

# Assessment of Insomnia and Nightmares After Exposure to Psychological Trauma in Jordan

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## ABSTRACT

Psychological trauma is a condition that affects an individual after exposure to an intensely distressing experience. Post-Traumatic Stress Disorder (PTSD) is characterized by persistent, strong reactions to reminders of a traumatic episode, mood disturbances, a sense of imminent danger, insomnia, and hypervigilance. The prevalence of chronic insomnia among adults ranges from 0% to 15%, while around 25% to 35% have transient or irregular insomnia. This cross-sectional study used an online survey to evaluate insomnia and nightmares after exposure to psychological trauma in Jordan. We employed the International Trauma Questionnaire, a self-reported measure of PTSD and complex PTSD. The study was conducted from early February 2025 until late June 2025. The study included 884 females. The most reported trauma among participants was the death or loss of a loved one (35.3%), followed by sexual assault (9.3%) and illness or injury (9.3%). About 37.6% had experienced trauma for less than a year, while 26.1% reported trauma for 1–3 years. Only a small proportion (5.3%) sought psychological treatment for insomnia, with most rating the support poorly (57.7% gave a score of 0 out of 5). However, most participants (61.8%) reported improvement after two weeks of using psychiatric medications. Around 11.7% had been diagnosed with insomnia prior to their trauma. A notable portion reported experiencing upsetting dreams (27.7%) and intrusive memories (31.1%) frequently. Avoidance of internal (31.6%) and external (27.4%) reminders was also common. Symptoms of hyperarousal were prevalent, including being overly alert (28.2%) and easily startled (33.4%). These symptoms significantly affected daily functioning, with 269 (34.1%) reporting social impacts and 207 (26.3%) noting impairment at work. The most frequently reported traumas among participants were the death or loss of a loved one, sexual assault, and illness or injury. Few participants sought psychological treatment for insomnia, and most rated the treatment as ineffective. While most participants reported improvement after two weeks of using psychiatric medications, many discontinued treatments due to high costs and side effects. Many had been diagnosed with insomnia prior to their trauma. A notable proportion of participants reported experiencing upsetting dreams and intrusive memories frequently. Symptoms of hyperarousal were common, including feeling overly alert and easily startled. Feelings of detachment from others were also strongly associated with PTSD.

**Keywords:** Insomnia; Nightmares; Psychological; Trauma; Jordan

## INTRODUCTION

Psychological trauma is a condition that affects an individual after exposure to an intensely distressing experience. These events lead to the individual's inability to integrate this emotional experience with other experiences in a normal way, representing a threat to life or the integrity of the body or mind<sup>1</sup>. Difficult and painful events result in psychological trauma when the individual is unable to adapt, leaving the person in a state of emotional, cognitive, and physical exhaustion. Such circumstances may include abuse of power, betrayal of trust, helplessness, pain, loss, and others<sup>2</sup>. The adverse emotional effects of trauma have long been recognized. In psychiatric literature, Briquet first proposed in 1859 that panic-like symptoms arose as the effect of traumatic experiences<sup>3</sup>.

The term psychological trauma suggests the consequences of events such as pandemics, war, rape, kidnapping, abuse, or natural disasters<sup>4,5</sup>. The outcomes of such events, known by the medical and psychological communities—and increasingly by the public—as Post-Traumatic Stress Disorder (PTSD)<sup>6</sup>. PTSD can be classified into two categories: acute PTSD and chronic PTSD. If symptoms continue for fewer than three months, this is categorized as “acute PTSD,” otherwise, it is categorized as “chronic PTSD”<sup>7</sup>. PTSD is characterized by persistent,

powerful reactions to reminders of a traumatic episode, altered mood, a sense of imminent danger, insomnia, and hypervigilance. Symptoms may improve with cognitive-behavioral therapy and anxiolytic or antidepressant medications<sup>8</sup>.

