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Psychological Readiness and Stress Management Among Health Security Officers During Medical Emergencies

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Abstract

Background: Health security officers play a critical role in maintaining safety and continuity within healthcare environments, especially during medical emergencies. Their responsibilities require a high degree of psychological readiness and the ability to manage stress effectively. Understanding their preparedness and coping capacity is essential to ensuring efficient emergency response and maintaining overall institutional resilience.

Methods: A cross-sectional analytical study was conducted among 210 health security officers working in healthcare facilities. A stratified random sampling method was used. Data were collected through a validated, self-administered questionnaire that included demographic information, a Psychological Readiness Scale, a Stress Management Scale, and an Emergency Experience Checklist. Data were analyzed using SPSS version 28. Descriptive statistics summarized the sample, while t-tests, ANOVA, Pearson correlation, and regression analyses examined associations between variables. A significance level of $p < 0.05$ was used.

Results: Most officers were male (75.2%) and aged 30–39 years (41.9%). A majority had formal emergency training (77.1%) and participated in real emergencies (65.7%). Psychological readiness was generally high, with 62.9% scoring in the high range and the strongest domain being knowledge of emergency protocols (65.7%). Stress management levels were moderate overall: 43.8% demonstrated good coping ability, 40% moderate, and 16.2% poor. A significant positive correlation was found between psychological readiness and stress management ($r = 0.48$, $p = 0.001$), indicating that officers with higher readiness tended to manage stress more effectively.

Conclusion: Health security officers demonstrated strong psychological readiness but only moderate levels of stress management, revealing a meaningful gap between preparedness and coping capacity. Training exposure and emergency experience enhanced readiness, while stress management varied across individuals. Strengthening institutional support systems and integrating structured resilience and stress-management programs may enhance both preparedness and well-being, ultimately improving emergency response effectiveness.

Background

Health security officers play a central role in maintaining order and ensuring the safety of healthcare environments. Their responsibilities extend beyond traditional security tasks, often requiring collaboration with medical teams and administrative leadership during high-pressure situations. In emergency scenarios, they serve as vital connectors between different departments, contributing directly to the stability and functionality of healthcare systems (Khazaei et al., 2024).

Medical emergencies introduce an array of psychological and operational challenges. During events such as sudden patient surges, infectious outbreaks, or mass-casualty incidents, security officers face intense pressures that can disrupt normal routines. Their work environment becomes unpredictable, the pace accelerates, and they must manage both safety risks and human behaviors that may escalate under stress (Madhusudan et al., 2024).

Psychological readiness is a key component of effective emergency response. It encompasses the mental preparedness required to absorb stress, make rapid decisions, and adapt to constantly changing circumstances. For health security officers, readiness involves confidence in their training, familiarity with emergency protocols, and the emotional resilience necessary for handling critical incidents (Qiu et al., 2024).

Stress management is equally important because unmanaged stress can impair judgment, reduce alertness, and negatively influence job performance. High levels of psychological strain may lead to exhaustion, irritability, or burnout, which compromise officers' ability to respond effectively. Developing coping strategies, emotional regulation skills, and recovery practices becomes essential for sustaining performance (Søvold et al., 2021).

During large-scale medical emergencies, frontline personnel often experience significant emotional burdens. Security officers may encounter frightened patients, distressed families, and tense situations requiring rapid de-escalation. Exposure to these environments day after day can generate cumulative psychological strain, even among well-trained officers (Johnston et al., 2025).

Institutional preparedness plays a major role in shaping psychological outcomes. When officers perceive that their workplace is well organized, adequately resourced, and supportive, their sense of control increases. Conversely, shortages of equipment, unclear communication, or inconsistent protocols can intensify stress levels and undermine confidence (Bardhan & Byrd, 2023).

Training and organizational support serve as protective factors. When security officers receive clear guidance, ongoing drills, and access to supportive leadership, their stress levels tend to be lower. Feeling competent and supported boosts morale and strengthens their ability to make sound decisions during emergencies (Yun et al., 2025).

Many healthcare workers across different settings experience heightened distress during public health crises, and health security officers are no exception. They often work in close proximity to infectious hazards, enforce safety protocols, and manage conflicts, all of which expose them to similar psychological pressures faced by clinical teams (Ligeza et al., 2022).

The nature of emergency work can also expose security personnel to emotionally taxing situations, including witnessing trauma, aggression, or human suffering. Continual exposure can lead to emotional fatigue or diminished empathy if not addressed through proper mental health practices and institutional safeguards (Ilczak et al., 2021).

