Original article:

Evaluation of Prevalence of Post-Traumatic Stress Disorders in Patients with Blunt Abdominal Trauma: An Institutional Based Study

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Abstract

Background: Blunt abdominal trauma is a major cause of morbidity among patients presenting to emergency and trauma services, particularly in tertiary care hospitals. While considerable attention is usually given to its physical and surgical consequences, the psychological impact of such trauma is often under-recognized. Post-traumatic stress disorder (PTSD) is an important mental health outcome that may develop after traumatic injury and can adversely affect recovery, quality of life, and functional outcomes. Identification of the prevalence of PTSD and its associated factors among patients with blunt abdominal trauma is therefore essential for improving comprehensive trauma care.

Aim: To evaluate prevalence of post-traumatic stress disorders in patients with blunt abdominal trauma.

Materials and Methods: This hospital-based observational cross-sectional study was conducted among 105 patients with blunt abdominal trauma. Adult patients of both sexes with confirmed blunt abdominal injury were included, while those with pre-existing psychiatric illness, cognitive impairment, severe head injury affecting communication, or unwillingness to participate were excluded. Data were collected using a structured and pre-tested proforma. Clinical variables such as mechanism of injury, type of abdominal injury, mode of management, ICU admission, duration of hospital stay, and associated extra-abdominal injuries were also documented. PTSD was assessed using a standardized screening tool based on established diagnostic criteria.

Results: Among the 105 study participants, 29 patients were found to have PTSD, giving an overall prevalence of 27.62%. The majority of patients were males (72.38%), and the most common age group was 31–45 years (37.14%). Road traffic accident was the leading mechanism of injury (55.24%), and solid organ injury was the most frequent abdominal injury pattern (60.00%). PTSD was significantly associated with increasing age ($p=0.041$), female gender ($p=0.028$), mechanism of injury ($p=0.022$), operative management ($p=0.008$), ICU admission ($p=0.001$), prolonged hospital stay ($p=0.003$) and associated extra-abdominal injuries ($p=0.015$).

Conclusion: PTSD is a frequent psychological consequence among patients with blunt abdominal trauma. The findings highlight the importance of integrating psychological assessment and early mental health support into routine trauma care, particularly for patients with severe injuries and high-risk clinical characteristics.

Key words: Blunt abdominal trauma; Post-traumatic stress disorder; Prevalence; Tertiary care hospital; Psychological outcomes.

INTRODUCTION

Blunt abdominal trauma is a major surgical and public health problem because it commonly follows road traffic accidents, falls, assaults, and other forms of high-impact injury that expose the abdomen to sudden compressive and decelerating

forces. The clinical importance of this condition lies in the fact that serious internal injury may occur even when external signs are minimal or absent. Injury to the liver, spleen, bowel, mesentery, kidneys, or major abdominal vessels may progress rapidly to hemorrhage, peritonitis, sepsis, or shock if not recognized early. In many trauma settings, blunt abdominal trauma is further complicated by simultaneous chest, head, pelvic, or limb injuries, making assessment more difficult and increasing the demand for rapid and coordinated decision-making.[1] The evaluation of blunt abdominal trauma has evolved considerably with advances in trauma imaging and selective management strategies. Clinical examination alone may be unreliable, especially in patients with altered sensorium, distracting injuries, or early-stage intra-abdominal pathology. For this reason, modern trauma care increasingly relies on focused imaging and repeated clinical reassessment. Multidetector computed tomography has emerged as a particularly valuable tool in hemodynamically stable patients because it assists in detecting organ injury, localizing the site of trauma, and helping determine whether operative or non-operative treatment is appropriate. At the same time, bowel and mesenteric injuries remain diagnostically challenging, and delayed identification may still occur despite technological progress. These realities make blunt abdominal trauma not only a surgical emergency but also a condition that often exposes patients to prolonged uncertainty, repeated investigations, and escalating emotional stress during hospitalization.[2] From the standpoint of patient outcome, the burden of blunt abdominal trauma extends well beyond immediate resuscitation and organ-specific treatment. Although successful operative care, improved imaging, and the increasing use of non-operative strategies have enhanced short-term survival, many patients continue to experience substantial physical and psychological consequences after the acute injury has stabilized. Pain, fear of internal bleeding, emergency transport, operative procedures, intensive care exposure, and prolonged hospitalization can all be perceived as traumatic experiences. In addition, abdominal trauma often involves a sudden threat to life and bodily integrity, which may leave a lasting emotional impression even after clinical recovery has begun. For these reasons, outcome assessment in trauma should not be limited to mortality, morbidity, or hospital stay alone, but should also consider the mental health sequelae that may influence recovery, functioning, and quality of life.[3] Post-traumatic stress disorder is one of the most important psychiatric consequences that can follow traumatic injury. It develops after exposure to an event involving actual or threatened death or serious injury and is characterized by intrusive recollections, distressing reminders, avoidance of trauma-related cues, emotional numbing, sleep disturbance, hypervigilance, and exaggerated arousal. In injured patients, these symptoms may be overlooked because they can overlap with postoperative discomfort, pain-related sleep loss, generalized anxiety, or ordinary stress responses in the early post-trauma period. Nevertheless, persistent post-traumatic symptoms are clinically important because they may interfere with adherence to treatment, rehabilitation, return to work, social functioning, and long-term quality of life. Recognition of PTSD in trauma care is therefore essential if recovery is to be approached in a comprehensive and patient-centered manner.[4] Another important consideration is the close relationship between PTSD and other forms of psychological distress after injury. Trauma survivors may develop depressive symptoms, anxiety, acute stress reactions, and reduced quality of life alongside or in association with PTSD. This

