

## **Molecular Analysis of Obsessive-Compulsive Disorder**

Obsessive-Compulsive Disorder as a one of the most common disabling mental illnesses has the lifetime prevalence of 2-3% in the general population. The typical features of OCD are characterized with intrusive thoughts and compulsive behavior, which can significantly influence human quality of life and social communications. OCD comprise of different subtypes and commonly associated with other psychiatric conditions known as comorbidities, such as schizophrenia, bipolarity, major depressive, and anxiety disorders. The heterogeneous phenotype of OCD arises from the intricate interactions of multiple genes with small effect size and environmental factors. There are several therapeutic protocol related to OCD, however drug resistance feature of this disorder is a major problem yet now.

This project is started at 2013 and the main aim of project is molecular analysis of washing subtype of OCD via omics approaches. By now proteomic profile of the patients versus the healthy controls, the effects of drug (fluoxetine) on gene expression of the patients and proteome of the drug resistant patients are determined. Protein-protein interaction network analysis showed more details about biological pathways, effective genes and metabolites related to OCD. The findings of project are presented in the following articles:

- 1: Introducing Transthyretin as a differentially expressed protein in washing subtype of Obsessive-Compulsive Disorder (In press).**
- 2: Serum proteomic profile of Obsessive-Compulsive Disorder (OCD) washing subtype: a preliminary study (In press).**
- 3: Fluoxetine regulates Ig Kapa C region expression levels of serum level of Obsessive-Compulsive Disorder patients: a proteomic study (In press).**

Serum proteomes of patients with OCD-bipolar and OCD-major depressive disorders are provided and will be analyzed in the next step of project.

Shahid Beheshti University of Medical Sciences is the major sponsor of this project. Dr. Mostafa Rezaei-Tavirani, Dr. Majid Rezaei-Tavirani, Dr. Mostafa Hamdieh, Dr. Mohammad Mahboubi, Dr. Farshad Okhovatian, Dr. Mohammad Kamran-Derakhshan, Dr. Alireza Ahmadzadeh. Dr. Farid Zayeri, Dr Vahid Mansouri, Dr. Mohammad Rostamiinejad, Dr. Reza Vafae, Dr. Afsaneh Arefi-Oskoei, Dr. Mona Zamanian-Azodi, Dr. Akram Safaei, Noorolaeh Taheri and Naser Nejadi are the researchers that are involved in the project.