in the Gaza Strip, which limits their ability to provide in-person services.

Unlike previous studies that rely heavily on quantitative measures or retrospective accounts, this research captures real-time narratives from individuals experiencing war-related trauma, providing an immediate and unfiltered depiction of sleep disruptions during an ongoing crisis. The use of thematic content analysis, combined with firsthand testimonies, offers a detailed examination of how trauma manifests in sleep patterns, uncovering specific experiences such as the hyper-vigilance of mothers, the compounded effects of overcrowded shelters, and the generational toll on children. Moreover, the study extends beyond a clinical framework by situating sleep disturbances within the larger context of forced displacement and existential insecurity, demonstrating how war dismantles the fundamental conditions necessary for restorative sleep. By foregrounding the voices of those directly affected and highlighting the interplay between trauma, displacement, and disrupted sleep, this research provides a critical, context-specific contribution that

advances understanding and informs targeted interventions in conflict-affected populations.

Limitations

While this study provides valuable insights into the relationship between war-related trauma and sleep disturbances among Gazans, several limitations constrain the generalizability of the findings. The small sample size of 30 participants limits the extent to which these results can be extrapolated to the broader population, as a larger, more diverse cohort might reveal additional themes or nuances. Moreover, the fact that participants are currently experiencing an acute state of emergency means that their responses may reflect heightened, situational distress rather than longer-term psychological patterns. This acute context could have amplified their reported symptoms and may not accurately represent their baseline conditions once the crisis subsides. Finally, although the qualitative approach offers a rich, in-depth perspective on individual experiences, the absence of quantitative data precludes statistical validation of the findings. Future studies employing larger samples and integrating quantitative methodologies would be beneficial in confirming and extending these initial observations, ultimately leading to a more comprehensive understanding of trauma-induced sleep disturbances in conflict-affected settings.

Conclusion

This study examined the impact of war-related psychological trauma on sleep disturbances among the residents of the Gaza Strip. Findings revealed that persistent exposure to violence and displacement has led to chronic insomnia, nightmares, and hypervigilance, particularly among children and caregivers. Psychological distress, compounded by overcrowded shelters and a pervasive sense of insecurity, has severely disrupted sleep patterns. These results emphasize the urgent need for targeted psychological support and intervention strategies to mitigate the effects of trauma on sleep and overall well-being in conflict-affected populations.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40359-025-02599-y>.

Supplementary Material 1.

Acknowledgements

Not applicable

Authors' contributions

All authors contributed equally to this work. Bilal Hamamra prepared the theoretical background section, Dana Bdier prepared the methodology section. Finally, Fayez Mahamid prepared the analysis and discussion sections.

Funding

No funding was received for this study.

Data availability

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

Declarations

Ethics approval and consent to participate

The code of ethics (Int.R. November. 2024/12) for this study was obtained from the An-Najah National University IRB, and informed consent was obtained from all participants. All procedures performed in this study involving human participants were in accordance with the ethical standards of the American Psychological Association (APA, 2010) and with the 2013 Helsinki Declaration. Informed consent was obtained from all participants.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 19 December 2024 Accepted: 10 March 2025

Published online: 21 March 2025

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