Original Article

Needs of Family Caregivers of Older Adults with Trauma Admitted to the Emergency Department: A Cross-Sectional Study

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Abstract

Background: Family caregivers (FCs) play a vital role in supporting the care of older adults with trauma admitted to the emergency departments (EDs). However, their needs are often unmet and overlooked by healthcare providers. This study aimed to assess the needs of FCs of older adults with trauma admitted to the EDs in Iran. **Materials and Methods:** A cross-sectional study was conducted in 2024 at Shahid-Beheshti Hospital in Kashan, Iran, involving 402 FCs of older adult trauma patients. Participants were recruited through consecutive sampling. Data were collected using the Questionnaire for the Assessment of the Needs of Caregivers of Patients with Trauma in the Emergency Department (QANCPT). Descriptive statistics and regression analysis were performed using. **Results:** The mean (SD) age of FCs was 44.80 (12.90) years, and 52.98% were female. Among patients, 45.02% were female, and falls were the most common cause of their injury (50.25%). The mean (SD) overall needs score was 2.47 (0.32) out of 4. In regression analysis, caregiver needs were associated with their own education level and gender, as well as patient-related factors, including age, number of children, length of ED stay, and cause and location of injury. **Conclusions:** FCs of older trauma patients reported substantial unmet needs in the ED. Acknowledging and addressing these needs is essential for healthcare providers in the ED. Doing so can significantly improve both the patient care process and recovery outcomes.

Keywords: *Aged, family caregivers, hospital emergency service, injuries, needs assessment*

Introduction

Over 20% of Emergency Department (ED) patients are older adults, with trauma accounting for a significant number. Age-related physiological changes, comorbidities, and motor, sensory, and cognitive impairments increase their vulnerability to trauma.[1,2] Globally, older adults face higher risks of complications and mortality post-trauma due to frailty and polypharmacy, underscoring the need for specialized care.[3,4] The complex ED environment, prolonged waiting times, and the diminished capacity of older adults to perform Activities of Daily Living (ADLs) often necessitate family accompaniment, especially for those with trauma. In this context, Family Caregivers (FCs) play a vital role in providing physical, emotional, and basic care, such as assistance with positioning, eating, and drinking.[5,6] Studies indicate that FCs often act as advocates, facilitating communication between patients and healthcare teams in the fast-paced ED settings.[7] Furthermore, their prolonged, intimate, and trusting interaction with the older person during health problems has provided them with valuable insights into how the illness and its treatment affected the patient's daily life, making their presence crucial for holistic care.[8] In Iran, a family member often remains with the patient throughout hospitalization, providing essential physical and emotional support, sharing critical health information, and assisting with care needs, as highlighted in a study conducted in Kermanshah.[9] This highlights the importance of their presence in supporting older adults with trauma in EDs.

The admission of a patient to a high-stress ward like the ED induces significant anxiety and worry among caregivers, compounded by fear of the unknown, sudden role shifts, and uncertainty about prognosis. This is particularly true for caregivers of older adults, who especially require additional support. Therefore, nurses and other healthcare providers must understand FCs' needs to offer appropriate

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resources.[10] However, research on the needs of FCs of older adult trauma patients in the ED remains limited and is inconsistent. Some studies highlight high stress levels and caregiving burdens, with FCs emphasizing the need for more information and support from healthcare providers.[10,11] Conversely, other studies suggest FCs experience less stress and express satisfaction with the support received.[12,13] A study in Taiwan found that nurses successfully built relationships with patients' families,[14] while a study in Oman reported deficiencies in this area.[15] Alsharari[16] and Douma *et al*.[17] identified and prioritized five primary family needs: reassuring communication, information, visiting the patient, comfort, and support. While studies show that communication and information are universally ranked as top needs across diverse cultural contexts,[18] an Egyptian study[19] found that visiting the patient was the most important need for families, with reassuring communication with healthcare providers being a lower priority. In contrast, Wright *et al*. (2020)[20] found that in the U.S. context, FCs prioritized navigational support, consistent and compassionate communication, and direct emotional acknowledgment to mitigate the distress associated with the ED environment. A study in Thailand reported that caregivers with lower educational levels reported a greater need to be physically close to the patient than those with higher education. Younger and less educated caregivers also reported greater needs for comfort, support, and communication.[21] In contrast, studies in Saudi Arabia and Palestine found no significant gender influence on FCs' care needs.[16,22] These conflicting results highlight variability in FCs' experiences and needs, particularly for those caring for older adults with trauma. Unmet needs can lead to physical and psychological complications for caregivers, which impair their ability to support patients and increase their dependence on medical and nursing staff.[23,24]