The estimated proportion of adults suffering from chronic insomnia ranges from 0% to 15%, while approximately 25% to 35% experience transient or irregular insomnia. Incidence assessments differ due to varying definitions and diagnostic criteria<sup>9</sup>. The Insomnia Severity Index (ISI) is a significant and valid assessment tool that helps experts in the clinical evaluation of insomnia complaints. Present results show that the ISI is a reliable, clinically useful, and effective tool to quantify perceived insomnia severity<sup>10</sup>. Nightmares are defined as particularly frightening visions that cause the person to wake up suddenly, often accompanied by emotions such as anger or grief. However, the assessment of nightmares remains difficult<sup>11</sup>. People who often experience nightmares report reduced sleep quality, poor daytime mood, and impaired functioning. Earlier studies have attempted to connect these effects with altered sleep patterns, but the results were inconclusive<sup>12</sup>.

According to many studies, there are differences in the prevalence of

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insomnia symptoms between females and males. Prior research has shown that women may have specific risk factors for insomnia, such as behavioral and hormonal factors<sup>13</sup>. In the general population of China, there was a higher prevalence of insomnia in females due to gender-specific risk factors<sup>14</sup>.

In terms of treatments, SSRIs are commonly used to treat PTSD, and data suggest they have a small but significant positive effect on sleep disorders. Prior studies of serotonin-potentiating non-SSRIs indicate that nefazodone and trazodone lead to major reductions in insomnia and nightmares<sup>15</sup>. Insomnia is a major cause of—or consequence of—psychiatric disorders, and the problem can worsen if left untreated. Studies have shown that cognitive behavioral therapy is a first-line treatment for insomnia, improving sleep quality and reducing the incidence of psychiatric disorders<sup>16</sup>. Cognitive behavioral therapy appears to be an effective psychotherapy for insomnia, both for those with primary insomnia and for groups primarily composed of patients with insomnia and non-psychotic psychiatric conditions<sup>17</sup>. However, the role of psychiatric therapists in treating insomnia and nightmares has not been sufficiently studied, so further research is needed to understand their role in reducing sleep difficulties.

## METHOD

**Study design:** A cross-sectional study design was used, employing an online survey to evaluate insomnia and nightmares after exposure to psychological trauma in Jordan. This study was conducted from early April 2025 until late June 2025.

**Study population and sampling technique:** Participants were recruited through social media platforms such as Facebook, Instagram, and WhatsApp. A convenience sampling method was used to collect responses from eligible applicants. Inclusion criteria included the ability to understand and respond to the questionnaire in Arabic, residency in Jordan, provision of informed consent, female gender, and a history of trauma during the past two weeks. Exclusion criteria included incomplete survey responses and being male.

**Questionnaire tool:** The survey used validated questions from the International Trauma Questionnaire (ITQ), a self-reported measure of PTSD and complex PTSD, based on the International Classification of Diseases-11. The survey was adapted with an Arabic translation for better community engagement. Additionally, a set of questions was arranged into three sections: demographic questions, patient profile questions, and questions measuring insomnia based on the trauma experienced<sup>18</sup>.

The International Trauma Questionnaire is designed to assess PTSD according to ICD-11 criteria, focusing on two categories: PTSD (re-experiencing, avoidance, and heightened threat perception) and complex PTSD (affective disorder, negative self-concept, and relationship disturbances). Each category includes six symptom items and three functional impairment items, evaluated on a five-point Likert scale. Each diagnostic result is based on two-category scoring, while symptom intensity is assessed via a binary assessment. Scores are presented as percentages and categorized as mild, moderate, severe, or very severe.

**Ethical considerations:** Participation was voluntary, and all responses were anonymous. Ethical approval was obtained from the Scientific Research Ethics Committee at Isra University (IRB [SREC/25/02/132]). Informed consent was obtained electronically at the beginning of the survey.

