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Perspective

Threat of Dengue Outbreak in Nepal in Context of COVID-19 Pandemic

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The world has been chained with Corona Virus Disease (COVID-19) pandemic today. It has affected more than 200 countries in just about a few months since December 2019.[1] The virus has engulfed the world at a momentum never seen before. Considering the chances of disease being spread through asymptomatic transmission, social distancing has become a norm.[2] This has brought a huge shift in how we live, work or interact with each other. It is feared that after the pandemic is over, the world would suffer a period of economic loss, as huge as the greatest depression of the 1930s or even more.[3] With the world making medieval inventions and science doing wonders, we seem helpless to fight this pandemic. It has also drawn us to a realization that pandemic response cannot be extemporaneous.

It is evident that different countries are going through this pandemic in different timelines. Till May 15, 2020, a total of 43,07,287 cases of COVID-19 have been reported along with 2,95,101 casualties.[1] The official figures for Nepal on the same date confirmed 258 confirmed cases with no mortality.[1] World health organization(WHO) had predicted that COVID- 19 might not die out and it could increase throughout the year.[4]

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Nepal has been facing an outbreak of Dengue since 2010. During the last five years, yearly outbreak of dengue has been reported.[5] The largest was in 2019 where more than 14,000 cases were detected including six deaths.[5] The number of people affected in 2019 was nearly ten times more than in 2018 and the possible reasons for such a huge number of cases could be : i) New area affected by dengue involving 68 districts in the year 2019 in comparison to 45 districts in 2018 ii) Outbreak started early from May while previously the outbreak started from July along with monsoon and peaked at August-September post monsoon.[6] The first case was seen in Sunsari district on 13 May, and iii) Large number of cases were reported from Metropolitan cities with dense population including the capital city Kathmandu which alone confirmed 1583 cases.[7] From the public health perspective, last year's outbreak was also important because the newly affected areas happened to be hills and mountainous region of the country. These geographical locations reported minimal cases of vector borne diseases in the past. The probable reasons for the increase in size and area were increase in vectors and suitable environment for breeding.[8] The case fatality rate may rise this year than the previous year due to subsequent infection by other serotypes resulting in severe dengue in the population who were infected previously. Thus, this year, focus is required on prevention of severe outbreaks of Dengue in addition to the ongoing COVID-19 pandemic.

One of the many challenges faced are similar in clinical presentation and laboratory test results of dengue and COVID-19. Fever, headache, malaise, lymphocytopenia are common presentation in both the diseases which might create confusion resulting in improper care for the dengue cases due to the fear of the COVID-19. Secondly, COVID-19 could cross react with dengue serological tests as seen in Singapore giving false positive dengue test.[9] The treating clinician might be more conscious and would use personal protective equipment due to fear

of being infected of COVID-19.[9] This might be perceived as a sign of neglect in part of the patient. Thirdly, since the dengue endemic area and high cases of COVID-19 seem to overlap, the health care delivery system will be overwhelmed if any outbreak in dengue is reported in the current scenario. Finally, due to mitigation efforts like lockdown and the focus on containment of the COVID-19 prevention, the dengue outbreak might get overshadowed and large outbreak remains a possibility.

A strategic action plan from Government of Nepal (GoN) is required at the earliest to alleviate the expected morbidity and mortality of both diseases. Dengue prevention activities targeting the endemic areas and also those areas which reported high cases last year is a need of time in addition to ongoing effort for COVID-19 management. GoN should implement: i) Early case detection, diagnosis and management of dengue, ii) Dengue disease surveillance, iii) Mosquito vector surveillance in municipalities, iv) Integrated vector control approach directed towards containment and source reduction, and v) Community mobilization in vector control. [10]

Philosopher George Santayana said, "*Those who cannot remember the past are condemned to repeat it*." So, let us all focus on the current pandemic without neglecting the possible epidemics that could captivate us and work towards its control measures. Remember prevention not panic.

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