Previous studies in Iran have assessed relatives' needs in ED[25] and Intensive Care Unit (ICU) settings,[26] but have overlooked FCs of older trauma patients in the ED. This gap is significant as older trauma patients often have complex conditions like multimorbidity and frailty, which complicate caregiving.[1,23] Frailty indices predict prolonged ED stays and poorer recovery outcomes, further straining caregivers.[7,27] FCs face the dual stress of emergency care demands and ongoing responsibilities, such as managing chronic illnesses and coordinating post-discharge care. Therefore, addressing their needs is crucial as it can improve patient outcomes by enhancing caregiver well-being, reducing caregiver burnout and psychological distress, and diminishing healthcare costs. Identifying FCs' unique needs allows for targeted interventions, like tailored education and counseling. Nurses are key to meeting these needs,[10] but without a clear understanding of them and their influencing factors, nursing support may be inadequate. Therefore, studying these needs is an essential first step toward effective care.

Kashan is located in central Iran and has a larger aged population than other cities in the country, with over 12% of its residents being aged.[28] The city's position along a major transit road contributes to the high rate of trauma and traffic accidents in the area.[28] In this context, elderly patients face unique challenges, including limited access to geriatric-specific ED protocols, which exacerbates caregiver burden.[29] The Shahid-Beheshti Medical Center of Kashan is a major referral center for trauma patients in the region and throughout the central part of the country. The rising number of elderly patients admitted to EDs—and the corresponding increase in elderly caregivers—makes understanding and addressing their needs crucial to mitigate the associated physical, psychological, and financial consequences. Identifying caregivers' needs is essential to improve planning, enhance care quality, foster cooperation, and optimize health services for both elderly patients and their caregivers. Given the limited research in Iran, this study was carried out to investigate the needs of FCs of older adults with traumatic injuries admitted to the ED of Shahid-Beheshti Hospital in Kashan, Iran.

Materials and Methods

This cross-sectional study was completed between May and July 2024 with FCs of adults aged ≥60 with traumatic injuries admitted to the ED of Shahid-Beheshti Medical Center in Kashan, Iran. The sample size was calculated based on Adineh Menbar *et al*.'s study,[25] which reported a mean (SD) needs score of 3.13 (0.4). With $\alpha = 0.05$, $\sigma = 0.4$, and a margin of error (d) of 0.04, the required sample size was 385, but 423 participants were enrolled to account for a potential 10% attrition rate. Participants were recruited using a consecutive sampling technique, whereby all eligible individuals who were available during the data collection period were invited to participate. During the sampling, 15 FCs declined to take part, primarily due to the critical condition of their patients or lack of time. In a previous Iranian study, the mean ED length of stay was about three hours.[30] Therefore, the inclusion criteria required caregivers to be with the patient for ≥3 hours, have no self-reported cognitive or psychiatric disorders, and be willing and able to complete the questionnaire. Incomplete responses led to exclusion.

