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Emergency Medical Services Preparedness in Dual Disasters: War in the Era of COVID-19 in Armenia
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Abstract

Introduction: Emergency Medical Services (EMS) is a critical part of Disaster Medicine and has the ability to limit morbidity and mortality in a disaster event with sufficient training and experience. Emergency systems in Armenia are in an early stage of development and there is no Emergency Medicine residency training in the country. As a result, EMS physicians are trained in a variety of specialties. Armenia is also a country prone to disasters, and recently, the Armenian EMS system was challenged by two concurrent disasters when the 2020 Nagorno-Karabakh War broke out in the midst of the SARS-CoV-2/coronavirus disease 2019 (COVID-19) pandemic. **Study Objective:** This study aims to assess the current state of disaster preparedness of the Armenian EMS system and the effects of the simultaneous pandemic and war on EMS providers. **Methods:** This was a cross-sectional study conducted by anonymous survey distributed to physicians still working in the Yerevan EMS system who provided care to war casualties and COVID-19 patients. **Results:** Survey response rate was 70.6%. Most participants had been a physician (52.1%) or EMS physician (66.7%) for three or less years. The majority were still in residency (64.6%). Experience in battlefield medicine was limited prior to the war, with the majority reporting no experience in treating mass casualties (52.1%), wounds from explosives (52.1%), or performing surgical procedures (52.1%), and many reporting minimal to no experience in treating gunshot wounds (62.5%), severe burns (64.6%), and severe orthopedic injuries (64.6%). Participants had moderate experience in humanitarian medicine prior to war. Greater experience in battlefield medicine was found in participants with more than three years of experience as a physician (z-score-3.26; P value <.01) or as an EMS physician (z-score-2.76; P value <.01) as well as being at least 30 years old (z-score-2.11; P value =.03). Most participants felt they were personally in danger during the war at least sometimes (89.6%). **Conclusion:** Prior to the COVID-19 pandemic and simultaneous 2020 Nagorno-Karabakh War, EMS physicians in Armenia had limited training and experience in Disaster Medicine. This system, and the frontline physicians on whom it relies, was strained by the dual disaster, highlighting the need for Disaster Medicine training in all prehospital medical providers. ©

Author Keywords

Armenia; COVID-19; disaster medicine; Emergency Medical Services; Nagorno-Karabakh

Index Keywords

adult, Armenia, cross-sectional study, emergency health service, epidemiology, gunshot injury, human, mass disaster, pandemic; Adult, Armenia, COVID-19, Cross-Sectional Studies, Emergency Medical Services, Humans, Mass Casualty Incidents, Pandemics, SARS-CoV-2, Wounds, Gunshot

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