RBFHSS
Revista Brasileira de Farmácia Hospitalar e Serviços de Saúde

Editorial

Climate change demands preparedness of pharmaceutical services for disasters

Mudanças climáticas exigem a preparação da assistência farmacêutica para desastres

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DOI: 10.30968/rbfhss.2024.153.1184

In May 2024, a disaster caused by intense and persistent rainfall affected approximately 2.4 million people, displacing over 420,000 individuals across 478 municipalities in the Brazilian state of Rio Grande do Sul[1]. According to the Intergovernmental Panel on Climate Change (IPCC), extreme events such as heatwaves, intense precipitation, droughts and tropical cyclones are happening and will continue to occur with increasing frequency across all regions of the globe[2]. These events are leading to a rise in disasters.

Disasters are adverse events that disrupt social dynamics and result in significant human, economic, and material losses[3]. They cause short-, medium-, and long-term health impacts. In this context, pharmaceutical services, as a component of the health sector, must must play a role in addressing demands generated by the use of medicines[4].

There are two main fronts for pharmaceutical services: the maintenance of treatments in progress and providing the necessary resources to address the direct consequences of the disaster[5]. The consequences of disasters are multifaceted and evolve over time, varying significantly depending on the specific nature of the event. During a flood, for instance, it is possible to notice injuries, trauma, cuts, electric shocks and drownings in the very first hours. In following days, infectious and parasitic diseases (diarrhea, cholera, hepatitis A, dengue, leptospirosis, and giardiasis), gastroenteritis, dermatitis and skin rashes may occur, due to exposure to contaminated water and food. As a consequence of overcrowding in shelters, other health problems arise, such as respiratory diseases[6]. In the short term, malnutrition and circulatory system diseases, such as hypertensive crises and strokes, may also arise[7].

There are numerous needs that emerge during a disaster, which are urgent and require timely decision-making. This can only be adequately achieved through "Preparedness". Preparedness consists of a set of measures that must be taken before a disaster in order to reduce its impact and mitigate damage[3]. Therefore, how should health services prepare? How can pharmacists contribute?

The initial step in developing a disaster preparedness plan is to identify the most likely threats to a particular area. Understanding these threats allows for a comprehensive analysis of the pharmaceutical needs that may arise[4]. Knowing the demographic profile as well as the medicines consumption profile of victims is essential for forecasting that enables timely provision with assured quality, whether through procurement, transfer, or donation. For this, it is crucial to know the pattern of medicines use and how the disaster influenses it. In this regard, dispensing data from healthcare services can provide valuable insights about medicines use patterns and inform preparedness efforts, ensuring the continuity of treatments.

In the response phase, a situational analysis must initially be conducted, i.e., identifying individuals who were continuously using medications before the disaster[4,5,8]. A common practice observed in these situations is the donation of medicines by the population, which should be discouraged. In Brazil, it is usual for a disaster to affect only part of the country. This allows for the mobilization of unaffected areas in solidarity actions, which usually include medicines donations. In this scenario, however, it is common to receive medicines of compromised quality or unnecessary that ultimately generate disposal costs[10, 11]. Knowing the needs beforehand directs the receipt of donations and avoids further complications[10].

Another important aspect concerns mental health, which is commonly affected as a consequence of a disaster[11]. Apart from acute stress at the onset, post-traumatic stress, anxiety, panic, depression, and abuse of alcohol, other drugs and medicines are also observed, affecting even health professionals. In this situation, psychoactive medicines are also of special interest for pharmaceutical services.

An exacerbated consumption of psychotropic medications is observed in the aftermath of a disaster as a way to alleviate the impact on mental health[8], mainly to treat symptoms of acute stress. It is at this moment that the large-scale use of benzodiazepines occurs. However, evidence on the safety of these medications in acute stress is scarce. Furthermore, long-term use as a treatment for Post-Traumatic Stress Disorder is discouraged by specific guidelines[12].

It is also important to consider that, immediately after a disaster, affected individuals often find themselves in critical conditions, sometimes homeless or displaced, which puts them at risk of further events. In the case of floods, there is a risk of accidents with venomous animals or trauma caused by debris accumulated due to rain, or depending on the region, the risk of landslides. In this sense, the depressant effect of benzodiazepine medications can increase the vulnerability of those affected. Besides benzodiazepines, the prolonged use of antidepressants without other support mechanisms can lead to dependence and not improve anxiety and trauma conditions.

As in previous disasters, there is a large contingent of people living in temporary shelters in Rio Grande do Sul who need all kinds of supplies, including continuous-use medications. However, it is necessary to undertake a careful analysis before setting up pharmacies in temporary shelters. Considering that prescribing, dispensing and using medications are involved, adequate care for the homeless and displaced should come from a team of health professionals capable of supporting rational use. When it comes to managing medications, including potential donations, extra care must be taken when handling those subject to special control, which requires a set of storage criteria and demands the presence of pharmacists to manage them safely[13].

The pharmacist's role in pharmaceutical services goes beyond providing medicines and encompasses health prevention and promotion[14]. Pharmacists play a pivotal role in disaster healthcare, providing essential guidance on medication use, monitoring treatment outcomes, and serving as reliable sources of health information. This is especially critical in a world facing frequent extreme events.

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