SEROPREVALENCE AND RISK FACTORS OF EQUINE INFLUENZA AMONG HORSES IN NORTH-WESTERN NIGERIA

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INTRODUCTION

Equine influenza (EI) is an infectious self-limiting disease of equids that continually poses a threat to global equine populations with annual morbidities and economic impacts. The disease is caused by influenza A virus, equine Influenza virus (EIV). We aimed to determine the seroprevalence of equine influenza and the risk factors associated with the infection among horses in north-western Nigeria.

METHODOLOGY

A cross-sectional study design with a gate-keeper and convenience sampling approach was used to obtain 830 equine blood samples from north-western Nigeria. Sera were harvested, inactivated and stored frozen before shipment to the UK. Single radial haemolysis (SRH) assay, involving sheep red blood cells sensitized with A/equine/Richmond/07 (H3N8) was used to screen all sera for antibodies. Descriptive statistics was used to summarise the data. The association between EI SRH values and categorical data was tested using chi square or Fishers' exact tests. Univariate and multivariate logistic regression analyses were used to assess risk factors associated with EIV seropositivity.

RESULTS

An overall seroprevalence of 71.3% (592/830) was obtained.

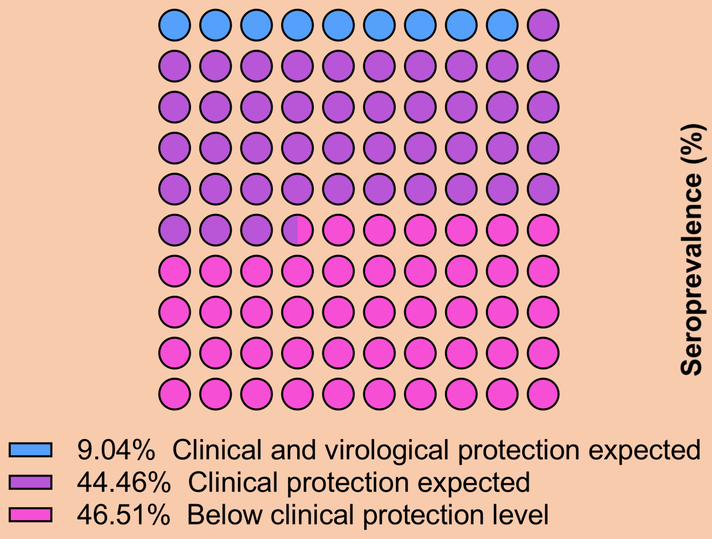


Fig 1: SRH values of EIV antibodies

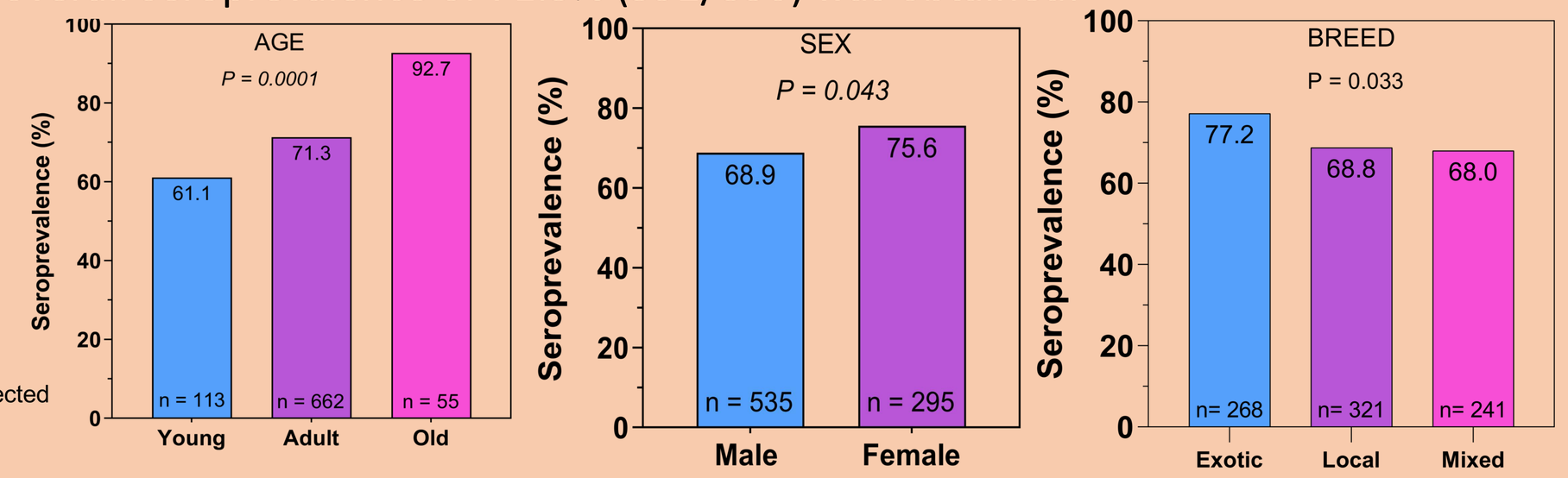


Fig 2: Association between seroprevalence of EI and age, sex and breed of sampled horses.