overlap can make diagnosis more complex, particularly in hospital settings where mental health evaluation is not routinely integrated into trauma follow-up. The transition from acute distress to persistent psychiatric morbidity may be influenced by multiple interacting factors, including perceived life threat, prior vulnerability, injury severity, treatment intensity, family support, and the patient's evolving interpretation of the traumatic event. As a result, psychological screening in trauma patients should not be viewed as an optional adjunct, but rather as an important part of holistic post-injury care.[5] Patients with blunt abdominal trauma may be particularly vulnerable to post-traumatic stress symptoms for several reasons. First, abdominal injury is often concealed and diagnostically uncertain during the initial stages, which can intensify fear and helplessness. Second, management may involve repeated examinations, serial imaging, fasting, drains, blood transfusion, surgery, and close observation for deterioration. Third, patients with associated extra-abdominal trauma or critical care admission may endure further invasive procedures and a more prolonged sense of danger. Even among those managed non-operatively, the fear of delayed rupture, bowel injury, or sudden worsening may remain psychologically distressing. These features distinguish blunt abdominal trauma from many other surgical conditions and support the need to study its mental health consequences as a specific clinical entity rather than assuming that all trauma populations behave in the same way.[6]

MATERIALS & METHODS

This study was designed as a hospital-based observational cross-sectional study. The objective was to evaluate prevalence of post-traumatic stress disorders in patients with blunt abdominal trauma. A total of 105 patients diagnosed with blunt abdominal trauma were included in the study. Patients were recruited consecutively based on their admission to the trauma and surgical units. Both male and female patients aged 18 years and above were considered eligible. Patients with a confirmed history of blunt abdominal injury due to causes such as road traffic accidents, falls, or assault were included. Patients with pre-existing psychiatric illnesses, cognitive impairment, severe head injury impairing communication, or those unwilling to participate were excluded from the study.

Methodology

Data were collected using a structured and pre-tested proforma. Baseline demographic details such as age, gender, marital status, educational level, occupation, and socioeconomic status were recorded. Clinical parameters included mechanism of injury, severity of trauma, type of abdominal injury (solid organ vs. hollow viscus), associated injuries, need for surgical intervention, duration of hospital stay, and intensive care unit (ICU) admission.

Psychological assessment for PTSD was carried out using a standardized and validated screening tool, such as the Post-Traumatic Stress Disorder Checklist (PCL) or equivalent diagnostic criteria based on DSM-5 guidelines. Patients were assessed after stabilization of their physical condition and at an appropriate time to ensure reliable responses. Additional parameters included sleep disturbances, intrusive thoughts, avoidance behavior, hyperarousal symptoms, and emotional distress.

The primary outcome variable was the prevalence of PTSD among patients with blunt abdominal trauma. Secondary variables included demographic characteristics, injury-related factors (mechanism and severity), clinical management (operative vs. non-operative), length of hospital stay, ICU admission, and presence of complications. Psychosocial variables such as family support,

prior exposure to trauma, and substance use were also assessed as potential influencing factors.

