

**Conclusion:** Although there are some difficulties in applying this approach to clinical samples such as specimen quality, these observations are indicative of the promising utility of the metagenomic sequencing approach for the identification of respiratory viruses in patients with respiratory tract infections.

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### Epidemiological surveillance of Chikungunya cases – Findings from a tertiary care hospital in New Delhi

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**Background:** Chikungunya epidemic is a major public health problem in metro cities in India especially during rainy season. There was an epidemic of chikungunya in the year 2016 in New Delhi. Therefore, this present study was planned to understand epidemiological and clinical profile of Chikungunya cases attending fever clinic in a tertiary care teaching hospital in Delhi.

**Methods & Materials:** A total of 200 patients with fever of up to 7 days duration who reported at fever clinic of a tertiary care hospital in New Delhi were studied over a period of 6 months. A total of 47,874 fever cases were reported in fever clinic in same duration. Serum specimens were screened for chikungunya infection by serology (IgM). Chikungunya infection was detected in 16.5% patients by anti-CHIKV IgM antibodies by ELISA. A preformed semi-structured, interviewer administered questionnaire was used for the purpose of data collection.

**Results:** Among these 200 suspected cases of chikungunya, fever (96.0%), joint pain (81.0%), myalgia (77.5%) and lower backache (57.5%) were the major clinical features. Major joints involved were knee joint (45.5%), wrist (32.5%), hand (phalanges) (34.5%) and ankle joints (31.0%). Myalgia, rashes, joint pain and joint swelling was frequently observed among chikungunya confirmed cases ( $p < 0.05$ ). All group of ages, both gender and all class of socio-economic scale were equally susceptible to chikungunya infection.

**Conclusion:** Chikungunya virus had a wide spectrum of clinical features and all age groups, gender and socioeconomic status people were equally susceptible to Chikungunya infection. All acute febrile illness patients with joint pain should be screened in the laboratory for both Chikungunya IgM antibodies. Predictability of chikungunya is more in presence of joint pain and swelling, myalgia and rashes. This study emphasizes the need for a continuous surveillance on the disease burden.

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### Challenges of implementing tenofovir disoproxil fumarate in pregnancy for prevention of hepatitis B mother to child transmission in a rural population

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**Background:** Hepatitis B is highly endemic in south-east Asia with the most common route of transmission being from mother to child. In rural settings, current preventive strategies with hepatitis B immunoglobulins and vaccinations fail due to costs, need for cold chain, homebirths, and transportation difficulties. A new strategy for prevention of mother to child transmission (PMTCT) could be early (<20 weeks gestation) daily tenofovir disoproxil fumarate (TDF), a potent antiviral agent that is safe in pregnancy. Assessment of barriers to early TDF for PMTCT-Hep B is important before possible implementation.

**Methods & Materials:** Narrative and visual review of start-up challenges encountered during implementation of a study of TDF for PMTCT before 20 weeks gestation in rural areas on the Thailand-Myanmar border. ClinicalTrials.gov Identifier: NCT02995005.

**Results:** Major challenges of implementation from June 2018 to September 2019 included: gestation of pregnancy at presentation, point-of-care (POC)-testing reliability, tablet storage and handling. Overall, 156 women tested positive for HBsAg by Rapid Diagnostic Test (RDT) POC-testing but late presentation ( $\geq 20$  weeks) was common: 53% (83/156). In women <20 weeks gestation with positive-HBsAg, consent for study screening was 89.0% (65/73). Exclusion after RDT-testing was 21.5% (14/65): three had a negative HBsAg at confirmation, nine had an undetectable viral load, two had elevated phosphate levels. Daily ambient temperatures were high: only 3/365 days (0.8%) were within manufacturer recommended TDF storage temperatures (20–25 °C), and for 187 days of the year the temperature was 30 °C. Drug accountability was high but one in 10 of the women reported incidents of tablet misplacement: “pills dropped though the [bamboo] floor and fell in the mud”, “children played with the bottle”. Financial support of transportation resulted in follow-up rates of 84.3% (43/51) attending all of the expected appointments. The missed appointments were highest in rainy season when the rivers become impassable, 62.5% (5/8).

**Conclusion:** Improved public awareness of the benefits of early antenatal care, better RDT-tests, and confirmation of TDF bioavailability at higher ambient temperatures, are important in the rural tropics for prevention of mother to child transmission for hepatitis B programs.

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