Recognizing these challenges, many healthcare systems have begun emphasizing the importance of psychological preparation and formal stress-management programs. Training in communication, crisis response, and emotional resilience helps equip officers for the realities of emergency situations. When institutions invest in the mental well-being of their security teams, they enhance not only individual health but also the overall stability and effectiveness of emergency operations (Alrowili et al., 2025).

Methodology

Study Design

This study employed a cross-sectional analytical design to assess psychological readiness and stress management among health security officers during medical emergencies. The design allowed for the collection of quantitative data at a single point in time and facilitated the examination of associations between psychological readiness, stress levels, and related demographic or occupational variables.

Study Setting

The research was conducted within multiple healthcare facilities that employed trained health security officers. These facilities included both inpatient and outpatient services, ensuring representation of officers working across different operational environments. No specific geographical site was identified in the study protocol.

Study Population

The target population consisted of all active health security officers working in healthcare institutions during the period of data collection. Eligible participants were those who were employed full-time, directly involved in emergency response tasks, and had at least six months of experience in security operations within healthcare settings.

Sample Size and Sampling Technique

A total sample of **210 health security officers** participated in the study. The sample size was determined based on the estimated population of officers available across the selected healthcare institutions, with consideration for adequate statistical power and feasibility. A stratified random sampling technique was used to ensure proportional representation from different facility types and duty shifts. Officers were selected from each stratum using simple random methods.

Inclusion Criteria

Participants were included if they:

- Were currently employed as health security officers,
- Had a minimum of six months of continuous experience,
- Had direct duties related to emergency response or crisis management,
- Were willing to provide informed consent.

Exclusion Criteria

Participants were excluded if they:

- Were on administrative leave during data collection,
- Worked in non-operational roles not involving emergency duties,
- Declined to participate or withdrew consent.

Data Collection Instruments

Data were collected using a structured, self-administered questionnaire. The instrument consisted of four main sections:

1. **Demographic and occupational characteristics**: (age, gender, years of experience, training history, shift type).
2. **Psychological Readiness Scale**: assessing perceived preparedness, confidence, and cognitive readiness for emergency response.
3. **Stress Management Scale**: measuring stress symptoms, coping strategies, and perceived stress during medical emergencies.
4. **Emergency Experience Checklist**: documenting exposure to previous emergencies and involvement in crisis operations.

The questionnaire underwent expert validation and pilot testing with 20 participants, who were not included in the main study sample. Reliability testing demonstrated acceptable internal consistency for all scale sections.

Data Collection Procedures

Data collection was conducted over a four-week period. Officers were approached during work hours by trained field researchers who explained the study purpose and obtained informed consent. Participants completed the questionnaire anonymously, and completed forms were collected immediately to prevent loss of data. Efforts were made to accommodate different work schedules, including night and weekend shifts.

Study Variables

- **Independent variables:** demographic characteristics, years of experience, emergency training history, and exposure to prior emergencies.
- **Dependent variables:** psychological readiness score and stress management score.
- **Potential confounders:** shift type, workload, and perceived organizational support.

Statistical Analysis

Data were coded and entered into the Statistical Package for the Social Sciences (SPSS) version 28. Numerical data were summarized using means and standard deviations, while categorical variables were presented as frequencies and percentages.

The following analyses were conducted:

- Independent t-tests and ANOVA to compare mean psychological readiness and stress scores across groups.
- Pearson correlation to assess the relationship between readiness and stress management scores.
- Multiple regression analysis to identify predictors of psychological readiness and stress levels.

A significance level of $\mathbf{p < 0.05}$ was used for all statistical tests.

Ethical Considerations

Ethical approval was obtained prior to data collection. Participation was voluntary, and informed consent was secured from all respondents. Anonymity and confidentiality were maintained through coded responses with no identifying information. Participants were informed of their right to withdraw from the study at any point without consequences.

Results

This study included 210 health security officers who completed the full questionnaire. The results describe their demographic and occupational characteristics, levels of psychological readiness, stress management patterns, and the relationships between the study variables. Frequencies, percentages, means, and standard deviations were used to summarize the data, and statistically significant differences were identified using the specified tests.

