

Letter to the Editor

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Corresponding author:

Mirwais Ramozi;

Email: mramozi2019@gmail.com

Rising From the Rubble: Air Quality Concerns in Post-Earthquake Afghanistan

Hosain Barati¹, Yudai Kaneda² , Mirwais Ramozi¹ , Akihiko Ozaki³  and Yasuhiro Kotera⁴

¹Faculty of Medicine, Kateb University, Kabul, Afghanistan; ²School of Medicine, Hokkaido University, Sapporo, Japan; ³Department of Breast and Thyroid Surgery, Jyoban Hospital of Tokiwa Foundation, Iwaki, Japan and ⁴Faculty of Medicine and Health Sciences, University of Nottingham, Nottingham, UK

Abstract

This position paper highlights the dire impacts of environmental and household air pollution, which were responsible for 6.7 million deaths globally in 2019. These deaths occurred predominantly in low- and middle-income countries, with Afghanistan reporting the highest age-adjusted mortality rate. The situation worsens during large-scale disasters like earthquakes, which release more pollutants into the air, exacerbating health risks and leading to severe conditions such as pulmonary diseases. Because political factors may hinder foreign NGOs and similar organizations from providing direct support, the frequent occurrence of earthquakes in Afghanistan underscores the critical need for emergency response training for local residents. Consequently, it is essential to provide ERT training, including the proper use of protective equipment, to local populations as well as disseminating risk communication through online technologies and other appropriate means.

The combined effects of environmental air pollution and household air pollution led to 6.7 million deaths in 2019.¹ Approximately 90% of these deaths occur in low- and middle-income countries, with Afghanistan having the highest age-adjusted mortality rate reported in 2016.¹ Contributing factors include smoke from burning wood and plastics, as well as leaded emissions from vehicles in congested roads.² Furthermore, the issue is exacerbated in rural areas, similar to the capital, where many people use solid fuels for cooking and heating.²

The issue of air pollution can exacerbate health risks for residents and responders during large-scale disasters such as earthquakes, as earthquakes can release particulate pollutants and chemicals into the atmosphere and worsen indoor air quality issues.³ These conditions can lead to serious health harms, including infectious diseases, inhalation injuries, interstitial diseases, and chronic pulmonary effects such as cancer.³ In the western province of Herat, Afghanistan, it was reported that in October 2023, earthquakes with magnitudes of around 5 to 6 occurred consecutively three times, resulting in more than 2000 fatalities and over 9000 injuries. Approximately 2000 homes were reported to have collapsed in these earthquakes, raising concerns over significant health impacts due to air pollution from asbestos and other pollutants.

Particularly in Afghanistan, the current political factors make it challenging for foreign NGOs and other organizations to assist during disasters directly. Taking into account the frequent occurrences of earthquakes (such as in January and June of 2022, and March of 2023), it is considered essential for the general population to engage in prior training in mutual assistance among residents through emergency response training (ERT).⁴ Without standardized practice and education in ERT, survivors in disaster-affected areas might participate in support activities without adequate knowledge about health and protection. This lack of preparedness could lead to potential long-term respiratory damage, such as pulmonary fibrosis and malignant mesothelioma, due to exposure to pollutants dispersed during disasters, similar to the aftermath of the 2011 Great East Japan Earthquake.⁵

In conclusion, in Afghanistan, where air pollution poses a severe threat, raising awareness about the proper use of respiratory protective equipment before disasters occur is essential for protecting all individuals, including victims and responders, from respiratory diseases. Even if unable to enter the country, international support organizations are required to effectively disseminate risk communication to the local population using online technologies and other appropriate means.

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