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Hemaila Tariq

Muhammad Yusuf Hafiz

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Autism: A deep insightHemaila Shanzeh Tariq,¹ Muhammad Yusuf Hafiz²

Madam, Autism Spectrum Disorder is a set of neurodevelopmental disorders characterized by deficits in social communication (social-emotional reciprocity, nonverbal interaction and developing and maintaining relationships) and restricted and repetitive behavioural patterns or interests.¹ Autism is a multi-factorial, rather than single, disorder of complex etiology.

The p75 Neurotrophinreceptor, or p75NTR belongs to the family of tumour necrosis factor receptors that are important in neuronal cell apoptosis and regulation of cell development. This is essential for development and survival of neuronal cells, and its mutation leads to disruption in function of neurons. This protein has been shown to be associated with Alzheimer's and Huntington's as well.² Scientists in Rutgers University-Newark used genetically engineered mice in labs to discover that mice without the p75NTR protein had more brain cells than those with the protein, which had a negative impact on cerebellar function (balance, coordination and cognitive function).³

Autism is said to affect one in 160 children globally according to the WHO.⁴

Though statistics show that the prevalence of autism in Pakistan is 350,000 population-based data is not available.⁵ Over the past two decades the prevalence of autism has increased. Since the etiology of Autism remains

Correspondence: Muhammad Yusuf Hafiz. Email: m.yusufhafiz17@gmail.com

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unclear, hence studying the precise role of this gene would be instrumental in the treatment of this disorder.

Studies show that Autism has been refractory to many pharmacological treatments; a study done in 2015 on 135 people with ASD shows over half of them becoming refractory to first line drug treatment. Identifying the role of proteins like p75NTR would induce a paradigm shift in our approach towards ASD, leading to more efficacious management.

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