

Tetanus - Still a Major Health Problem

Over the decades the burden of tetanus has shifted to most disadvantaged, poorer population who has limited access to standard healthcare. In global context, 88% reduction of death from tetanus was observed over past three decades. Today majority of the cases are confined to Sub-Saharan Africa and South-east Asia region. These two regions account for 82% of all tetanus cases globally. Similarly, 77% of all deaths from tetanus occur in South Asia and Sub-Saharan Africa. However, even though South Asia still sees more cases of tetanus than any other region, in just three decades the incidence rate in the region has fallen 14-fold, from close to half a million cases in 1990 to 33,000 in 2017.¹ According to WHO, Bangladesh reported total 226 cases of confirmed tetanus including 84 cases of neonatal tetanus.^{2,3} Under reporting of tetanus cases has been a challenge in curbing the disease burden.

Tetanus is a vaccine preventable disease caused by the toxin from *Clostridium tetani*. It's an obligatory anaerobe that gives positive gram stain in fresh culture. *C. tetani* produces two toxins- tetanospasmin and tetanolysin. The former is encoded in plasmids of all available strain of the bacilli and is responsible for the manifestation of the disease. The toxin interrupts both the somatic and autonomic nervous system. As the spores of the organism is resistant to changing environment and there are wide varieties of reservoir in the environment, eradication of the disease is not possible. Active immunization of children, mother and women of reproductive age is the only key to eliminating tetanus.^{4,5} Classically the disease can be categorically divided into General, Local and Cephalic types. Considering the gravity and unique nature of the disease among the neonates, some experts opine to make the Neonatal (or umbilical) tetanus, a distinct class of the disease.^{4,6} Contaminated acute injury is the most commonly observed risk factor along with surgeries, burns, unsafe birth practices.⁷ Early diagnosis and prompt treatment is the cornerstone of the management of tetanus patient. Securing the airway and ventilation,

anti-toxins, wound care and other supportive measures play vital role in management.^{4,5,6}

The study of Tetanus in the Infectious Diseases Hospital, Dhaka, Bangladesh - gives us a glimpse of tetanus status in the country. 8.7% of the study population was neonate and death rate (53.84%) is also higher among this particular age group. Safe birth practices were sparse in 11 out of 13 neonatal cases. Majority of the patients were from rural area and least have been vaccinated. These data warrant the need to intensify tetanus elimination campaign in the country.

In 1989, WHO took a program to eliminate Neonatal tetanus and added maternal tetanus elimination in 1999.⁸ Bangladesh achieved the Maternal & Neonatal Tetanus elimination (MNTE) status in 2008.⁹ Sustaining the MNTE is the fresh challenge now. Constant vigilance, intense immunization and provision of standard healthcare can assure the reduction of death from tetanus.

(J Bangladesh Coll Phys Surg 2021; 39: 152-153)
DOI: <https://doi.org/10.3329/jbcps.v39i3.54156>

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