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**The EpiCore Project: Using innovative surveillance methods to verify outbreaks of emerging infectious diseases**

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**Background:** Over the past two decades, initial disease outbreak reports were increasingly based on nontraditional sources such as news media, online search queries, social media and participatory systems. Strategically tapping into these resources can help speed up detection, reporting and responses to new outbreaks of emerging infectious diseases allowing earlier interventions.

The EpiCore Project – a joint venture between the Skoll Global Threats Fund, HealthMap, ProMED-mail, and TEPHINET – seeks to maximize the advantage of these nontraditional sources by creating a system for field-based verification of reports from these sources. This system creates a cadre of trained health professionals from around the world and leverages their expertise to verify reports they receive in their geographic proximity through innovative surveillance approaches.

**Methods & Materials:** The EpiCore project developed a specialized expert-led training that aims to highlight current disease surveillance challenges, demonstrate innovative surveillance methods, explain their role in complementing traditional surveillance, introduce different online sources for outbreak surveillance, and allow the participants to assess challenges in current innovative surveillance approaches before introducing the unique online platform specifically developed by the EpiCore project to connect health professionals to verify outbreak reports.

The EpiCore Project provided the training in two formats, online – for accepted applicants to the project, and in-person, which was conducted at 6 TEPHINET Conferences, including the Global Conference and the regional conferences in Asia, Africa, the Middle East, and Latin America over the past two years.

**Results:** 174 people attended a series of TEPHINET regional workshops and provided feedback through surveys, interviews, and focus groups. This feedback helped mold a specialized online training that was necessary to reach global audiences, and further understand the mechanism by which to recruit and engage participants worldwide. Since the launch in October of 2015, 80% accepted applicants successfully finished the online training and were granted privileges to access the EpiCore platform where they could start receiving and responding to requests for verification of disease outbreaks.

**Conclusion:** The EpiCore project's training and online platform are developing a cadre of trained health professionals to verify reports of potential outbreaks from nontraditional sources, complementing traditional surveillance, and contributing to finding outbreaks faster.

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**Effect of non-steroidal anti-inflammatory drugs (NSAIDs) on bleeding and liver in dengue infection**

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**Background:** Many treatment guidelines for Dengue prohibit using Non-Steroidal Anti-inflammatory Drugs (NSAIDs). However, these are still used either prescribed by general practitioners or taken 'over the counter' by general public, for symptomatic relief.

Side effects of NSAIDs include hepatitis and increased bleeding. But, there is no study evidence on how NSAIDs affects bleeding and liver in Dengue infection.

**Methods & Materials:** A prospective Case Control Study was conducted to determine the actual effect of NSAIDs on bleeding and liver in Dengue. All patients admitted to Dengue Management Unit at the Infectious Diseases Hospital, Colombo for four months from 1<sup>st</sup> of July 2014 were included in the study. Dengue infection was confirmed by NS1 antigen or Dengue specific IgM antibodies. A history of NSAID treatment prior to hospital admission was looked for. These patients were followed up to see the development of bleeding and/or hepatitis.

**Results:** There were 919 patients with confirmed Dengue infection with 499 males and 420 females. Age ranged from 12 to 86 years. (mean 31 years.) 57.2% (n = 526) had DF; 42.8% (n = 393) had DHF.

6.6% (n = 65) were definitely treated with NSAIDs prior to admission, while 57% (n = 577) have not used NSAIDs definitely; the rest (35.6%) were not certain. Out of DF patients 28% developed bleeding in the non-NSAIDs group while 36.7% had bleeding in the NSAIDs group (<0.05). Among the DHF patients 34% had bleeding in non-NSAIDs group while 51% had bleeding in the NSAIDs group (p < 0.05).

25.0% of the NSAIDs users and 14.8% of non-NSAIDs users had ALT above 300 µ/L (p < 0.05). 3.1% NSAIDs users and no non-NSAIDs users had ALT greater than 1000 µ/L.

37.5% of NSAID group and 23.8% of non-NSAIDs group had AST greater than 300 µ/L. (p < 0.05). 6.2% of NSAIDs group and no non-NSAIDs group had AST greater than 1000 µ/L.

**Conclusion:** There is significant increase in bleeding and in liver enzyme derangement in Dengue patients treated with NSAIDs