A three-part instrument was used to gather data: (1) a demographic questionnaire, (2) the Revised Trauma Score (RTS), and (3) the Questionnaire for the Assessment of the Needs of Caregivers of Patients with Trauma (QANCPT) in the ED. The demographic questionnaire included nine questions on the primary caregiver (e.g. age, sex, religion, marital status, number of children, education level, job, perceived financial status, and kinship between the caregiver and the patient) and 10 on the patient (e.g. age, sex, marital status, number of children, level of schooling, occupation, length of hospital stay, cause of injury, and location and severity of injury). Patient data were obtained

from caregivers or medical records. The RTS, developed by Champion *et al*. (1981),[31] assesses trauma severity using the Glasgow Coma Scale (GCS), blood pressure, and respiratory rate. Each parameter is coded using the scale's guide table and inserted into the formula: *Revised Trauma Score (RTS) = ((Glasgow Coma Scale (GCS) code × 0.9368) + (Blood Pressure (BP) code × 0.7326) + (Respiratory Rate (RR) code × 0.2908))*. Scores range from 0 to 7.84, with lower scores representing greater trauma severity. A cut-off of 4 distinguishes mild (≥4) from severe trauma (<4).[3] The researcher calculated the RTS for each patient using information from their ED admission records.

The QANCPT, developed by the research team through literature review and input from 10 FCs of older trauma patients, assesses caregivers' needs in the ED. It includes 44 items in five subscales: communication (11 items), education (9 items), comfort (10 items), spiritual (7 items), and support (7 items) needs. Each item is scored on a 5-point Likert scale (0–4). Standardized scores (0–4) are calculated by dividing total and subscale scores by the number of items. Higher scores indicate greater needs. The qualitative and quantitative content validity of the QANCPT were assessed by 10 nursing experts from Kashan University of Medical Sciences. They evaluated the wording, readability, relevance, and necessity of all items, leading to necessary amendments. The Content Validity Ratio (CVR) was calculated using the formula CVR = (Ne – N/2)/(N/2), with a satisfactory threshold of ≥0.62 for 10 experts.[32] The items' CVR ranged from 0.85 to 0.98. For the Content Validity Index (CVI), experts rated items' relevance on a 4-point scale, and CVI was computed by dividing the number of ratings ≥3 by the total experts. Items with CVIs >0.79 are acceptable.[33] The items' CVI varied between 0.8 and 1. Reliability was assessed via internal consistency, yielding an overall Cronbach's alpha of 0.84, and subscale alphas ranged from 0.75 to 0.81. To examine the construct validity of the QANCPT, an exploratory factor analysis was conducted using the fixed-factor method. The Kaiser-Meyer-Olkin (KMO) value was 0.70, and Bartlett's test was significant ($p < 0.001$). As a result, five factors were extracted, labeled as communication, education, comfort, spirituality, and support, which collectively accounted for 49.98% of the total variance of caregivers' needs. The factor loadings of the items ranged between 0.55 and 0.65.

After obtaining permission from the hospital and ED officials, the first researcher (M.T.) was stationed in the trauma admission area during morning and evening shifts to identify eligible patients and their FCs. After 3 hours, the researcher approached primary FCs, explained the study's purpose, obtained their informed consent, provided them with the questionnaire, and briefed them on how to complete it individually and manually, in a quiet and private setting. For night-shift admissions, eligible patients and FCs were identified the following morning in coordination with the charge nurse and then approached to participate. The researcher remained available to address any questions and to collect the completed questionnaires. No participants required clarification while completing the questionnaire. For illiterate or low-literate caregivers, the researcher read them the questionnaire items aloud in a private setting and recorded their responses in the related sections of the questionnaire. To prevent data contamination, caregivers were required to complete the questionnaire only during their ED stay, individually, and in a private setting, to capture immediate, unbiased perspectives. On average, it took 20-30 minutes for each participant to complete the questionnaire. The researcher who collected the data was trained and unaffiliated with clinical care to prevent bias from healthcare providers' opinions. Data were analyzed using IBM SPSS Statistics for Windows, Version 16 (IBM Corp., Armonk, NY, USA). To analyze the data, the Kolmogorov-Smirnov test confirmed the normal distribution of quantitative data. Frequencies and percentages were calculated to describe participants' demographics, while mean and standard deviation were used to summarize needs scores. Regression analysis was performed to identify factors influencing caregivers' needs (i.e. dependent variable), with other variables serving as independent variables. To this end, categorical variables were first converted into dummy variables. A backward model with a removal criterion of $p > 0.50$ was used, followed by re-entering variables with $p < 0.50$ into a forward model. p values <0.05 were considered statistically significant.

