BORDETELLA PERTUSSIS INFECTION IN PAEDIATRIC HEALTHCARE WORKERS


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Background: Healthcare workers (HCW) are at increased risk for acquiring pertussis and may transmit the infection to high-risk patients and colleagues.

Objective: To assess the incidence of recent pertussis infection in HCW of pediatric care areas.

Methods: A cross-sectional study was conducted in a Paediatric Department of a tertiary-care referral center, from October to December of 2011, in which HCW (physicians, nurses and nursing assistant) were invited to participate provided they had not been vaccinated against pertussis in the previous twelve months. A self-completed questionnaire was used to record demographic characteristics and previous vaccination history. Serum Pertussis Toxin IgG antibodies were assessed by ELISA. Antibodies above 62.5IU/mL were considered suggestive of infection in the past year.

Results: 388 HCW were included in this survey: 51.8% physicians, 16.5% nurses and 31.7% nursing assistants. The overall incidence of B. pertussis infection was 6.4% (physicians, 7.5%; nurses, 6.3%; nursing assistants, 4.8%). Multivariate analysis demonstrated that medical residents (OR 4.15; 95% CI: 1.42-12.14; p= 0.009) and HCW from Emergency setting and Pediatric Intensive Care Unit (OR 2.49; 95% CI 0.90-6.89; p=0.08) had an increased risk of pertussis infection. Working more than 40 hours a week also increased risk of pertussis infection (OR 3.29; 95% CI 1.17-9.26; p=0.024). By contrast, male gender was associated with lower risk of infection (OR 0.13; 95% CI 0.02-1.01; p=0.051).

Conclusions: Incidence of recent pertussis infection was high among paediatric HCW. Among them, medical residents are at increased risk and should be considered a target group to receive vaccine.