**Data analysis:** Data were analyzed using descriptive and inferential statistical analysis. Frequencies and percentages were used to summarize participants' sociodemographic characteristics and trauma types. The scale was described as mean ± standard deviation (SD), median, and range. A multiple logistic regression was conducted to assess factors associated with high PTSD scores. Prior to regression, scores were dichotomized into two categories based on the median value. Odds ratios (OR) with 95% confidence intervals (CIs) and p-values were reported. All statistical analyses were two-tailed, conducted at a significance level of  $p < 0.05$ , and performed using Statistical Package for the Social Sciences (SPSS).

## RESULTS

The study included 884 females, the majority of whom were aged 18–30 years ( $n = 574, 72.8\%$ ), followed by those under 18 ( $n = 134, 17.0\%$ ). Most participants lived in the middle region of Jordan ( $n = 476, 60.4\%$ ), were single ( $n = 643, 81.6\%$ ), and had a high school education or lower ( $n = 360, 45.7\%$ ). Regarding psychosocial impact, 493 participants (62.6%) reported that problems in the past month had affected their relationships or social life. Additionally, 417 (52.9%) felt distant or cut off from others, and 402 (51.0%) found it difficult to stay emotionally close to people, as presented in Table 1.

**Table 1.** Sociodemographic characteristics and psychosocial impact among participants

Variables	N	%	
Age (Years)	Under 18	134	17.0%
	18–30	574	72.8%
	31–54	75	9.5%
	55–64	4	0.5%
	65 and older	1	0.1%
Residency	North	218	27.7%
	Middle	476	60.4%
	South	94	11.9%
Marital status	Single	643	81.6%
	Married	128	16.2%
	Widowed	1	0.1%
	Divorced	16	2.0%
Education level	High school or lower	360	45.7%
	Diploma	80	10.2%
	Bachelor	316	40.1%
	Postgraduate	32	4.1%
In the past month, have you had any problems affecting your relationships or social life?	No	133	16.9%
	Yes	493	62.6%
	Maybe	162	20.6%
Do you feel distant or cut off from people?	No	177	22.5%
	Yes	417	52.9%
	Maybe	194	24.6%
Do you find it hard to stay emotionally close to people?	No	187	23.7%
	Yes	402	51.0%
	Maybe	199	25.3%

The most commonly reported trauma among participants was the death or loss of a loved one ( $n = 278, 35.3\%$ ), followed by sexual assault ( $n = 73, 9.3\%$ ) and illness or injury ( $n = 73, 9.3\%$ ). About 37.6% experienced trauma for less than a year, while 26.1% experienced trauma for 1–3 years. Only a small proportion ( $n = 42, 5.3\%$ ) sought psychological treatment for insomnia, with most rating the support poorly ( $n = 138, 57.7\%$ ), giving a score of 0 out of 5. Psychiatric medication use was

also limited (n= 42, 5.3%), and although most users (n= 68, 61.8%) reported improvement after two weeks, 78.1% discontinued treatment, mainly due to high cost (n= 74, 32.0%) and side effects (n= 62, 26.8%). Notably, 92 participants (11.7%) had been diagnosed with insomnia prior to their trauma, as can be seen in Table 2.