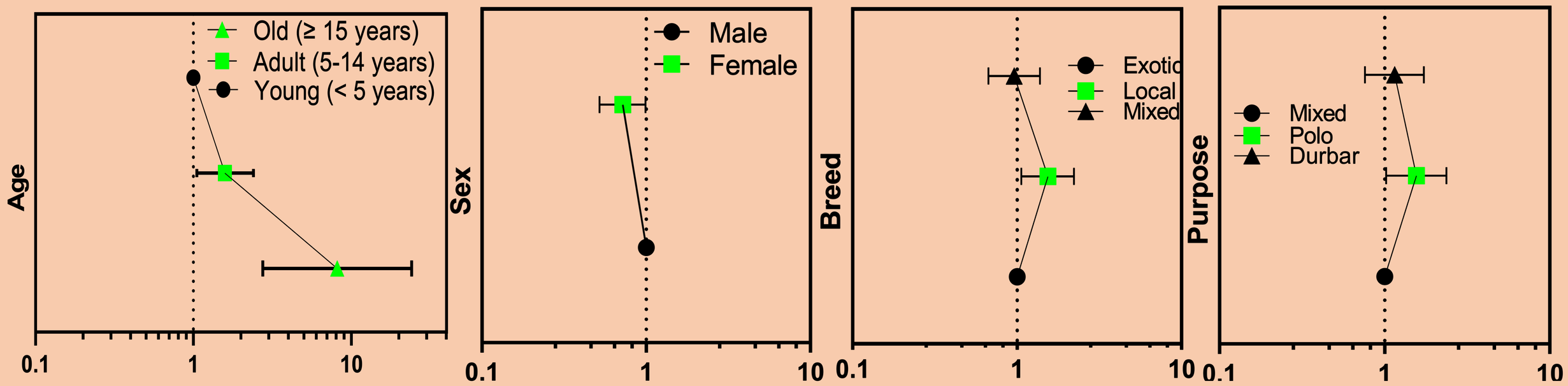
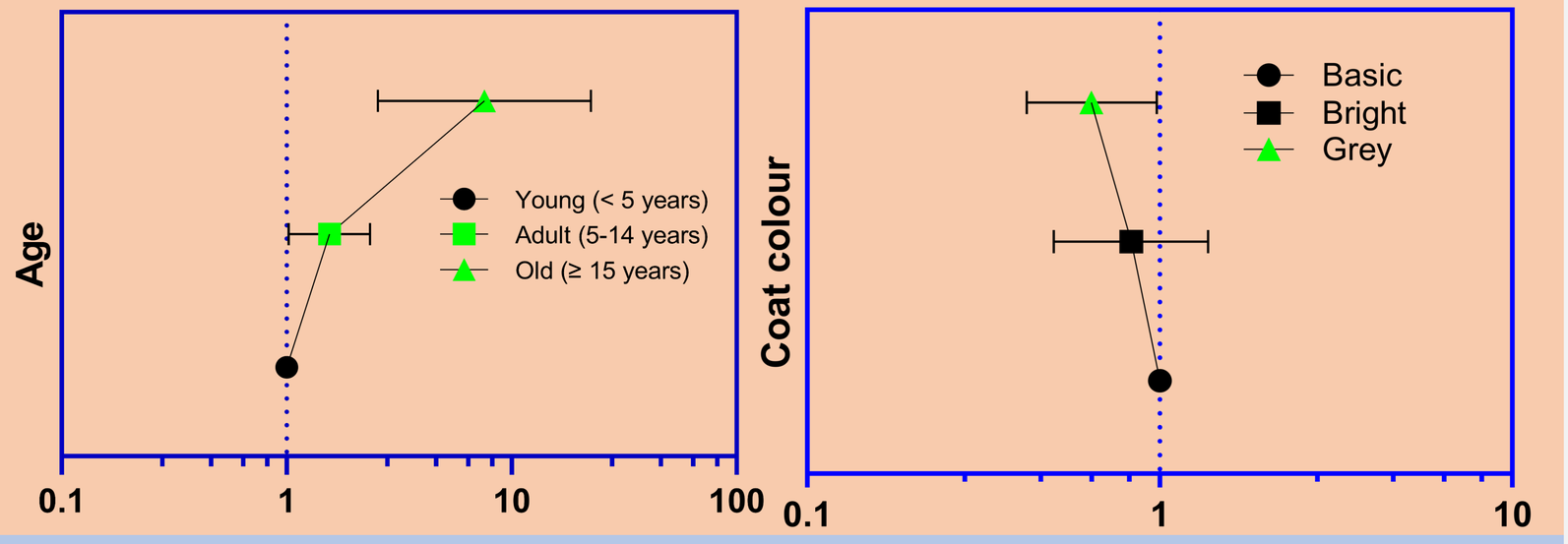


Fig 3: Univariate logistic regression analyses of variables associated with EI seropositivity with X-axis showing odds ratio.

Fig 5: Final multivariate regression model (blue graphs) with X-axis showing odds ratio.



CONCLUSION

Majority of horses showed a non-protective antibody level. Age and coat colour are risk factors associated with EI seropositivity in north-western Nigeria.