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Are Healthcare Staff Ready for the Dengue Fever Epidemic Challenge?

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ABSTRACT

The rising incidence of dengue fever poses a significant threat, with symptoms ranging from mild to severe, potentially requiring hospitalization. The economic burden associated with the disease has stressed healthcare systems in several countries. Furthermore, the COVID-19 pandemic has already strained healthcare workers, causing mental health issues and burnout. To effectively address the dengue fever epidemic, governments must invest in strengthening healthcare infrastructure, increase healthcare workers' knowledge and salaries, and implement resilience-building interventions. Vaccination and preventive measures are crucial in reducing the disease burden and alleviating the pressure on healthcare systems, ensuring better preparedness and support for healthcare staff.

In recent months, the prevalence of dengue fever has increased alarmingly. Dengue fever, also known as "break-bone fever", is a viral infection that spreads from mosquitoes to people. Although most affected individuals, with symptoms such as headache, body ache, high fever, nausea, and rash, recover within two weeks, some require hospitalization. Since there is no specific treatment for dengue fever, patients are typically prescribed pain medication. Even after recovery, those who have had dengue may continue to suffer from symptoms and may need ongoing medical services. Increased cases and deaths between 2000 and 2019 are a huge cause of concern (WHO, 2024). Dengue fever has been known as an emerging concern in Iran since 2008 (Mardani et al., 2013).

The high economic burden of dengue fever has already affected health systems negatively. For instance, the Brazilian Health System spent almost 170 million US dollars on dengue fever treatment between 2000-2015 (Godói et al., 2018). Similarly, increasing medical and non-medical costs of dengue fever for health systems and patients in Colombia have been reported between 2010-2012 (Rodriguez et al., 2015). Moreover, studies have revealed gaps in the knowledge, attitude, and practice of healthcare staff regarding dengue fever (Nikookar et al., 2023). In a study, it was revealed that healthcare staff's higher income has a significant association with better knowledge and practice (Azil et al., 2018). Fragile health systems against dengue fever outbreaks can put healthcare staff at risk of physical and mental stress (Rehan et al., 2022).

The COVID-19 pandemic has disrupted health systems worldwide (Haileamlak, 2021). Health systems were not ready for a pandemic in terms of infrastructure, resources, and workforce. This disruption significantly stressed health systems at various levels, including economic, managerial, social, intrapersonal, and interpersonal domains (Myers & Liu, 2022). Post-traumatic stress, anxiety, and depression are among the chronic consequences that have negatively affected healthcare staff (Annaloro et al., 2021). Evidence shows that older and female healthcare workers have reported higher rates of burnout, stress, anxiety, depression,

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and insomnia following the COVID-19 pandemic (Santamaría et al., 2021). Research shows that one in five physicians and two in five nurses intend to leave their practice, and one-third of healthcare staff studied intend to reduce their working hours (Sinsky et al., 2021). High work pressure (Ardebili et al., 2021) and difficult working conditions for healthcare staff (Bakhshi et al., 2018) have already been reported, and the dengue fever epidemic could exacerbate these issues. Healthcare staff have not fully recovered from the COVID-19 pandemic impact, so health systems should learn from the past and empower healthcare staff to face the dengue fever outbreak.

Governments and health systems should prioritize preparing healthcare staff for the dengue fever epidemic. Continuous and sustained investments in health systems, and allocating the resources to facilitate work situations for healthcare staff are important in facing the dengue fever epidemic. In the first step, vaccinating people against dengue fever can be regarded as a prevention strategy that could reduce the burden of the disease by lowering the number of cases, thereby potentially reducing future pressure on healthcare staff. Preventing shortages in staffing, supplies, and space can help healthcare staff work more effectively and efficiently. Additionally, enhancing the knowledge, attitudes, and practices of healthcare staff regarding dengue fever can assist them in managing cases with less stress. Increasing the salaries, and remunerations, and addressing any financial arrears for healthcare staff can also help them cope better with the demands of their work.

Given the lingering effects of the COVID-19 outbreak, it is essential to help healthcare staff recover from mental and physical strains to face new challenges like the dengue fever pandemic. Systematic implementation of positive interventions at individual, group, leadership, and organizational levels should be followed (Salanova & Ortega-Maldonado, 2019). These interventions can increase the resilience of healthcare staff -the ability to withstand and recover from difficulties- and protect them against burnout and mental illnesses. Resilience has a negative impact on depersonalization and emotional exhaustion, and a positive impact on personal accomplishment domain of burnout (Ferreira & Gomes, 2021). Providing a suitable work-life balance with proper work schedules, increasing employees' problem-solving abilities, setting realistic goals, and providing a safe and appropriate work environment can boost resilience. Increased well-being can protect healthcare staff against mental illness and job burnout (O'Higgins et al., 2022). Protective factors such as social support and a sense of purpose in life, can buffer against the negative effects of excessive stress. Enhancing job security can also motivate healthcare staff and prepare them to face upcoming challenges.

