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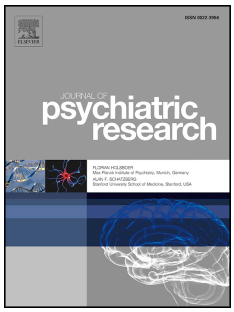


The impact of body mass index in gene expression of reelin pathway mediators in individuals with schizophrenia and mood disorders: A post-mortem study

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**ABSTRACT**

The objective of this study was to compare the expression of genes involved in the reelin pathway, in the post-mortem brain of individuals with schizophrenia (SZ) and mood disorders (MD) with a healthy control (HC) group; and to investigate the role f body mass index (BMI) as a potential mediator. The "Gene Expression in Postmortem dlPFC and Hippocampus from Schizophrenia and Mood Disorders" study holds microarray data on individuals with SZ, MD and HCs (from whom 849 specimens are from the dlPFC and 579 from the hippocampus). mRNA data was obtained using HumanHT-12 v4 BeadChip arrays (Illumina). Multivariate analysis of covariance were used to investigate the main effects of group and relevant covariates on RELNm, NOTCH1, GRIN1m, GRIN3A, CAMK2Gm, CAMK2A, CAMK2Bm, CAMK2N2, GRIN2Bm, GRIN2A, CREBBPm, APOE, LDLR and DAB1 gene expression. In the dlPFC, individuals with SZ had higher expression, relative to HCs, of APOE. Individuals with MD had higher expression, relative to HCs, of CAMK2A, CAMK2N2, and GRIN2Bm. Moreover, individuals with MD had higher expression, relative to SZ patients, of CAMK2N2. There were significant group by BMI effects for expression of RELN, CAMK2A, CAMK2N2, and GRIN2A. In the hippocampus, individuals with MD had lower expression, relative to HCs, of APOE. The results of this study suggest that the expression of genes related to the reelin pathway could be different between individuals with SZ and MD and healthy controls, with a greater vulnerability associated with greater BMI.