**Table 2.** Types of traumas, psychological support, and medication use among individuals with trauma-induced insomnia

What types of traumas do you suffer from?	N	%	
The death or loss of a loved one	278	35.3%	
Sexual assault	73	9.3%	
Physical assault	64	8.1%	
Transportation accident	38	4.8%	
Illness/injury	73	9.3%	
Terrorism	0	0.0%	
Betrayal trauma	25	3.2%	
Others	175	22.2%	
How long have you been in shock?	Less than a year	296	37.6%
	From 1–3 years	206	26.1%
	From 4–6 years	120	15.2%
	From 7–9 years	74	9.4%
	More than 10 years	92	11.7%
Have you visited psychologists or psychiatrists to treat the insomnia?	Yes	42	5.3%
	No	458	57.7%
If yes, how would you rate their help out of 5?	0	16	6.7%
	1	22	9.2%
	2	23	9.6%
	3	16	6.7%
	4	24	10.0%
	5	24	10.0%
Do you take any psychiatric medications to treat insomnia and nightmares?	50	6.3%	
How long have you been on this medication?	Less than a year	92	77.3%
	From 1–3 years	19	16.0%
	From 4–6 years	5	4.2%
	From 7–9 years	2	1.7%
	More than 10 years	1	0.8%
Have you felt any improvement after starting this medication?	45	33.6%	
How soon do you feel any improvement?	After 2 weeks	68	61.8%
	After 1 month	22	20.0%
	After 3 months	8	7.3%
	After 6 months	12	10.9%
Will you continue taking this medication?	No	118	78.1%
	Yes	33	21.9%
If not, why?	Side effects	62	26.8%
	The price is too high	74	32.0%
	Adherence was difficult	52	22.5%
	There was no improvement	43	18.6%
Were you diagnosed with insomnia before your trauma?	92	11.7%	

Post-traumatic stress symptoms were assessed using the International Trauma Questionnaire (IQT). A notable proportion of participants

reported experiencing upsetting dreams (n= 218, 27.7%) and intrusive memories (n= 245, 31.1%) frequently. Avoidance of internal (n= 249, 31.6%) and external (n= 216, 27.4%) reminders was also common. Symptoms of hyperarousal were frequent, including being overly alert (n= 222, 28.2%) and easily startled (n= 263, 33.4%). These symptoms significantly impaired daily functioning, with 269 (34.1%) reporting social impacts and 207 (26.3%) noting work-related difficulties, as can be seen in Table 3.

The PTSD mean was 23.51±9.26, with a median of 23 and a range of 0–45. Participants who reported that their relationships or social life were affected in the past month had higher odds of having PTSD (OR = 2.86, 95% CI: 1.77–4.63, p < 0.001). Feeling distant or cut off from others was strongly associated with PTSD, with significantly increased odds (OR = 3.99, 95% CI: 2.48–6.42, p < 0.001 and OR = 2.68, 95% CI: 1.61–4.47, p = 0.001). Similarly, participants who found it hard to stay emotionally close to people had higher odds (OR = 3.29, 95% CI: 2.10–5.15, p < 0.001) and (OR = 1.96, 95% CI: 1.21–3.20, p = 0.005) (Table 4).

## DISCUSSION

In our study, the most reported trauma among participants was the death or loss of a loved one (35.3%), followed by sexual assault (9.3%) and illness or injury (9.3%). Notably, 37.6% had experienced trauma for less than one year, while 26.1% reported trauma lasting 1–3 years. Prior studies support these findings, identifying bereavement as a distressing event strongly associated with psychiatric disorders and a well-documented precursor to trauma<sup>19</sup>. Sexual assault, particularly against women and children, is also linked to PTSD. After an assault, victims typically exhibit severe distress<sup>20</sup>. Trauma is associated with poor physical health outcomes in both women and men<sup>21</sup>. Previous studies have illustrated that 16.7% of individuals had experienced trauma, with 20.3% persons reporting new traumatic events during follow-up. The prevalence of PTSD, including subthreshold cases, at baseline was 5.6%; by the end of the follow-up period, this had increased to 10.3%<sup>22</sup>. These results confirm that there are multiple causes behind trauma, and their rates vary. These cases must be treated as appropriately and quickly as possible to mitigate their negative societal impacts. Women are more likely to suffer from trauma due to multiple factors, including hormonal changes.