Table 1: Demographic Characteristics of the Participants (N = 210)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	< 30	62	29.5
	30–39	88	41.9
	≥ 40	60	28.6
Gender	Male	158	75.2
	Female	52	24.8
Years of Experience	< 2 years	36	17.1
	2–5 years	94	44.8
	> 5 years	80	38.1
Shift Type	Day shift	102	48.6
	Night shift	62	29.5
	Rotating shifts	46	21.9

Most participants were aged 30–39 years (41.9%), and the majority were male (75.2%). Nearly half of the officers (44.8%) had 2–5 years of experience, while 38.1% had more than 5 years. Day-shift workers represented the largest group (48.6%), but almost one-third worked permanent night shifts (29.5%), which may influence stress outcomes.

Table 2: Emergency Response Training and Experience (N = 210)

Variable	Category	Frequency (n)	Percentage (%)
Received formal emergency training	Yes	162	77.1
	No	48	22.9
Number of emergency drills attended	None	24	11.4
	1–2 drills	96	45.7
	≥ 3 drills	90	42.9
Previous involvement in real emergencies	Yes	138	65.7
	No	72	34.3

Most officers (77.1%) had formal emergency training, and 88.6% had attended at least one drill. A substantial proportion (65.7%) had been involved in real medical emergencies. These findings indicate generally good exposure to emergency preparedness activities among the sample.

Table 3: Psychological Readiness Levels (N = 210)

Readiness Item	High (n/%)	Moderate (n/%)	Low (n/%)
Confidence in handling emergencies	124 (59.0%)	62 (29.5%)	24 (11.4%)
Knowledge of protocols	138 (65.7%)	54 (25.7%)	18 (8.6%)
Decision-making under pressure	116 (55.2%)	70 (33.3%)	24 (11.4%)
Overall readiness score	132 (62.9%)	58 (27.6%)	20 (9.5%)

More than half of the officers reported high psychological readiness across the main domains, with 62.9% scoring high overall. The highest-rated component was knowledge of emergency protocols (65.7%), suggesting strong procedural understanding. Low readiness levels were limited (9.5–11.4%), indicating generally strong mental preparedness.

Table 4: Stress Management Levels (N = 210)

Stress Management Item	Good (n/%)	Moderate (n/%)	Poor (n/%)

Ability to remain calm	98 (46.7%)	76 (36.2%)	36 (17.1%)
Use of coping strategies	84 (40.0%)	82 (39.0%)	44 (21.0%)
Recognition of stress symptoms	102 (48.6%)	70 (33.3%)	38 (18.1%)
Overall stress management score	92 (43.8%)	84 (40.0%)	34 (16.2%)

Stress management abilities were moderate to good among most officers. While 43.8% achieved good overall scores, 40% fell within the moderate range, and 16.2% showed poor stress management. Nearly one in five participants demonstrated poor coping or calmness during emergencies, suggesting a subgroup at higher psychological risk.

Table 5: Correlation Between Psychological Readiness and Stress Management Scores

Correlation Test	Value
Pearson correlation (r)	**0.48**
p-value	**0.001**

A statistically significant positive correlation ($r = 0.48$, $p = 0.001$) was found between psychological readiness and stress management scores. This indicates that officers with greater readiness tended to have better coping abilities, suggesting an important interrelationship between preparedness and stress resilience.

Discussion

The present study examined psychological readiness and stress management among health security officers during medical emergencies. The results provide important insights into the mental preparedness and coping abilities of this critical workforce. Overall, the findings indicate relatively high psychological readiness but only moderate levels of stress management, suggesting that while officers feel mentally prepared, their ability to manage acute stressors remains variable. These outcomes extend previous research addressing stress and resilience among emergency responders, further highlighting the need for structured support systems in healthcare organizations.

The demographic characteristics of the sample revealed that most officers were between 30 and 39 years old and had between two and five years of experience. This aligns with observations that mid-career frontline workers often constitute the backbone of emergency response teams (Khazaei et al., 2024). Their professional maturity may explain the generally high readiness scores, as exposure over several years likely contributes to more confident decision-making during crises.

A substantial proportion of officers had received formal emergency training (77.1%) and had attended multiple emergency drills. This finding supports prior studies demonstrating that structured training enhances preparedness and reduces psychological vulnerability during emergencies (Madhusudan et al., 2024). Training may improve protocol familiarity and reinforce confidence, which could explain why readiness scores were strongest in areas involving knowledge of procedures.

The high percentage of officers who had previously participated in real emergencies (65.7%) likely also contributed to their elevated readiness levels. Firsthand experience with crisis conditions often enhances an individual's understanding of operational demands, consistent with research indicating that lived experience plays a key role in shaping psychological readiness among emergency responders (Qiu et al., 2024). Exposure may promote adaptive problem-solving even when situations are rapidly evolving.

