

Perspective

Asian Pacific Journal of Tropical Medicine

apjtm.org

doi: 10.4103/apjtm.apjtm_544_24

Strengthening Pakistan's healthcare and economic resilience against potential mpox outbreaks

Muhammad Idrees[1], Muhammad Momin Khan[2], Muhammad Talha[3], Ramez M. Odat[4], Hritvik Jain[5], Rachana Mehta[6, 7, 8]✉, Aroop Mohanty[9], Ranjit Sah[10, 11, 12]

[1]*Department of Internal Medicine, Lahore General Hospital Lahore Punjab, Pakistan*

[2]*Department of Internal Medicine, Liaquat University Hospital, Hyderabad, Pakistan*

[3]*Department of Internal Medicine, Nishtar Medical University Multan Punjab, Pakistan*

[4]*Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan*

[5]*Department of Internal Medicine, All India Institute of Medical Sciences (AIIMS), Jodhpur, India*

[6]*Dr. Lal PathLabs Nepal, Chandol, Kathmandu, Nepal*

[7]*Department of Medical Laboratories Techniques, Al-Mustaqbal University, 51001 Hillah, Babil, Iraq*

[8]*Clinical Microbiology, RDC, Manav Rachna International Institute of Research and Studies, Faridabad, Haryana 121004, India*

[9]*Department of Microbiology, AIIMS Gorakhpur, Uttar Pradesh, India*

[10]*SR Sanjeevani Hospital, Kalyanpur, Siraha 56517, Nepal*

[11]*Department of Microbiology, Dr. D. Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth, Pune 411018, Maharashtra, India*

[12]*Department of Public Health Dentistry, Dr. D.Y. Patil Dental College and Hospital, Dr. D.Y. Patil Vidyapeeth, Pune 411018, Maharashtra, India*

In context with a recent announcement by the World Health Organization (WHO) holding an emergency towards an infectious illness indistinguishable from smallpox, monkeypox (mpox) carried a high case fatality (12%)[1,2]. The variable distribution of cases during 2022-2023 in non-endemic regions *i.e.*, Europe (20 000), China (1 098), US (475), India (75), Japan (31), Pakistan (11) may cause an overwhelming demise with an additional burden on the economy[3]. At the moment, when Pakistan is struggling to track the collapsing economy, the recent three cases of mpox without advanced preparedness for fighting against it may further impose a questionable threat of its potential outbreaks[4]. The outbreak of COVID-19 pandemic caused substantial economic losses worldwide[5]. Mpox, with a 3% to 30% transmission rate, could severely impact developing countries like Pakistan, where high costs of diagnostic tests, medications, and vaccine shortages pose significant challenges[6].

In 2022, Pakistan faced severe dengue and malaria outbreaks, exacerbated by historic floods. These crises exposed significant gaps in Pakistan's public health infrastructure. An mpox outbreak would severely strain Pakistan's already overwhelmed healthcare system. With resources stretched thin by existing dengue and malaria crises, the additional demands of diagnosing and treating mpox would further burden facilities, lead to shortages of supplies, and increase pressure on healthcare workers. At present, healthcare expenditure in Pakistan constitutes just 2.95% of gross domestic product. This figure is considerably below the WHO's recommended threshold of 5% of gross domestic product for low-income countries[7,8].

A significant decline in health funding by Pakistan at the government level might be the possible reason for our persistent failure to strengthen the health sector, especially for preventable diseases. Considering the current global situation of mpox epidemics challenges might be raised in our country which must be mitigated by empowering the preventive attitude and assigning funds both at national and international level. Accumulating economic constraints in our country constricted the positive growth of the

✉To whom correspondence may be addressed. E-mail: mehtarachana89@gmail.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

©2024 *Asian Pacific Journal of Tropical Medicine* Produced by Wolters Kluwer-Medknow.

How to cite this article: Idrees M, Khan MM, Talha M, Odat RM, Jain H, Mehta R, et al. Strengthening Pakistan's healthcare and economic resilience against potential mpox outbreaks. Asian Pac J Trop Med 2024; 17(12): 525-526.