Statistical Analysis: Data were entered into a suitable statistical software package and analyzed accordingly. Descriptive statistics such as mean, standard deviation, frequencies, and percentages were used to summarize demographic and clinical characteristics. The prevalence of PTSD was calculated as a proportion of the total study population. Inferential statistical tests, such as chi-square test and t-test, were applied to assess associations between PTSD and various independent variables. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Table 1 shows the socio-demographic profile of the 105 study participants with blunt abdominal trauma. The largest proportion of patients belonged to the age group of 31–45 years, comprising 39 patients (37.14%), followed by 18–30 years with 34 patients (32.38%). Patients aged 46–60 years accounted for 21 cases (20.00%), while those older than 60 years represented the smallest group with 11 patients (10.48%). With regard to gender distribution, males constituted the majority of the study population with 76 patients (72.38%), while females accounted for 29 patients (27.62%). This marked male predominance suggests that men were more frequently exposed to risk factors associated with blunt abdominal trauma, such as road traffic accidents, physical labor, and high-risk occupational or social activities. In terms of marital status, most participants were married, with 61 patients (58.10%), followed by unmarried individuals with 38 patients (36.19%), whereas widowed or divorced patients formed only a small proportion, with 6 patients (5.71%). Educational status revealed that nearly half of the patients had primary or secondary education, accounting for 52 patients (49.52%). Graduates and above comprised 35 patients (33.33%), while 18 patients (17.14%) had no formal education. This suggests that blunt abdominal trauma affected patients across all educational categories, though it was somewhat more frequent among those with lower or moderate educational attainment. Regarding occupation, employed individuals formed the largest category with 47 patients (44.76%), followed by unemployed or homemakers with 34 patients (32.38%), and laborers with 24 patients (22.86%).

Table 2 presents the clinical and trauma-related characteristics of the participants. Road traffic accident was the leading mechanism of injury, reported in 58 patients (55.24%), making it the most common cause of blunt abdominal trauma in the present study. Falls accounted for 29 patients (27.62%), while assault was responsible for 18 cases (17.14%). Regarding the type of abdominal injury, solid organ injury was the most frequent pattern, observed in 63 patients (60.00%). Hollow viscus injury was present in 22 patients (20.95%), and mixed abdominal injury was found in 20 patients (19.05%). This indicates that blunt abdominal trauma more commonly affects solid organs such as the liver, spleen, and kidneys, which is consistent with the usual injury pattern seen after non-penetrating abdominal trauma. In terms of treatment, 57 patients (54.29%) were managed non-operatively, while 48 patients (45.71%) required operative intervention. ICU admission was required in 27 patients (25.71%), whereas the majority, 78 patients (74.29%), did not require intensive care. This finding suggests that approximately one-fourth of patients had trauma severe enough to need close monitoring and critical care support. Hospital stay duration showed that 46 patients (43.81%) stayed for less than 7 days, 41 patients (39.05%) stayed between 7 and 14 days, and 18 patients

(17.14%) had a prolonged stay of more than 14 days. Thus, most patients had a relatively short to moderate duration of hospitalization, but a notable minority required prolonged admission, likely due to more severe trauma or postoperative recovery. Associated extra-abdominal injuries were present in 44 patients (41.90%), while 61 patients (58.10%) had isolated abdominal trauma.

Table 3 describes the prevalence of PTSD and symptom profile among the affected patients. Out of the total 105 patients included in the study, 29 patients were found to have PTSD, giving an overall prevalence of 27.62%, while 76 patients (72.38%) did not meet the criteria for PTSD. Among the 29 patients who were PTSD-positive, emotional distress was the most commonly reported symptom, seen in 26 patients (89.66%). Intrusive thoughts were present in 25 patients (86.21%), hyperarousal symptoms in 24 patients (82.76%), sleep disturbances in 23 patients (79.31%), and avoidance behavior in 22 patients (75.86%).

