Abstract
A Study of a Whooping Cough Epidemic Outbreak in Castellon, Spain

Background: Based on the report of several cases at one school, a study of an epidemic outbreak was started for the purpose of characterizing this outbreak from the person, place and time standpoint, calculating the effectiveness of the immunization and the concordance of the cases with the positive result of the serological study.

Methods: A «case» is defined as being that individual who has a cough lasting for two weeks. A study is made of the spread of the disease by means of the epidemic curve and the effectiveness of the pertussis vaccine. The concordance of the cases and the positive serology is evaluated by way of the Kappa index.

Results: From among the students at several schools and those with whom they were living at the time, a total of 130 individuals were surveyed, 94 of whom fit the «case» definition. The average age of the cases was 10.5 years of age, 42.6% being males and 84% school age children, 71.3% showing signs of recent infection (positive IgM), the average length of time since the last whooping cough immunization being 8.25 years. The effectiveness of the whooping cough booster is 66%. The concordance between the cases and the positive results of the serology reveals a Kappa = 0.45. No B. Pertussis was isolated in the 25 throat swab samples.

Conclusions: Classrooms and the family environment are a factor in spreading this disease. The including of a booster at 18 months improves the effectiveness of the whooping cough immunization. The isolation of B. Pertussis is not very frequent, and the serology may be an alternative when this disease is clinically suspected.

Keywords
Keywords: Whooping cough. Epidemic outbreak.

References
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