A neuropeptide for the treatment of ASD: A potential wonder for autism spectrum disorder treatment?

Maheen Mohsan[1], Raafey Imran[2], Ghulam Baha Ul Haq[3]

Dear Editor, Autism Spectrum Disorder (ASD) is defined as challenges in three primary areas of development: deficits in communication, impaired social interaction, and the tendency to engage in repetitive behaviours.[1] Functional social difficulties include challenges with social-emotional exchanges, using nonverbal cues, and forming or maintaining relationships.[2] Around the world, about 1 in every 100 children is diagnosed with ASD.[3] According to The Pakistan Autism Society, approximately 350,000 children are affected by ASD.[1]

Presently, there is no medication approved specifically for addressing social behavioural challenges in ASD patients. The current research-based approach for managing ASD in children focuses on behavioural therapy to target the core symptoms of the disorder, specifically by improving language skills, rational thinking, and functional communication in young children. These interventions include training social skills, independent toilet use, and behavioural strategies such as prompting, repetition, and simplifying tasks into smaller components, with positive reinforcement.[2] However, Pakistan faces a significant shortage of professionally trained therapists; particularly those specialized in ASD. The situation is worsened by a lack of awareness and resources. Many healthcare professionals, particularly in underdeveloped areas, are not well-versed in the disorder, leading to misdiagnosis or delayed interventions.[4]

A new avenue of research by Le et al indicates that single doses of oxytocin (OXT) nasal spray over the span of a few weeks, followed by a period of positive social interaction, is beneficial for social cognition, offering potential for resource-limited countries such as Pakistan co, which could benefit from a potential therapeutic agent for improving social functioning in ASD, such as OXT. OXT has been shown to increase visual attention to social cues, such as eye contact and facial expressions, which are often difficult for individuals with ASD. It has also shown improvements in motivation of the patient. The research showed significant improvements in Autism Diagnostic Observation Schedule and Social Responsiveness Scale scores with oxytocin compared to placebo. Furthermore, no significant adverse effects were reported adding to the therapeutic advantages of the drug.[5]

Widespread use of this intervention could help reduce the overall burden of the disease especially in rural areas of Pakistan where individuals diagnosed with ASD suffer from significant challenges, such as being required to travel significant distances to seek therapy which are not possible to do repeatedly over a lengthy span of time. This intervention allows for a convenient and well accessible therapeutic regimen for such patients. Pakistan is currently going through an economic crisis and healthcare budgets are suffering consequently. If introduced, OXT could potentially allow for better management within the confines of restricted funding, which may be allocated to other healthcare crises in Pakistan, namely in combatting the polio endemic.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

DOI: https://doi.org/10.47391/JPMA.31080

References

1. Khalid M, Raza H, Driessen TM, J Lee P, Tejwani L, Sami A, et al. Genetic Risk of Autism Spectrum Disorder in a Pakistani Population. Genes (Basel) 2020;11:1206. doi: 10.3390/genes11101206.
2. Aishworiya R, Valica T, Hagerman R, Restrepo B. An Update on Psychopharmacological Treatment of Autism Spectrum Disorder. Neurotherapeutics 2022;19:248-62. doi: 10.1007/s13311-022-01183-1.
3. Zeidan J, Fombonne E, Scorah J, Ibrahim A, Durkin MS, Saxena S, et al. Global prevalence of autism: A systematic review update. Autism Res 2022;15:778-90. doi: 10.1002/aur.2696.
4. Imran N, Chaudry MR, Azeem MW, Bhatti MR, Choudhary ZI, Cheema MA. A survey of Autism knowledge and attitudes among the healthcare professionals in Lahore, Pakistan. BMC Pediatr 2011;11:107. doi: 10.1186/1471-2431-11-107
5. Le J, Zhang L, Zhao W, Zhu S, Lan C, Kou J, et al. Infrequent Intranasal Oxytocin Followed by Positive Social Interaction Improves Symptoms in Autistic Children: A Pilot Randomized Clinical Trial. Psychother Psychosom 2022;91:335-47. doi: 10.1159/000524543.

[1,2]4th Year MBBS Student, Shifa College of Medicine, Shifa International Hospital, Islamabad, Pakistan; [3]3rd Year MBBS Student, Shifa College of Medicine, Shifa International Hospital, Islamabad, Pakistan.
Correspondence: Raafey Imran. e-mail: raafeyimran@gmail.com
ORCID ID: 0009-0004-2471-833X

Submission completed: 25-06-2025 **1st Revision received:** 07-07-2025
Acceptance: 23-09-2025 **2nd Revision received:** 22-09-2025

Author Contribution:
MM: Literature search and drafting.
RI: Made the structure, writing and literature search.
GBUH: Concept, review and grammar check.