In our study, 11.7% of participants had been diagnosed with insomnia prior to their trauma. A notable portion reported experiencing upsetting dreams (27.7%) and intrusive memories (31.1%) to a considerable extent. Avoidance of internal (31.6%) and external (27.4%) reminders was also frequent. Symptoms of hyper arousal were common, including being overly alert (28.2%) and easily startled (33.4%). These symptoms significantly affected daily functioning, with 269 (34.1%) reporting social impacts and 207 (26.3%) noting impairment at work. According to other studies, sleep disturbances and persistent insomnia are associated with signs of arousal and both central and peripheral nervous system activity<sup>23,24</sup>. Some research also indicates that individuals with a genetic predisposition to hyper arousal may be more susceptible to sleep disturbances<sup>25</sup>. Collectively, research confirms that insomnia and difficulty sleeping have many harmful effects at all levels, particularly on social life and occupational performance. Therefore, such cases must be treated at the beginning to prevent the worsening of the condition and to improve patients' quality of life.

Only a small proportion of participants (5.3%) sought psychological treatment for insomnia, with most rating the support poorly—57.7% gave a score of 0 out of 5. Most participants (61.8%) reported improvement after two weeks of using psychiatric medications.

**Table 3.** Responses to the International Trauma Questionnaire items assessing PTSD symptoms among participants

	Not at all	A little bit	Moderately	Quite a bit
Have you had upsetting dreams that replay parts of the experience or are clearly related to it?	151 (19.2%)	314 (39.8%)	105 (13.3%)	218 (27.7%)
Have you experienced vivid memories or images that sometimes come into your mind in which you feel the experience is occurring again?	99 (12.6%)	269 (34.1%)	175 (22.2%)	245 (31.1%)
Have you avoided internal reminders of the experience (for example, thoughts, feelings, or physical sensations)?	116 (14.7%)	265 (33.6%)	158 (20.1%)	249 (31.6%)
Have you avoided external reminders of the experience (for example, people, places, conversations, objects, activities, or situations)?	132 (16.8%)	280 (35.5%)	160 (20.3%)	216 (27.4%)
Have you ever felt overly alert, watchful, or on guard?	99 (12.6%)	225 (28.6%)	242 (30.7%)	222 (28.2%)
Have you felt jumpy or easily startled?	116 (14.7%)	235 (29.8%)	174 (22.1%)	263 (33.4%)
In the past month, have the above problems affected your relationships or social life?	156 (19.8%)	246 (31.2%)	117 (14.8%)	269 (34.1%)
How much have they interfered with your work or ability to work?	235 (29.8%)	239 (30.3%)	107 (13.6%)	207 (26.3%)
How much have they impacted other important areas of your life, such as parenting, school, or college work, or other important activities?	189 (24.0%)	237 (30.1%)	109 (13.8%)	253 (32.1%)
When I am upset, it takes me a long time to calm down.	96 (12.2%)	263 (33.4%)	163 (20.7%)	266 (33.8%)
I feel emotionally numb or shut down.	146 (18.5%)	261 (33.1%)	132 (16.8%)	249 (31.6%)
I feel like a failure	256 (32.5%)	226 (28.7%)	121 (15.4%)	185 (23.5%)
I feel worthless	348 (44.2%)	187 (23.7%)	92 (11.7%)	161 (20.4%)
I feel distant or cut off from people	132 (16.8%)	293 (37.2%)	153 (19.4%)	210 (26.6%)
I find it hard to stay emotionally close to people.	138 (17.5%)	237 (30.1%)	142 (18.0%)	271 (34.4%)

