Schizophrenia is one of the most devastating psychiatric disorders that affects nearly 0.5-1% of the world population. The social and economic burden caused by this debilitating disorder on the families of the affected individuals as well as the countries has led to extensive research to investigate the cause and treatment of schizophrenia.

Schizophrenia is a complex genetic disorder where several genes are involved in the development of the disease, each contributing a little to the pathophysiology. This polygenic nature of the disorder made the research of the treatment strategies even more difficult. To add to the complication, the increasing evidence of the gene-environment interaction involved in the aetiology of schizophrenia revealed the significant influence of the environmental factors on the development of the disorder.

Recently a few important genetic factors have been unearthed using genome-wide association studies, of which, a single nucleotide polymorphism on the intron 4 of TCF4 gene is being considered as an important marker of schizophrenia. Though some current studies have revealed the role of TCF4, a basic helix-loop-helix transcription factor, in brain development and cognitive processing, it’s involvement in the pathophysiology of schizophrenia still needs to be investigated in details.

In our present project, we investigated the impact of the psychosocial stress on the cognitive and social behaviour of transgenic mice mildly over-expressing Tcf4. Social stress has been found to be one of the essential triggering factors for the psychiatric disorders, so the aim of the study was to incorporate the psychosocial stressor to monitor the behavioural feature of the Tcf4 transgenic mice.

It was found that the same aspects of the basic behaviour like anxiety and curiosity was altered in the transgenic mice subjected to psychosocial stress. The motivation to survive was significantly reduced in the transgenic mice showing the indications of depression. Though social behaviour was impaired under stressful situations, the Tcf4 transgenic mice didn’t show any specific asocial behaviour. The cognitive tests reconfirmed the role of TCF4 in the learning and memory, augmented by the application of mild chronic psychosocial stress.