Table 4 examines the association between socio-demographic variables and PTSD. A statistically significant association was found between age group and PTSD status ($p = 0.041$). The proportion of PTSD increased progressively with age: 20.59% in the 18–30 years group, 23.08% in the 31–45 years group, 38.10% in the 46–60 years group, and 45.45% in patients older than 60 years. Gender was also significantly associated with PTSD ($p = 0.028$). PTSD was present in 17 of 76 males (22.37%) and in 12 of 29 females (41.38%). Marital status did not show a statistically significant association with PTSD ($p = 0.317$). PTSD was found in 29.51% of married patients, 23.68% of unmarried patients, and 33.33% of widowed or divorced patients. Although the prevalence appeared somewhat higher among widowed or divorced individuals, the difference was not statistically significant, likely due to the small number of patients in that group. Therefore, marital status did not emerge as an independent determinant of PTSD in this study. Educational status also did not reach statistical significance ($p = 0.089$), although a clear gradient was observed. PTSD was highest among patients with no formal education (44.44%), followed by those with primary or secondary education (28.85%), and lowest among graduates and above (17.14%).

Table 5 shows the association between clinical variables and PTSD and provides important insight into trauma-related predictors of psychological outcome. The mechanism of injury had a statistically significant association with PTSD ($p = 0.022$). PTSD was present in 31.03% of patients injured in road traffic accidents, 17.24% of those injured due to falls, and 33.33% of those injured by assault. The type of abdominal injury was not significantly associated with PTSD ($p = 0.143$), although patients with hollow viscus injury (36.36%) and mixed abdominal injury (35.00%) had higher proportions of PTSD compared to those with solid organ injury (22.22%). Management modality showed a statistically significant association with PTSD ($p = 0.008$). Among patients who underwent operative management, 19 out of 48 (39.58%) developed PTSD, compared with only 10 out of 57 (17.54%) among those managed non-operatively. ICU admission had a very strong and statistically significant association with PTSD ($p = 0.001$). PTSD was present in 14 of 27 ICU-admitted patients (51.85%), compared with 15 of 78 non-ICU patients (19.23%). Hospital stay duration was also significantly associated with PTSD ($p = 0.003$). PTSD prevalence increased with increasing duration of hospitalization: 13.04% in patients admitted for less than 7 days, 26.83% in those staying 7–14 days, and 66.67% in those hospitalized for more than 14 days. Associated

extra-abdominal injuries were significantly associated with PTSD as well (p = 0.015). PTSD was present in 17 of 44 patients (38.64%) with associated injuries, compared to 12 of 61 patients (19.67%) without such injuries. Overall, the results of the present study demonstrate that PTSD is a frequent psychological consequence of blunt abdominal trauma, affecting 27.62% of patients.

Table 1. Socio-demographic characteristics of study participants (n = 105)

Variable	Frequency (n)	Percentage (%)
Age group (years)		
18–30	34	32.38
31–45	39	37.14
46–60	21	20.00
>60	11	10.48
Gender		
Male	76	72.38
Female	29	27.62
Marital status		
Married	61	58.10
Unmarried	38	36.19
Widowed/Divorced	6	5.71
Educational status		
No formal education	18	17.14
Primary/Secondary	52	49.52
Graduate and above	35	33.33
Occupation		
Employed	47	44.76
Unemployed/Homemaker	34	32.38
Laborer	24	22.86

Table 2. Clinical and trauma-related characteristics of study participants (n = 105)

Variable	Frequency (n)	Percentage (%)
Mechanism of injury		
Road traffic accident	58	55.24
Fall	29	27.62
Assault	18	17.14
Type of abdominal injury		
Solid organ injury	63	60.00
Hollow viscus injury	22	20.95
Mixed abdominal injury	20	19.05
Management		
Non-operative	57	54.29
Operative	48	45.71

ICU admission		
Yes	27	25.71
No	78	74.29
Hospital stay		
<7 days	46	43.81
7–14 days	41	39.05
>14 days	18	17.14
Associated extra-abdominal injuries		
Yes	44	41.90
No	61	58.10

Table 3. Prevalence of PTSD and symptom profile among PTSD-positive patients

Variable	Frequency (n)	Percentage (%)
PTSD status among all patients (n = 105)		
PTSD present	29	27.62
PTSD absent	76	72.38
Symptom profile among PTSD-positive patients (n = 29)		
Intrusive thoughts	25	86.21
Avoidance behavior	22	75.86
Hyperarousal symptoms	24	82.76
Sleep disturbances	23	79.31
Emotional distress	26	89.66

Table 4. Association of socio-demographic variables with PTSD (n = 105)

