Abstract

Epidemiological Determinants for Mortality from Neonatal Tetanus in Punjab Province, Pakistan (2020)

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Abstract

Background: Neonatal tetanus (NNT) is a vaccine-preventable disease that occurs at higher incidence in resource-poor countries, presumably because of low maternal immunization rates and unhygienic cord care practices. NNT remains an important cause of infant mortality in rural areas of Punjab Province.

Objective: This study aims to evaluate and determine the risk factors for mortality in NNT cases and to make recommendations for future strategies.

Methods: A descriptive study was conducted from July 6 to 14, 2021, at Directorate General Health Office Lahore. The surveillance data set for the year 2020 and clinical notes were reviewed and analyzed. Demographic information, clinical presentation progression, and outcomes were evaluated for all investigated cases, and a comparison analysis was performed between those who survived and those who died.

Results: Of a total of 176 reported cases, 145 (82.3%) were notified from rural areas of Punjab. The mean age was 9 days, 65 (37%) infants were females, and 111 (63%) were males. The overall mortality was 77 (43.6%), while 31 (17.6%) maternal deliveries were conducted by untrained birth attendants. In addition, 119 (67.6%) women received zero tetanus toxoid (TT) shots in their life. Clinical notes revealed that the group that survived had a significantly greater mean body weight on admission, had later onset of disease, was hospitalized early, and received tetanus immunoglobulin (TIG). The children who could not survive had significantly common clinical features, such as generalized rigidity, fever, and respiratory arrest.

Conclusions: The increased mortality in rural and tribal areas is suggestive of poor TT immunization coverage. Low literacy, poor socioeconomic status of families, lack of awareness regarding antenatal care, and poor hygienic deliveries conducted by untrained persons remain the main risk factors. Improvement in TT coverage, deployment of trained community midwives, and awareness sessions regarding TT vaccination in hard-to-reach areas are recommended.

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KEYWORDS

epidemiological determinants; neonatal tetanus; Punjab; TT immunization

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