

# Hematological parameters to predict post-COVID-19 immune response, and the development of reaching herd immunity. A cross-sectional study

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## Abstract

**Background:** Here we conducted this study to find the changes in the hematological parameters of healthy individuals that can predict their immune status, also this study aims to find out whether herd immunity against COVID-19 is developing or not in the Pakistani population. **Methods:** A comparative cross-sectional study of 210 healthy individuals was conducted. All individuals were divided into three groups i.e IgG positive, IgG negative, and IgG and IgM both positive based on ELISA results. Data analysis was done by SPSS version 25 for windows. **Results:** A statistically significant effect was found among the three groups in terms of mean hemoglobin level, mean hematocrit, mean corpuscular hemoglobin concentration, mean red blood cells count, RDW-CV, mean lymphocyte, mean neutrophil, mean eosinophils, and mean basophil. The study also showed that 52.8% (n=74) had neither taken vaccination nor had any history of previous covid infection but still their antibodies were positive. **Conclusion:** There was a statistically significant difference among hematological parameters between immune and nonimmune groups and can predict the covid immune status also the study predicted that herd immunity against COVID-19 is developing in Pakistan.

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