**Table 4.** Factors associated with high PTSD symptoms

		OR (95% CI)	p value
Age (years)	Under 18	Reference	
	18–30	0.75 (0.47–1.20)	0.23
	31–54	0.83 (0.36–1.96)	0.68
	55 and older	0.96 (0.09–10.75)	0.97
	Residency	North	Reference
	Middle	0.89 (0.62–1.28)	0.53
	South	0.84 (0.47–1.48)	0.54
Marital status	Single	Reference	
	Married	0.75 (0.44–1.28)	0.30
	Divorced or widowed	1.97 (0.60–6.51)	0.27
Education level	High school or lower	Reference	
	Diploma	1.23 (0.69–2.18)	0.48
	Bachelor	1.08 (0.74–1.58)	0.68
	Postgraduate	0.58 (0.24–1.42)	0.24
In the past month, have you had any problems affecting your relationships or social life?	No	Reference	
	Yes	2.86 (1.77–4.63)	0.000
	Maybe	1.98 (1.14–3.46)	0.02
Do you feel distant or cut off from people?	No	Reference	
	Yes	3.99 (2.48–6.42)	0.000
	Maybe	2.68 (1.61–4.47)	0.001
Do you find it hard to stay emotionally close to people?	No	Reference	
	Yes	3.29 (2.10–5.15)	0.000
	Maybe	1.96 (1.21–3.20)	0.01

However, 78.1% discontinued psychiatric treatment, mainly due to high costs (32.0%) and side effects (26.8%). A study conducted in Australia to investigate how insomnia patients seek treatment revealed that lack of awareness, limited services, and high costs prevent the widespread use of cognitive behavioral therapy for insomnia (CBT-I), despite its effectiveness<sup>26</sup>. CBT-I has been shown to be effective in most outcomes of a previous study compared to a non-active control group<sup>27</sup>. Collectively, most research confirms that cognitive behavioral therapy for insomnia has proven effective. Therefore, healthcare

systems must increase awareness of the importance of this treatment and disseminate it widely across society, reduce its cost through government contributions to providing it at reasonable prices, and demonstrate the effectiveness of the treatment.

Participants who reported that their relationships or social life were affected in the past month had higher odds of PTSD (OR = 2.86, 95% CI: 1.77–4.63,  $p < 0.001$ ). Feeling distant or cut off from others was strongly associated with PTSD (OR = 3.99, 95% CI: 2.48–6.42,  $p$

<0.001 and OR = 2.68, 95% CI: 1.61–4.47, p = 0.001). Those who found it hard to stay emotionally close to people had higher odds (OR = 3.29, 95% CI: 2.10–5.15, p < 0.001 and OR = 1.96, 95% CI: 1.21–3.20, p = 0.005). A study conducted in the United States on trauma confirmed that most people experience traumatic events, but a small percentage (less than 10%) develop PTSD, and women are more likely than men to be traumatized<sup>28</sup>. Previous studies suggest that mental illness and PTSD is associated with negative emotions resulting from various types of trauma<sup>29,30</sup>. These negative emotions, regardless of the trauma type, play a significant role in increasing the incidence of PTSD, leading to symptoms of insomnia and disturbing dreams. Therefore, the role of the medical sector is to raise awareness in society about the importance of overcoming and treating trauma to improve quality of life and increase productivity in society.

**Limitations:** This cross-sectional study offers a valuable snapshot of the target population—women in Jordan—by evaluating correlations between the variables in terms of time and cost-effectiveness. It provides useful data on the prevalence of insomnia and nightmares in the community and helps illuminate their relationship with trauma, offering guidance for future research. However, due to the cross-sectional design, the study cannot establish contributing relationships, and the time-based sequence between exposure and outcome remains unclear. Additionally, the reliance on self-reported data may introduce recall or response bias.

## CONCLUSION

**The most frequently reported traumas among participants were the death or loss of a loved one, sexual assault, and illness or injury. Few participants sought psychological treatment for insomnia, and most rated the support poorly. While many participants reported improvement after two weeks of psychiatric medication, a large proportion discontinued treatment due to the high cost and the side effects of medications. Many had been diagnosed with insomnia prior to their trauma. A notable portion of participants reported experiencing upsetting dreams and intrusive memories frequently. Symptoms of hyper arousal—such as being overly alert and easily startled—were common. Feeling distant or cut off from others was strongly associated with PTSD, and participants who found it hard to stay emotionally close to people had higher odds of developing symptoms.**

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**Competing Interest:** None

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