



Short Communication

Dengue fever again in Pakistan: are we going in the right direction?

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The global pandemic of dengue fever characteristically demonstrates an increasing frequency each year especially in tropical areas of the world. The mosquito-borne viral disease is a constant threat crippling the healthcare system of susceptible regions to a substantial degree.¹ The transmission of serotypes of dengue virus (DENV); DENV-I, II, III, & IV is mediated by female mosquitoes mainly belonging to the species of *Aedes aegypti* and to a lesser extent by, *Aedes albopictus*. The disease is characterized by febrile episodes having a full-blown disease onset of 3–14 days after the infected mosquito bite.² The route of distribution does not involve direct interpersonal transmission with more than 20% of cases remaining asymptomatic. The disease vector spawns on the surface of clean moribund water, open water buckets, and water tanks, left over water in plant saucers, in coolers, dark shadowy areas such as under the bed, behind curtains, and in door hinges. The dengue fever–transmitting mosquito characteristically bites around dusk and dawn.²

Since 1950, dengue fever has been a global issue with approximately 400 million cases reported each year and constitutes one of the leading causes of morbidity and mortality in the tropics and sub-tropics. Despite numerous attempts at

government and private levels, the disease continues to plague the healthcare system of Pakistan. During 2012–2016, 41,311 cases alone were reported in Pakistan. Dengue cases demonstrate a rising incidence during humid and rainy days with the frequency decreasing as the harsh winter and summer seasons hit.³ Overall pattern of dengue throughout the year is shown in Fig. 2.

Out of these, almost 37% of the cases were reported alone from Khyber Pakhtunkhwa, 28% from Punjab, 27% from Sindh, and 8% from Baluchistan⁴ as shown in Fig. 1. In Pakistan, the incidence rate of dengue for the years 2013, 2014 and 2015 have been 0.4 per 1000,000, 0.1 per 1000,000, and 0.5 per 1000,000, respectively. An increase has been observed in the frequency of dengue cases in Khyber Pakhtunkhwa over the past few years. There is no documented record of the dengue cases in the province of Gilgit Baltistan. In Pakistan, the National Institute of Health is the sole representative for the collection of epidemiological data⁴ but unfortunately, Gilgit Baltistan is a newly established province and is mostly a neglected area. Thus, when this issue was discussed with a representative of the National Institute of Health, they stated that preliminary steps are being taken to initiate the collection and sorting of dengue epidemiological data.

No appropriate treatment or cure of dengue infection exists, with acetaminophen and supportive management being the only options available for symptomatic treatment. Non-steroidal anti-inflammatory drugs (NSAIDs) like aspirin generally should not be used because of the increased risk of complications related to bleeding episodes and Reye's syndrome in children. In cases of severe thrombocytopenia, platelet transfusion provides rapid remission.

The current dengue fever outbreak is severe in two major metropolitan cities, Rawalpindi of Punjab province and

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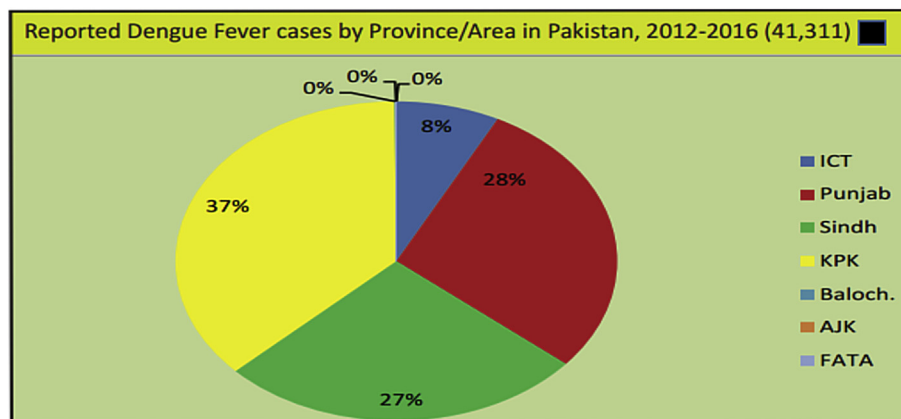


Fig. 1 – Dengue Fever cases reported across the provinces in Pakistan.³ICT, Islamabad Capital Territory; KPK, Khyber Pakhtunkhwa; Baloch., Balochistan; AJK, Azad Jammu and Kashmir; FATA, Federally Administered Tribal Areas.