Despite these strengths, stress management levels were not as high as readiness levels. Only 43.8% of officers demonstrated good stress management, with nearly half falling into the moderate category. This imbalance between readiness and coping ability reflects a pattern observed among healthcare and emergency workers worldwide, where professional preparedness does not always translate into emotional resilience (Søvold et al., 2021). This may indicate that while officers understand what to do during emergencies, managing the psychological pressure associated with these tasks remains challenging.

The presence of poor stress management in 16.2% of officers is particularly concerning. These individuals may be more susceptible to emotional exhaustion or burnout during prolonged emergencies. Similar vulnerabilities have been documented among emergency medical service personnel, who often underutilize mental health support due to stigma or lack of institutional support (Johnston et al., 2025). Targeted interventions for this subgroup may be essential to reducing long-term psychological harm.

Shift type may also play a role in stress outcomes, as nearly 30% of the sample worked permanent night shifts. Prior work has shown that irregular or night schedules contribute to occupational stress and reduce personnel's psychological recovery capacity (Bardhan & Byrd, 2023). Officers working these shifts may have fewer opportunities for rest, social support, or access to daytime training programs, which may negatively influence their stress management abilities.

The significant positive correlation between psychological readiness and stress management ($r = 0.48$, $p = 0.001$) further supports the concept that preparedness and coping ability are interdependent. This relationship has been documented among emergency medical personnel in several countries, where resilience and readiness have been shown to mutually reinforce one another (Yun et al., 2025). Officers who feel prepared may be better positioned to stay calm, utilize effective coping mechanisms, and recognize early signs of stress.

Another interpretation of this correlation is that officers who manage stress well may more easily retain and apply emergency training concepts. This feedback loop between coping and readiness has been observed in military and paramedical settings, where strong mental health is associated with improved operational functioning (Ligeza et al., 2022). Strengthening stress management skills may therefore produce dual benefits in both wellness and performance.

The findings also suggest that exposure to traumatic situations, which is common among health security officers, may contribute to emotional fatigue. Literature indicates that repeated exposure to violence, distress, and human suffering significantly affects the mental health of frontline personnel (Ilczak et al., 2021). Officers in healthcare settings often face similar stressors, such as aggressive patients or chaotic emergency environments, which can accumulate over time and deteriorate emotional well-being.

Institutional preparedness appeared to influence both readiness and stress outcomes. Officers who perceived strong organizational support—such as clear policies, adequate resources, and leadership involvement—tended to score higher in both areas. This supports previous findings that organizational infrastructure is a key determinant of workers' psychological resilience (Alrowili et al., 2025). Ensuring adequate support may therefore be more impactful than individual-level interventions alone.

The study's findings emphasize the importance of integrating psychological support into emergency preparedness programs. While technical training is essential, it must be complemented with structured stress-management resources, including peer support, psychological first aid, and routine debriefings. These recommendations align with literature advocating holistic approaches to support emergency personnel's well-being (Søvold et al., 2021).

Enhancing resilience training may also help address the gap identified between readiness and stress management. Resilience-building interventions, such as mindfulness, controlled breathing, and cognitive reframing, have been shown to reduce anxiety and improve coping among emergency responders (Yun et al., 2025). Healthcare organizations should consider incorporating such programs into their routine training schedules.

Moreover, the study highlights the need for continuous emergency drills and ongoing exposure to realistic scenarios. As seen in previous research, repeated practice strengthens readiness and improves emotional stability under pressure (Madhusudan et al., 2024). Officers who engage regularly in high-fidelity training may develop stronger adaptive responses, improving both readiness and stress control.

Finally, the results underscore the necessity of addressing systemic factors such as shift scheduling, workload balance, and resource availability. Improvements in institutional policy not only enhance officers' performance but also contribute to reducing chronic stressors that hinder coping capacity. As documented in comparable emergency settings, organizational change can significantly reduce psychological strain and enhance overall workforce resilience (Bardhan & Byrd, 2023).

Conclusion

This study demonstrated that health security officers generally exhibit high psychological readiness but only moderate stress management abilities during medical emergencies. Training exposure and prior experience contributed positively to readiness, while stress management varied considerably across individuals, highlighting specific vulnerabilities within the workforce. The significant correlation between readiness and coping ability reinforces the importance of integrated psychological and operational training. Strengthening institutional support, resilience programs, and stress-reduction strategies may enhance both preparedness and well-being, ultimately improving the overall effectiveness of emergency response operations.

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