Ethical considerations

This study received approval from the Ethics Committee of Kashan University of Medical Sciences with the code IR.KAUMS.NUHEPM.REC.1403.001. The researcher also coordinated with and received permission from the officials of Shahid-Beheshti Hospital and its ED, and also received the nurses' oral consent after explaining the study's aim at the beginning of each working shift. The researcher introduced herself to the participants, explained the objectives of the study, and obtained permissions and written informed consent from all of them. Participants were assured of voluntary participation and data confidentiality.

Results

Of the 423 questionnaires collected, 21 were excluded due to incomplete responses, leaving 402 for analysis. Caregivers had a mean (SD) age of 44.80 (12.90) years and were predominantly (52.98%) female. Among patients, 45.02% were female, and 31.35% had multiple traumas [Table 1]. The mean standardized score for caregivers' needs was 2.47 out of 4. When examining the subscales, communication needs scored highest (2.84), while spiritual needs scored lowest (2.08) [Table 2]. Prompt addressing the patient problems, appropriate seating/sleeping arrangements, and clear explanations about the patient's condition were the most important FCs' needs and received the highest mean scores.

Table 1: Frequency distribution of companions and older adults with trauma admitted to the emergency department

Variables	Category	Companions *n* (%)	Patients *n* (%)
Gender	Female	213 (52.98)	181 (45.02)
	Male	189 (47.02)	221 (54.98)
Religion	Shia	399 (99.25)	399 (99.25)
	Sunni	3 (0. 75)	3 (0.75)
Age	≤40	165 (41.05)	0
	41-59	175 (43.53)	0
	60-85	62 (15.42)	365 (90.80)
	≥86	0	37 (9.20)
Education level	Illiterate and low literate	125 (31.10)	353 (87.81)
	High school diploma	130 (32.33)	42 (10.45)
	Academic	147 (36.57)	7 (1.74)
Marital status	Married	342 (85.07)	313 (77.86)
	Single	50 (12.44)	3 (0.75)
	Widowed or divorced	10 (2.49)	86 (21.39)
Number of children	0	66 (16.42)	3 (0.75)
	1-3	263 (65.42)	129 (32.09)
	≥ 4	73 (18.16)	270 (67.16)
Job	Clerical	48 (11.94)	0
	Manual worker	29 (7.21)	49 (12.19)
	Retired	40 (9.95)	128 (31.84)
	Self-employed	153 (38.06)	56 (13.93)
	Housekeeper	132 (32.84)	147 (36.57)
	Unemployed	0	22 (5.47)
Financial status	Excellent	4 (1)	-
	Good	63 (15.67)	-
	Average	316 (78.61)	-
	Unfavorable	19 (4.72)	-
Kinship with the patient	Spouse	56 (13.93)	-
	Child	233 (57.96)	-
	Sister/brother	35 (8.71)	-
	Grandchild	23 (5.72)	-
	Bride/groom	47 (11.69)	-
	Other	8 (1.99)	-
Cause of injury	Fall	-	202 (50.25)
	Traffic accident	-	154 (38.31)
	Other	-	46 (11.44)
Length of stay/h	3-4	-	171 (42.54)
	5-7	-	168 (41.79)
	≥8	-	63 (15.67)
GCS*	< 15	-	15 (3.73)
	15	-	387 (96.27)
RTS**	<7.84	-	9 (2.24)
	7.84	-	393 (97.76)
Location of injury	Head and neck		45 (11.19)
	The face	-	10 (2.49)
	Abdomen and Chest	-	8 (1.99)
	Vertebral column	-	45 (11.19)
	Upper limb	-	78 (19.40)
	Lower limb	-	90 (22.39)
	Multiple trauma	-	126 (31.35)

*Glasgow Coma Scale. **Revised Trauma Score

However, the need for information on costs, access to social support, and the need for communication devices received the lowest scores [Table 3]. Regression analysis revealed that patient age, number of children, caregiver's higher education,