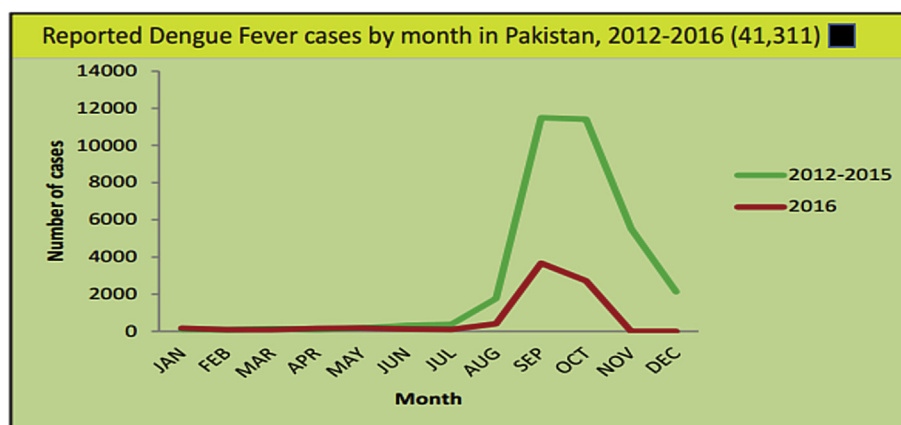


Fig. 2 – The monthly trend of dengue fever in Pakistan.⁴

Karachi of Sindh province, and is responsible for imposing a considerable burden on the healthcare economy of our region. Across the province of Sindh in 2016, about 2000 dengue fever cases were reported, out of which 1650 were reported from Karachi alone, while dengue has been responsible so far for claiming four lives in the province. The Sindh health department had initiated and established on the temporary basis a 'dengue surveillance cell' in 2005. This cell was located at the civil hospital in Karachi. It was later upgraded and renamed to the Sindh Prevention and control program for dengue. The Government of Sindh initiated and approved the PC-1 of the program in March 2016 for consecutive three years from 2016 to 2018. The management of this program has been entrusted the task of controlling the spread of dengue in the region. However, the Sindh Health Department is still reluctant to recruit more staff to run program affairs due to capital shortage, despite a lapse of several months.⁵ A serious dengue outbreak broke out in Punjab in 2015 with more than 4000 confirmed cases in Rawalpindi alone and is considered the worst ever outbreak. This has set a new record of highest number of cases in a single year and are much more than the

cases observed in the last 9 years. In 2016, till 2nd November on a daily basis, the allied hospitals of Rawalpindi were receiving 15 to 20 confirmed cases despite a remarkable fall of temperature with the total number of 2601 confirmed patients. The disease has already claimed seven lives at these three hospitals, namely, Holy Family Hospital, Benazir Bhutto Hospital, and District Headquarter Hospitals.⁶ It is worth mentioning that the allied hospitals of Rawalpindi have been credited with the successful screening of nearly 43,000 patients at their dengue outpatient department in the last three months while over 5900 patients were admitted to the hospitals for treatment, putting a tremendous burden on the healthcare system in the district.⁷ This outbreak situation is not demonstrating an improvement despite all governmental efforts each year.

The Punjab government implemented seemingly stringent regulations entitled 'The Punjab prevention and control of dengue regulations 2011'. Moreover, the government had also drafted standard operating procedures and regulations in 2014 with a view to 'reducing burden of dengue from province', which declares dengue a social issue rather than a disease.

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