EDITORIAL

Leptospirosis: an Emerging Concern in Rural Areas in Bangladesh

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Leptospirosis is certainly an emerging health concern in rural areas of Bangladesh due to factors such as poor sanitation, frequent flooding and high levels of livestock and agricultural activity. The rural population is particularly vulnerable due to their reliance on water sources that are often exposed to contamination from animal urine, especially during monsoon and post-flood periods. Severe leptospirosis starts with fever, body ache, abdominal pain, eye congestion (if untreated), pancreatitis, acute hepatitis, meningitis and acute renal failure. Most commonly affected are fishermen, shrimp cultivation handler and live-stock handler.

Leptospirosis is an acute febrile illness caused by spirochetes of the genus Leptospira. This widespread zoonotic disease is increasingly being recognized in urban settings within developing countries [1, 2, 3]. Human infection results when water or soil contaminated with the urine of an infected animal comes in contact with human skin or mucous membranes [4]. The bacteria can survive in contaminated water or soil for weeks to months. Many different kinds of wild and domestic animals carry the bacteria, including: Livestock (cows, pigs, horses, sheep, goats, etc.), dogs, cats, rodents (rats, mice, etc.). In low-income urban neighborhoods, rats are important carrier mammals and excrete the organism in urine [5-7]. Conditions of poor sanitation, flash flooding, and overcrowding may facilitate transmission of the disease [8, 9]. The year-round persistence of wet conditions in low-lying areas and stagnation of standing water during the dry season may contribute to leptospirosis.

The alarming problem is that the affected person is not aware of the disease as it is propagated by water contamination by cattle urine. Lack of rapid test kit availability, pet contamination prevention, lacking in rodent control and lack of water clogging prevention contributes to silent spread of the disease. As no reliable, rapid, and readily-available diagnostic test exists, many cases go unrecognized [4, 9]. Serum polymerase chain reaction or blood culture can provide a definitive diagnosis [10], but are not widely available. Tests for the presence of genus-specific IgM, which develops within the first week of infection and persists for months [11], may be used for screening, and a microscopic agglutination test (MAT) can provide greater specificity along with some indication of the infecting serovar [12]. In Bangladesh, data on the epidemiology of leptospirosis are limited. One report documents leptospirosis in hospitalized patients during a dengue outbreak in 2000, when 18% of dengue-negative febrile patients at two Dhaka hospitals were positive for leptospirosis by PCR [13]. In a 1994 serosurvey in rural Bangladesh, a high prevalence of low-level MAT reactivity was identified among jaundiced febrile patients and among healthy controls [13].

Measures to be taken for leptospirosis prevention include avoidance of contact with water contaminated with cattle urine, wear

protective gears such as water proof boots, gloves and clothing while handling livestock, maintenance of good personal hygiene by washing hands & feet with soap and clean water after exposure to contaminated water and mud, improvement of drainage system infrastructure to reduce water clogging, control of rodent population by insecticides and other measures, proper disposal and management of animal waste to minimize contamination, raising awareness in communities about the risks of leptospirosis and preventive measures through campaigns, seminars, posters and leaflets, providing protective gears to people who are at risk, implementation of flood management plans for early warning and minimizing flood related health risk, assurance of availability of rapid test kits, necessary antibiotics and skilled personnel in endemic areas.

From July to November leptospirosis remains a major cause of fever with morbidities in Satkhira though it is less highlighted than malaria and dengue. Hence there is a necessity of government guidelines and screening kit availability. Also, social awareness and community education about safe handling of livestock and pets should arise. And, last but not the least, minimizing water pollution is very much important for leptospirosis prevention.

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