Table 2: Mean and standard deviation of the need areas of companions of older adults with trauma admitted to the emergency department

Areas of needs	Number of items	Mean (SD*)
Communication	11	2.84 (0.40)
Education	9	2.32 (0.50)
Comfort	10	2.43 (0.51)
Spiritual	7	2.08 (0.70)
Support	7	2.55 (0.44)
Total	44	2.47 (0.32)

*Standard deviation

longer hospital stays, upper limb injuries, and accidents were significantly associated with caregivers' needs, explaining 41.90% of the variance in needs scores [Table 4].

Discussion

The caregivers' needs had an overall mean score of 2.47 out of 4, higher than the average, aligning with studies from Iran,[26] Turkey,[34] and Saudi Arabia.[16] However, a study from Canada,[7] reported that about 40% of FCs of older adults in EDs expressed high levels of unmet needs and burden, indicating very low satisfaction and substantial unaddressed needs. This discrepancy may be attributed to differences in study location, culture, participant characteristics, and instruments used, and highlights the challenge of adequately addressing FCs' diverse and often complex needs in the high-pressure, fast-paced emergency department environment.

In this study, communication with healthcare providers emerged as the most critical FCs' need, particularly the need to receive "simple, understandable explanations of the patient's condition" and "honest answers to their questions." These findings are consistent with a study by Adineh Menbar *et al*.,[25] who emphasized the importance of discussing the patient's condition with physicians, receiving truthful responses, and obtaining regular updates on the patient's status. Similar results were also reported by Yıldırım *et al*.,[34] and Hsiao *et al*.[35] However, these findings are in contrast with another study from Egypt,[19] where caregivers prioritized visitation rights over communication. The discrepancy could not only be attributed to differences in the research community and cultural differences in need hierarchies, but also reveal a critical challenge and the need for balancing universal care principles with culturally specific interventions. Despite these variations, most studies agree that effective communication with healthcare providers is a top priority for FCs. Nurses and healthcare professionals with strong communication skills can address these needs, reduce FCs' anxiety, and build trust, particularly during the initial hours of ED admission. However, establishing effective communication as a core need is possible only in the presence of systemic backing for nurses. Without training on effective communication techniques and a proportionate nurse-to-patient ratio that manages workload and enables nurses to allocate sufficient time for each patient, effective communication remains an individual initiative and cannot meet the expectations of FCs.[36]

The need for support was ranked second among our participants, aligning with Yildirim *et al*.'s[34] findings in Turkey. However, this finding contrasts with studies by Adineh Menbar *et al*.[25] and Hsiao *et al*.,[35] where support was one of the last two priorities. Such discrepancies may stem from cultural differences, varying study instruments, and participant characteristics, and also underscore the challenge of defining "support" in trauma care, where needs may fluctuate more rapidly than in chronic illness contexts. However, our study focused specifically on FCs of older trauma patients, whereas the aforementioned studies investigated caregivers of non-traumatized or critically ill patients. Traumatic injuries, especially in older adults, create significant stress for patients and families, necessitating substantial psychological support. A study in Taiwan[35] found that "meeting with doctors and nurses for explanations upon hospital arrival" was a critical support need for caregivers of critically ill patients. However, a study from Canada[37] found that approximately 30% of caregivers in EDs had unmet emotional needs, emphasizing the critical role of emotional support in these wards. To address this, interventions such as providing timely support, addressing patient problems, assisting with physical care and mobility, and maintaining post-discharge availability (e.g., via phone) can alleviate caregivers' emotional distress, foster confidence, improve patient care quality, and reduce hospital readmissions. However, the support needs of caregivers of trauma patients are often overlooked due to the acute nature of injuries, leading to a neglect of this critical need.[10]

