The correlations between personality characteristics, mission contents, social support and risks of post-traumatic stress disorder among emergency medical technicians: a cross-sectional study for rescuers who responded to the 2016 Taiwan Earthquake

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Abstract

Background

Few studies have explored the risk factors of post-traumatic stress disorder (PTSD) among disaster rescuers. We aim to investigate the emergency medical technicians (EMTs) who responded to the 2016 Taiwan earthquake. We explore the associations between the potential risk factors and PTSD to guide medical directors in objectively developing policies governing psychological health and occupational safety.

Methods and Materials

One month after the earthquake, a questionnaire survey was conducted among EMTs. The standardized, self-completed questionnaires included demographic information, field experiences, suicidal ideation screening, the 12-item Chinese health questionnaire (CHQ-12), the subjective social support (SSS) scale, and the PTSD symptoms checklist. A Pearson's correlation analysis was performed to determine the associations between PTSD and the three categories of post-traumatic symptoms (i.e., re-experience, avoidance, and hyperarousal). A stepwise regression analysis was performed to examine the most likely risk factors. Statistical significance was set at the 0.05 level.

Results

The response rate was 86.1% (447/519). The anxiety ($r=0.232$, $p<0.005$) and perfectionism ($r=0.184$, $p<0.005$) personality characteristics were significantly correlated with PTSD. The field experience of managing emotionally distressed families was significantly correlated with PTSD ($r=0.100$, $p=0.034$) and the hyperarousal category ($r=0.094$, $p=0.045$). The number of previous deployments ($r=-0.102$, $p=0.031$) and the level of SSS ($r=-0.117$, $p=0.013$) were significantly inversely correlated with PTSD. The suicidal ideation screening and CHQ-12 scores were significantly correlated with PTSD (All $p<0.005$) and nearly all categories of post-traumatic symptoms. Among the significant risk factors, the CHQ-12 scores, feelings of guilt and self-blame, introvert personality characteristics, and thoughts of self-harm were strongly associated with the PTSD risk.

Conclusions

Certain questionnaires could be used as screening tools to identify PTSD among EMTs who respond to disasters.

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