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Serological survey of H_5, H_7 and H_9 subtypes of Avian Influenza Viruses in human population related to poultry industry

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ABSTRACT

BACKGROUND AND OBJECTIVES
Influenza viruses are an acute respiratory, highly contagious and zoonotic disease which belong to the Orthomyxoviridae family. The H9 subtype is an avian pathogenic influenza virus that its outbreak frequently occurs in poultry farms of Iran. As well, H5 and H7 subtypes are a highly pathogenic avian influenza subtype which causes high mortality in poultry and wild birds. Some subtypes of influenza viruses can transmit to human from birds and the antigenic shift is common among these viruses.

MATERIALS AND METHODS
This study was to carried out to determined antibodies to H_5, H_7 and H_9 subtypes of avian influenza virus in different human population related to poultry industry in Ardabil area, northwest of Iran. In this survey, 105 blood samples were collected from poultry vaccinators and clinics, and workers of poultry farms and slaughter-house. Serum samples were examined by HI test for differentiate H_5, H_7 and H_9 subtypes and sera with titers ≥4 (log2) were considered positive**.**

RESULTS AND DISCUSSION: 17.2% with 21.14±10.59 titer from poultry vaccinators and clinics sera and 12.8% with 26.02±11.35 titer from workers of poultry farms and slaughter-house sera were positive for H_9N_2 influenza virus (HI titers ≥1/20). All tested sera were negative for H_5N_1, H_5N_2, H_7N_1 and H_7N_7 avian influenza viruses.

CONCLUSION: According to results of this study, different human population related to poultry industry were contacted with H_9N_2 avian influenza virus that it should be critical during outbreaks of avian influenza subtypes posing a major public threat.

Keywords: Avian influenza viruses, Human population, HI test