Comfort needs ranked third in our study, aligning with Ali *et al*.'s[37] who studied family caregivers' needs in Canadian EDs. However, this finding contrasts with an Iranian study that ranked comfort as the second priority,[26] and some studies from Palestine,[22] Taiwan,[35] and Turkey,[34] that ranked comfort needs lower. Participants in our study, like those in Adineh Menbar's research,[25] identified "access to proper sanitation" as the top comfort need. However, in a Turkish study, "having a suitable place to rest near the patient's bed" was the most important comfort need for the caregivers.[34] An American study[38] also found that temperature control was the top comfort concern. Although these variations may stem from differences in caregiver characteristics, time, place, sociocultural factors, and the facilities available in healthcare settings, they collectively highlight the role of infrastructural factors in need prioritization. Consequently, a key practical challenge is designing ED spaces that meet diverse comfort expectations while maintaining efficient clinical workflows.

In the current study, the need for education ranked fourth among caregivers' needs, with a particular emphasis on

Table 3: Mean scores of each of the companions' needs

Domain	Mean score	Needs
Support	3.52	I need healthcare providers to promptly address my patient's problems such as pain.
Comfort	3.47	I need a comfortable chair to sit and sleep near my patient's bed.
Communication	3.46	I need healthcare providers to answer my questions honestly.
Communication	3.43	I need healthcare providers (i.e. doctors, nurses, .) to explain my patient's condition in simple, understandable terms.
Communication	3.23	I expect healthcare providers to treat me and my patient with respect.
Support	3.22	I need to communicate with physicians and staff for post-discharge instructions.
Support	3.19	I need explanations about my patient's condition upon entering the emergency department.
Communication	3.12	I need to know about changes in my patient's health status.
Education	3.12	I need training on how to care for my patient at home after discharge.
Communication	3.10	I need to know which staff to ask for help in caring for my patient.
Comfort	3.06	I need access to facilities like toilets and restrooms.
Communication	3.05	I need necessary information before signing consent forms.
Communication	3.04	I expect to be informed before my patient is transferred to other departments.
Support	3.03	I need auxiliary staff to help me with physical care, mobility, and meeting my patient's health needs.
Education	3	I need to learn how to care for my patient's injured limb.
Comfort	3	I need access to a rest area near my patient.
Spiritual	2.91	I need a place to perform my religious duties.
Communication	2.66	I need to know my patient's formal caregivers.
Spiritual	2.62	I expect my spiritual beliefs and practices to be respected.
Spiritual	2.56	I expect to be understood and empathized with by healthcare professionals.
Comfort	2.55	I need mobility aids (i.e. wheelchair, walker, crutches, etc.) to be available in the ED*.
Education	2.54	I need to learn how to properly position my patient in the bed and how to adjust the bed.
Education	2.46	I need to know the level of activity allowed for my patient.
Support	2.36	I need to know who to contact if I have a complaint about the healthcare provider.
Comfort	2.35	I need the hospital to prepare food for the patient's companion.
Communication	2.33	I need to know the reasons for procedures and diagnostic tests performed on my patient.
Comfort	2.30	I need a place to purchase items that I and my patient will need while in the hospital.
Comfort	2.20	I need my patient's privacy to be respected.
Comfort	2.20	I need a suitable place to eat in the hospital.
Comfort	2.16	I need to leave my patient for short periods to rest.
Education	2.15	I need to learn about my patient's diet.
Education	2.15	I need to be trained about my patient's safety in the department.
Communication	2.11	I need to be involved in decisions about my patient.
Support	2.10	I expect my patient's health secrets to be kept confidential.
Education	2.03	I need to learn how to use mobility aids (wheelchair, walker, cane, etc.) for my patient.
Spiritual	1.89	I need to have my holy book and prayer books available on the unit.
Education	1.86	I need to learn how to take care of my patient's connections (i.e. intravenous lines and catheters).
Communication	1.73	I need to share my feelings about my patient's condition and his treatment process with the healthcare providers.
Education	1.62	I need to know about the various treatment options available.
Spiritual	1.56	I need access to the hospital's religious counselor to answer my religious questions.
Spiritual	1.53	I need counseling from a psychologist or religious counselor for problems like anxiety, guilt, and anger.
Spiritual	1.53	If needed, I need access to ablution sand on the ward.
Comfort	1.06	I expect communication devices, including telephones, to be accessible near my patient.
Support	0.45	I need information on patient-related costs and accessing social support systems.

