Background Pertussis is an important cause of death in infants worldwide, and continues to be a public-health concern even in countries with high vaccination coverage. Estimates from WHO suggest that in 2012 about 200,868 reported cases of pertussis occurred worldwide, 90% of which were in developing countries, and about 89,000 children died from this disease.

Objectives: is to estimate the prevalence of pertussis based on lab diagnosis at the districts of Al-Muthana province, March-August, 2013.

Methods: The study was carried out in five districts in the province and 121 patients suspected involved where attending or admitted to three hospitals from March-August, 2013. A questionnaire was filled for each suspected cases. An ELISA test was done for each patient to confirm the diagnosis of pertussis.

Results: 121 suspected pertussis patients enrolled in this study at Al-Muthana province the highest percentage was in 1-4 years age group and the least was in above 5 years, only 27 (22.31 %) suspected pertussis patients were positive to ELISA IgG test where 21 confirmed cases were vaccinated (77.78%) and 61.90 % have three doses of DPT. The mean of age was (3.5) with standard deviation of (5.94 ) and the male to female ratio of confirmed cases was (0.68:1 ) and was 8 per 100000 for less than 14 years old population from March-August, 2013.

Conclusion: In the districts of almuthana a clear increase occurrence of suspected pertussis especially who are not protected yet by active immunization .ELISA test was used in the diagnosis for antibodies to B. pertussis antigens has the potential advantage of markedly improving diagnostic sensitivity, but it currently has several limitations of not availability for clinical use in Iraq. All efforts should be directed to increase or maintain high immunization coverage with DPT immunization at least 90% in all districts. Strengthened the
surveillance systems and diagnosis of B. Pertussis infection particularly in infants by PCR, together with serological assays. Further studies are needed to fine-tune the pertussis prevention strategy.