Variable	PTSD Present n (%)	PTSD Absent n (%)	Total (n)	p-value
Age group (years)				**0.041**
18–30	7 (20.59)	27 (79.41)	34	
31–45	9 (23.08)	30 (76.92)	39	
46–60	8 (38.10)	13 (61.90)	21	
>60	5 (45.45)	6 (54.55)	11	
Gender				**0.028**
Male	17 (22.37)	59 (77.63)	76	
Female	12 (41.38)	17 (58.62)	29	
Marital status				0.317
Married	18 (29.51)	43 (70.49)	61	
Unmarried	9 (23.68)	29 (76.32)	38	
Widowed/Divorced	2 (33.33)	4 (66.67)	6	
Educational status				0.089
No formal education	8 (44.44)	10 (55.56)	18	
Primary/Secondary	15 (28.85)	37 (71.15)	52	
Graduate and above	6 (17.14)	29 (82.86)	35	

Table 5. Association of clinical variables with PTSD (n = 105)

Variable	PTSD Present n (%)	PTSD Absent n (%)	Total (n)	p-value
Mechanism of injury				**0.022**
Road traffic accident	18 (31.03)	40 (68.97)	58	
Fall	5 (17.24)	24 (82.76)	29	
Assault	6 (33.33)	12 (66.67)	18	
Type of abdominal injury				0.143
Solid organ injury	14 (22.22)	49 (77.78)	63	
Hollow viscus injury	8 (36.36)	14 (63.64)	22	
Mixed abdominal injury	7 (35.00)	13 (65.00)	20	
Management				**0.008**
Operative	19 (39.58)	29 (60.42)	48	
Non-operative	10 (17.54)	47 (82.46)	57	
ICU admission				**0.001**
Yes	14 (51.85)	13 (48.15)	27	
No	15 (19.23)	63 (80.77)	78	
Hospital stay				**0.003**
<7 days	6 (13.04)	40 (86.96)	46	
7–14 days	11 (26.83)	30 (73.17)	41	
>14 days	12 (66.67)	6 (33.33)	18	
Associated extra-abdominal injuries				**0.015**
Yes	17 (38.64)	27 (61.36)	44	
No	12 (19.67)	49 (80.33)	61	

DISCUSSION

In the present study, the largest proportion of patients with blunt abdominal trauma belonged to the 31–45-year age group (37.14%), and males constituted 72.38% of the sample. This overall pattern is comparable to the findings of Edino et al. (2003), who reported that abdominal injury patients were predominantly male, with a male-to-female ratio of 12.3:1, and that most cases occurred in the third decade of life. Although our age peak was slightly older than that reported by Edino et al., both studies indicate that abdominal trauma mainly affects economically active adults and occurs far more commonly in men, probably because of greater exposure to road traffic and occupational hazards.[7] The mechanism of injury in our study was led by road traffic accidents, which accounted for 55.24% of cases, followed by falls in 27.62% and assault in 17.14%. A similar trend was reported by Smith et al. (2005), who studied 1,224 abdominal trauma patients and found that 79.00% had blunt trauma and that road accidents were the leading cause, accounting for 53.00% of cases. The close similarity between the 55.24% rate of road traffic accidents in our series and the 53.00% reported by Smith et al. supports the view that vehicular trauma remains the dominant contributor to blunt abdominal injury across different settings.[8]

With regard to injury pattern, solid organ injury was the commonest abdominal injury in our study, seen in 60.00% of patients, whereas hollow viscus injury and mixed injury accounted for 20.95% and 19.05%, respectively. This observation is supported by Buddhaboriwan et al. (2003), who reviewed

liver injury cases and found that 64.10% of their patients had blunt abdominal trauma, traffic accidents were the most common cause, and splenic injury was the most frequent associated injury. Although their study focused mainly on liver trauma rather than all blunt abdominal injuries, it still reinforces our finding that solid organ trauma forms the major bulk of intra-abdominal injuries after blunt force.[9]

