P02-40

SEARCHING FOR VARIABLES ASSOCIATED WITH FAMILIAL SUICIDE ATTEMPTS USING DATA MINING TECHNIQUES

D. Saiz-Gonzalez[1], E. Baca-García[2], M. Perez-Rodriguez[2], I. Basurte Villamor[3], J. Saiz-Ruiz[4], J.M. Leiva-del Rio[5], M. De Prado Cumplido[5], R. Santiago-Mozos[5], A. Artes Rodriguez[5], J. De Leon[6]

[1]Psychiatry, Clinico San Carlos Hospital, [2]Fundación Jiménez Díaz, [3]Psychiatry, Fundacion Jimenez Diaz, [4]Psychiatry, Hospital Ramón y Cajal, University of Alcalá de Henares, [5]Department of Signal Theory and Communications, Universidad Carlos III, Madrid, Spain, [6]Mental Health Research Center at Eastern State Hospital Lexington, Kentucky, USA

Introduction: Adoption, twin and family studies suggest that suicide behavior is familial and heritable. Both completed and attempted suicide appear to be transmitted in a familial form. Genetics and environment influences had been detected in various studies. But suicidal behavior suggests to be inherited independently from the mental disorders usually associated with it. While traditional statistics emphasizes inference and estimations, data mining emphasizes the fulfillment of a task such as classification, estimation, or knowledge discovery.

Objectives: The goal of this study was to determine in a large sample of suicide attempts which variables are associated with family history of attempted suicide.

Methods: In an emergency room, 539 adult suicide attempters were recruited. The two dichotomous dependent variables were family history of suicide attempt (10%) and of completed suicide (4%). Independent variables were 101 clinical variables explored with two data mining techniques: Random Forest and Forward Selection.

Results: A model for family history of completed suicide could not be developed. A classificatory model for family history of attempted suicide included the use of alcohol in the intent and family history of completed suicide, provide a sensitivity of 78.4%, a specificity of 98.7% and accuracy of 96.6%.

Conclusions: A classificatory model for family history of completed suicide could not be developed using data mining techniques. But it suggested that the use of alcohol in the intent and family history of completed suicide may be associated with familial attempted suicide.