Article history: Received 30 August 2024 Revision 21 November 2024
Accepted 13 December 2024 Available online 30 December 2024

healthcare system, as evidenced by a critical shortage of healthcare professionals, with just 1 doctor per 1300 people, and an even more acute shortage of nurses and paramedical staff[9]. These gaps undermine the delivery of quality healthcare services, particularly in the more vulnerable rural areas. Therefore, an outbreak of mpox in the region may lead to a total collapse of the grossly underfunded and overburdened health sector. Just like the COVID era, indirect sufferings of potential mpox *i.e.*, quarantine lockdowns in our country may restrict the trade growth in retail, transport, communications, and finance.

Robust prevention, health education, development of functional surveillance and monitoring system, demanding high national budgets for mpox immunization, and strengthening emergency response at the doorstep at the community level could be the possible solutions towards expected mpox deleterious economic effects on Pakistan's economy. Pakistan must provide an economic backbone by allocating a high national budget to strengthen preventive measures *via* health education and surveillance systems. Furthermore, allocating a substantial budget for vaccine development, distribution, and delivery can mitigate direct and indirect economic crises. Well-implemented vaccination programs can save billions in healthcare costs and prevent economic downturns associated with large-scale outbreaks[10].

Involving international health agencies experiencing mpox resilience in our team may comprehend a strategic plan for devising an emergency response for communities battling against mpox outbreaks. The international community, accompanied by a stable economy, must facilitate Pakistan in terms of funding for diagnostics, monitoring, intensive care unit developments, vaccine delivery at doorsteps, and training healthcare professionals to deal with this contagious bug. Additionally, the WHO must launch a program for mpox prevention in Pakistan by collaborating with local health initiatives. In other words, the country can significantly reduce the economic burden of widespread outbreaks by holding such strategies.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

Funding

The authors received no extramural funding for the study.

Authors' contributions

MI, MK and MT wrote the original draft, RO conceptualized, HJ and RM revised the original draft, and AM and RS supervised the manuscript.

References

[1] Ahmed SK, Mohamed MG, Dabou EA, Abuijlan I, Chandran D, El-Shall NA, et al. Monkeypox (mpox) in immunosuppressed patients. *F1000Res* 2023; **12**: 127.

[2] Bhardwaj P, Sarkar S, Mishra R. Mpox and related poxviruses: A literature review of evolution, pathophysiology, and clinical manifestations. *Asian Pac J Trop Biomed* 2024; **14**(8): 319-330.

[3] Fareed A, Hussain A, Faraz F, Siblini R. First case of MPox in Pakistan: What can we learn from it? *Health Sci Rep* 2024; **7**(1): e1786.

[4] Siddiqui JA, Aamar H, Rija A, Essar MY. Preparedness of Pakistan in view of monkeypox emergence: A call for action. *Int J Surg* 2023; **109**(1): 34-35.

[5] Michael GC, Suleiman AK, Grema BA, Umar ZA. Perceived impact of COVID-19 lockdown on access to healthcare services, food affordability and family income among married patients of a resource-limited primary care setting. *One Health Bull* 2024; **4**: 3. https://www. doi. org/10.4103/ohbl. ohbl_32_23.

[6] Saad Zaidi SM. COVID-19: Exacerbating Pakistan's economic problems-a critical analysis using the dependency paradigm. *Asian J Comp Polit* 2023; **8**(4): 811-824.

[7] Rafique I, Saqib MAN, Munir MA, Qureshi H, Siddiqui S, Habibullah S, et al. Economic burden of dengue in four major cities of Pakistan during 2011. *J Pak Med Assoc* 2015; **65**(3): 256-259.

[8] Sahu MC, Samantaray RK, Pal A, Pati S. Recent advances on pathogenesis, diagnosis, prevention, immunological aspects, and vectors of dengue: A review. *Asian Pac J Trop Biomed* 2023; **13**(8): 325-338.

[9] Muhammad Q, Eiman H, Fazal F, Ibrahim M, Gondal MF. Healthcare in Pakistan: Navigating challenges and building a brighter future. *Cureus* 2023; **15**(6): e40218

[10] Rodrigues CM, Plotkin SA. Impact of vaccines; health, economic and social perspectives. *Front Microbiol* 2020; **11**: 1526.

Publisher's note

The Publisher of the *Journal* remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Edited by Zhang Q, Lei Y, Pan Y