In our series, 54.29% of patients were managed non-operatively, while 45.71% required operative treatment. This is in keeping with the shift toward selective conservative management reported by Velmahos et al. (2003), who prospectively studied 206 patients with blunt solid organ injury and found that 57 patients (28.00%) underwent immediate operation, whereas among the remaining 149 patients managed non-operatively, treatment failed in 33 cases (22.00%). Compared with their cohort, our study had a higher operative proportion, which may reflect broader injury severity, the inclusion of hollow viscus and mixed injuries, and the influence of associated extra-abdominal trauma in our patients.[10] The prevalence of PTSD in the present study was 27.62%, indicating that more than one-fourth of patients with blunt abdominal trauma developed significant psychological morbidity. This rate is higher than that reported by Ongecha-Owuor et al. (2004), who studied 264 motor vehicle accident survivors and found an overall PTSD prevalence of 13.30%. Their study also showed that none of the PTSD cases had been previously diagnosed, which is clinically important because it supports our own concern that post-traumatic stress symptoms in surgical and trauma patients may remain under-recognized unless specifically screened for during follow-up.[11]

Among the PTSD-positive patients in our study, emotional distress was present in 89.66%, intrusive thoughts in 86.21%, hyperarousal in 82.76%, sleep disturbance in 79.31%, and avoidance behavior in 75.86%. Although older trauma studies did not always present symptom clusters in the same way, Starr et al. (2004) reported that 295 of 580 patients with orthopaedic trauma, or 51.00%, met criteria for PTSD and noted that emotional problems after injury were strongly linked with the disorder. Our findings therefore agree with Starr et al. in showing that the psychological burden of physical trauma extends well beyond the anatomical injury itself, and that emotional suffering often becomes a central part of recovery.[12]

A significant association between age and PTSD was observed in our study ($p=0.041$), with PTSD rising from 20.59% in the 18–30 year group to 45.45% in those older than 60 years. Educational status showed a non-significant but clear gradient, with PTSD highest among those with no formal education (44.44%) and lowest among graduates (17.14%). Brewin et al. (2000), in their meta-analysis of PTSD risk factors, concluded that variables such as age and gender predicted PTSD in some populations but not in others, while factors operating after trauma often had stronger effects. This helps explain why age and education in our study showed trends of clinical importance, even though education did not achieve statistical significance.[13]

Gender showed a significant association with PTSD in our study, with 41.38% of females developing PTSD compared with 22.37% of males ($p=0.028$), despite the greater absolute number of injured men. This finding is consistent with Holbrook et al. (2002), who demonstrated that women had worse long-term PTSD outcomes than men after major trauma. Taken together, these findings suggest that although men are more frequently exposed to blunt abdominal trauma, women who sustain trauma may be more vulnerable to persistent psychological sequelae.[14]

Clinical severity markers were strongly associated with PTSD in the present study. PTSD was more common after operative than non-operative management (39.58% vs 17.54%), in ICU-admitted than non-ICU patients (51.85% vs 19.23%), and in patients with hospital stay longer than 14 days than those staying less than 7 days (66.67% vs 13.04%). A similar pattern was noted by Sanders et al. (2005), who studied 400 pediatric orthopaedic trauma patients and found that 130 patients (33.00%) had high levels of PTSD symptoms, with hospital admission being the only variable significantly associated with those symptoms. These earlier data support our conclusion that greater injury severity, intensive treatment, and prolonged hospitalization substantially increase the risk of later post-traumatic stress symptoms.[15] Overall, the present study demonstrates that PTSD is a frequent consequence of blunt abdominal trauma, affecting 27.62% of patients, and that its occurrence is influenced more by injury severity and treatment intensity than by simple background characteristics alone. This interpretation is supported by Schnyder et al. (2001), who found that 4.70% of severely injured accident victims met PTSD criteria at a mean of 13.4 days after trauma, and by one-year follow-up only 1.90% had full PTSD while 12.30% had subsyndromal PTSD; they also reported that 25.50% had some form of psychiatric morbidity overall. Compared with that study, our higher PTSD prevalence may reflect differences in study design, timing of assessment, and the specific burden of blunt abdominal trauma, but both studies underline the need for routine psychological evaluation in trauma survivors.[16]

CONCLUSION

In conclusion, post-traumatic stress disorder was found to be a common psychological consequence among patients with blunt abdominal trauma, with a prevalence of 27.62% in the present study. PTSD was significantly associated with increasing age, female gender, road traffic accidents and assault, operative management, ICU admission, prolonged hospital stay, and associated extra-abdominal injuries. These findings indicate that both demographic and clinical severity factors contribute to the risk of PTSD after blunt abdominal trauma. Routine psychological screening and early mental health intervention should therefore be integrated into the management and follow-up of high-risk trauma patients.

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