*Emergency Department

training for post-discharge home care. This aligns with findings by Aminipour *et al*.[26] and Salameh *et al*.[22] However, a study from Saudi Arabia[16] identified education as the top need. Though the variations may arise from differences in study instruments, patient conditions, caregiver characteristics (e.g., literacy and cultural background), and healthcare providers' workloads, the lower ranking in our context reflects a failure and need for more effort in Iran, where FCs shoulder post-discharge care burdens,[39] and the ED's focus on acute care often neglects

Table 4: Linear regression results on factors influencing increased needs of trauma patients' family caregivers

Variables	*B**	SE**	Beta***	*t*	*p*
Female companion	7.81	1.16	0.27	6.69	<0.001
Companion's age	0.14	0.07	0.12	1.88	0.060
Companion's number of children	1.17	0.60	0.12	1.93	0.054
Female patient	2.65	1.17	0.09	2.26	0.024
Patient's age	-0.21	0.07	-0.12	-2.69	0.007
Patient's number of children	0.77	0.28	0.12	2.72	0.007
Length of stay	1.61	0.20	0.32	7.99	<0.001
Having a high school diploma	4.16	1.54	0.13	2.70	0.007
Academic education of companion	10.99	1.76	0.36	6.23	<0.001
Upper limb injury	-11.92	1.53	-0.32	-7.75	<0.001
Traffic accident	-8.23	1.96	-0.27	-4.19	<0.001

*Unstandardized Coefficient, **Standard Error, ***Standardized Coefficient

preparatory education. An American study demonstrated that integrating teachable moments into ED workflows can bridge this gap.[40] Therefore, despite staff shortages and time constraints in Iranian public-hospital EDs, trauma nurses and triage staff should be empowered to provide key information**,** leverage waiting times with visual aids, use a simple follow-up question technique**,** and standardize the discharge process with a patient-oriented checklist. This strategy embeds learning into every patient interaction to effectively address the educational gap. This approach can reduce FCs' stress and anxiety, improve care quality, and minimize complications and hospital readmissions.

In this study, spiritual needs ranked lowest among FCs of older adults with trauma. This is consistent with a recent study from Thailand that reported spiritual needs are often unmet in emergency and critical care settings.[41] However, our finding contrasts with a study from Turkey,[42] where spiritual care was integral to FCs' coping. The incongruity between studies may be attributed to differences in the study objectives, research population, and research settings. However, this presents an ethical challenge for the staff in EDs in religious societies and alarms them to proactively assess spiritual needs, even when caregivers do not initially prioritize them. It has also been shown that caregivers overwhelmed by concerns for their loved one's physical safety and treatment tend to focus on tangible, immediate needs rather than spiritual support.[41] However, healthcare providers should remain sensitive to this aspect of care, recognizing its potential importance in the broader context of FCs' well-being and patient recovery.

In regression analysis, the overall needs score of FCs was associated with female gender, younger age, more children, longer patient hospital stays, upper limb injuries, accident-related injuries, and higher education of FCs. However, due to varying demographic and sociocultural factors across studies, no single variable can definitively predict needs scores.[26] Some studies in Iran[26] and Chile,[43] align with our findings, associating female gender with higher needs, but Alsharari[16] and Salameh *et al*.,[22] found no gender link. Also consistent with our findings, longer hospital stays and higher FC education levels were also linked to increased needs in some studies[16,22]; however, a Chilean study[43] found that FCs with higher education had lower needs. The differences in results may be due to differences in geographical, cultural, time, and research community settings. Nonetheless, higher education may lead to greater awareness of healthcare providers' responsibilities and patient rights, raising expectations and needs. These inconsistencies highlight the complex interplay of factors influencing FCs' needs.

