

Finite Mixture Models applied to serological data from the UK Myalgic Encephalomyelitis/Chronic Fatigue Syndrome biobank

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Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) is a complex disease characterized by debilitating fatigue, lasting for at least 6 months. There is currently no validated diagnostic test available that can distinguish people with the disease from those without. As a response of the scientific community, an ME/CFS biobank of 406 individuals was recently created in the United Kingdom (UK). Antibody responses against different viruses were analyzed for four patient's groups: healthy controls, patients with multiple sclerosis, patients with moderate/mild ME/CFS, and severe ME/CFS patients.

The data refer to the amount of Immunoglobulin G (IgG) antibodies against 5 common viruses in the human population. A cut off point was determined to define the seronegative and seropositive population using the 3 standard deviation rule and a mixture modelling approach. A logistic regression analysis was carried out to characterize the seropositive population, namely the risk factors associated with seropositivity.

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