References

Annaloro, C., Arrigoni, C., Ghizzardi, G., Dellafiore, F., Magon, A., Maga, G., . . . & Caruso, R. (2021). Burnout and post-traumatic stress disorder in frontline nurses during the COVID-19 pandemic: a systematic literature review and meta-analysis of studies published in 2020. *Acta Bio-Medica De L'ateneo Parmense, 92*, 1-25.

Ardebili, M. E., Naserbakht, M., Bernstein, C., Alazmani-Noodeh, F., Hakimi, H., & Ranjbar, H. (2021). Healthcare providers' experience of working during the COVID-19 pandemic: A qualitative study. *American Journal of Infection Control*, *49*(5), 547-554.

Azil, A. H., Ahmad, N., Rosam, A. N. R., Ru, W. M., Norizan, N. A., Shahabudin, F. L., . . . & Sharip, S. (2018). Knowledge and practice regarding dengue fever and acceptance towards Wolbachia among Universiti Kebangsaan Malaysia Medical Centre healthcare staff. *Malaysian Journal of Public Health Medicine, 1*, 69-76.

Bakhshi, E., Moradi, A., Naderi, M., & Kalantari, R. (2018). Associations of the quality of work life and depression, anxiety, and stress in the employees of healthcare systems. *Journal of Patient Safety and Quality Improvement*, *6*(1), 662-667.

Ferreira, P., & Gomes, S. (2021). The role of resilience in reducing burnout: A study with healthcare workers during the COVID-19 pandemic. *Social Sciences*, *10*(9), 317.

Godói, I. P., Da Silva, L. V. D., Sarker, A. R., Megiddo, I., Morton, A., Godman, B., . . . & Guerra-Junior, A. A. (2018). Economic and epidemiological impact of dengue illness over 16 years from a public health system perspective in Brazil to inform future health policies including the adoption of a dengue vaccine. *Expert Review of Vaccines, 17*(12), 1123-1133.

Haileamlak, A. (2021). The impact of COVID-19 on health and health systems. *Ethiopian Journal of Health Sciences*, *31*(6), 1073.

Mardani, M., Abbasi, F., Aghahasani, M., & Ghavam, B. (2013). First Iranian imported case of dengue. *International Journal of Preventive Medicine*, *4*(9), 1075.

Myers, L. C., & Liu, V. X. (2022). The COVID-19 pandemic strikes again and again and again. *JAMA Network Open*, *5*(3), e221760.

Nikookar, S. H., Moosazadeh, M., Fazeli-Dinan, M., Zaim, M., Sedaghat, M. M., & Enayati, A. (2023). Knowledge, attitude, and practice of healthcare workers regarding dengue fever in Mazandaran Province, northern Iran. *Frontiers in Public Health*, *11*, 1129056.

O'Higgins, M., Rojas, L. A., Echeverria, I., Roselló-Jiménez, L., Benito, A., & Haro, G. (2022). Burnout, psychopathology, and purpose in life in healthcare workers during COVID-19 pandemic. *Frontiers in Public Health, 10*, 926328.

Rehan, S. T., Asghar, M. S., Ullah, I., Mahmood, H., Lee, K. Y., & Tahir, M. J. (2022). Dengue outbreak and fragile healthcare system: Doctors at the verge of mental and physical stress. *Brain and Behavior*, *12*(11).

Rodriguez, R. C., Galera-Gelvez, K., Yescas, J. G. L., & Rueda-Gallardo, J. A. (2015). Costs of dengue to the health system and individuals in Colombia from 2010 to 2012. *The American Journal of Tropical Medicine and Hygiene*, *92*(4), 709.

Salanova, M., & Ortega-Maldonado, A. (2019). Psychological capital development in organizations: An integrative review of evidence-based intervention programs. *Positive Psychological Intervention Design Protocols for Multi-Cultural Contexts*, 81-102.

Santamaría, M. D., Ozamiz-Etxebarria, N., Rodríguez, I. R., Albondiga-Mayor, J. J., & Gorrochategi, M. P. (2021). Psychological impact of COVID-19 on a sample of Spanish health professionals. *Revista de Psiquiatría y Salud Mental*, *14*(2), 106-112.

Sinsky, C. A., Brown, R. L., Stillman, M. J., & Linzer, M. (2021). COVID-related stress and work intentions in a sample of US health care workers. *Mayo Clinic Proceedings: Innovations, Quality and Outcomes*, *5*(6), 1165-1173.

WHO. (2024). *Dengue and severe dengue*. https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue#:~:text=Dengue%20(break%2Dbone%20fever),aches%2C%20nausea%2C%20and%20rash