This study had several strengths. Previous studies have explored the needs of relatives of ED and ICU patients,[25,26] but our study uniquely focuses on FCs of older adults with trauma in the ED—a previously overlooked population. Older trauma patients often face complex challenges like multimorbidity and frailty, suggesting their caregivers may have distinct needs compared to other ED or ICU relatives.[1,23] To address this gap, we developed a tailored questionnaire assessing context-specific needs during emergency care settings, as well as post-ED transitional concerns. Our findings reveal a clear hierarchy of needs, with immediate medical information prioritized over spiritual support, offering actionable guidance for ED staff managing time-sensitive caregiver interactions. With a robust sample of 402 caregivers, our regression analyses reliably identified key factors influencing caregivers' needs. Beyond immediate implications, this study provides a foundation for future research, including longitudinal tracking of evolving caregiver needs post-discharge and targeted interventions, such as improving real-time updates during ED stays.

We had some limitations that readers must notice. This study used self-report instruments, risking social desirability bias. Its cross-sectional design also limits causal inferences. The ED setting is characterized by high stress, unpredictability, and frequent activity, which may have influenced both the caregivers' needs and the data collected. However, the researcher attempted to approach participants when the condition of their patients was more stable, and FCs appeared

more relaxed. The urgent and sometimes chaotic nature of trauma care and potential interruptions while completing the questionnaire may heighten family caregivers' anxiety and emotional distress, potentially reducing the accuracy of their responses and amplifying their expressed needs for communication and support. Additionally, the crowded environment and constant staff movement may have limited caregivers' opportunities to fully communicate or receive information, thus affecting the accuracy or completeness of their responses. Patient instability and frequent transfers between units or departments may have disrupted FCs' ability to focus, resulting in variations in how needs were reported or prioritized. These factors, largely beyond the researchers' control, could contribute to variability in FCs' perceived needs and may have influenced the study findings by either overestimating immediate communication/support needs or underestimating needs that require more time and reflection, such as spiritual needs. We tried to minimize information bias through rigorous training for the data collector. However, geographical, cultural, religious, and social factors may affect FCs' needs and limit generalizability. Further research in diverse settings and populations is needed to better understand the needs of caregivers for older adults with trauma admitted to EDs.

Conclusion

This study revealed that FCs of older trauma patients in EDs experience above-average overall needs, with communication emerging as their most pressing concern, while spiritual needs were ranked lowest. These needs varied based on caregiver characteristics like education level and gender, as well as patient factors including age and injury details. To operationalize these findings, several practical recommendations and nursing policy implications can be implemented. We recommend that routine caregiver needs assessments be incorporated into standard ED protocols using an instrument like ours to identify high-risk individuals, such as caregivers dealing with extended patient hospitalizations. Given the critical importance of communication, ED staff should receive specialized training in communication and delivering clear, compassionate updates about patient status and care plans. Such training programs should also be integrated into nursing education programs and ED competency standards. Additionally, establishing caregiver liaison roles can provide targeted support for vulnerable groups such as older individuals or those managing complex trauma cases. Systematic documentation of caregiver needs (i.e., in electronic health records) can also ensure care continuity. While spiritual needs were less urgent, staff training should identify distress and enable cleric referrals, especially for high-risk cases. Institutionalizing caregiver support through training, resource allocation, and documentation would enhance care quality.

Future research investigating FCs' needs in emergency trauma care should employ the instruments developed and used in the present study in larger, multicenter studies to establish generalizable caregiver need profiles across diverse healthcare settings. It is also suggested to conduct intervention studies evaluating the effectiveness of standardized caregiver screening protocols during ED triage, particularly focusing on communication training programs for ED staff. Moreover, it is recommended to examine the effects of implementing strategies for dedicated caregiver support systems (e.g., liaison nurses). It is also recommended to investigate targeted interventions for vulnerable subgroups (elderly caregivers, low-education populations) through tailored support strategies. Moreover, qualitative studies should be conducted at different points of care transition to explore the underlying causes for the delayed emergence of spiritual needs.

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Conflicts of interest

Nothing to declare.

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