Title

Regional assessment of pertussis prevalence in adult's population in Greece.

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Background: Pertussis is a highly infectious disease caused by the Bordetella pertussis bacterium. Humans are the only known reservoir of the bacterium, thus the transmission of the disease occurs between people only, and unlike other childhood diseases, the immunity conferred by a first infection is not definitive, but declines over time. In Greece, the introduction of whole-cell pertussis vaccine obtained from B. pertussis suspensions (1961) led to a progressive reduction in the incidence of the disease.

Objective: The aim of the present seroprevalence study are to assessment the IgG antibodies levels of pertussis in the adult's Greek population by sex, age group in Attica Athens prefecture.

Methods: Stratified sampling plan based on regional units (NUTS level 3) was applied in order to produce a representative sample, taking into consideration age group (30-39, 40–49, 50–59, 60-69, 70-79 and 80 +) and sex. Data were analyzed using a multilevel-model approach. The serum samples were collected from a network of General practitioners (GP), including microbiological laboratories of public Hospitals and primary health care facilities in Attica Athens. We used the SERION ELISA classic Bordetella pertussis Toxin IgG qualitative and quantitative immunoassays for the detection of human antibodies in serum directed against Bordetella pertussis and Bordetella parapertussis for the laboratory confirmation of whooping cough with 99% Sensitivity and Specificity (Institute Virion\Serion GmbH Würzburg Germany).

Results: antibody levels to B. pertussis antigens were measured in serum samples obtained from 466 (208 males, 257 female) healthy subjects, aged 30–94 years. The GMT of pertussis antibodies were 17,77 UI/ml. Antibody levels ranged between 2.87 U/mL and 126.60 U/mL. Antibodies levels between 0-40 IU/mL for IgG-PT were recorded to the majority of participants 93%.

Conclusion: We record low protection Antibodies level against pertussis among participants in the present study.

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Acknowledgments: The authors would like to thanks the: Michael Dandoulakis, Diomideia Papadopoulou, Meropi Saloustrou, Anastasios Koukaliotis, Ioanna Gkini, Maria Gemeliari, Konstantina Tyblalexi, Kyriaki Zamagia, Anastasia Lemonidou, Clairi Korogianaki, Eleftheria Mpifsa, Ioanna Panagiotara, Botia Glykidou for their contribution.