



Longitudinal Multidisciplinary and Complementary Intervention in a Young Child with Autism Spectrum Disorder: A Three-Year Case Study of Communication, Behavioural, Adaptive and Cognitive Development

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Abstract

Background: Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterised by difficulties in social communication and restricted or repetitive behaviours. Early, individualised, and multidisciplinary intervention is important for improving developmental, communication, adaptive, and functional outcomes. Complementary approaches such as ear acupuncture and Electrohomeopathy have also been used, although evidence remains limited and variable.

Case Presentation: This case describes the three-year developmental trajectory of a male child who began intervention at 2 years and 6 months following identification of moderate autism-related difficulties on the Indian Scale for Assessment of Autism (ISAA) and moderate developmental delay on the Developmental Screening Test (DST). At baseline, he showed poor eye contact and social interaction, absent functional speech, limited communication of needs, inappropriate play, poor response to name, impaired eye-hand coordination, feeding difficulties, and dependence in daily activities. He subsequently received continuous occupational therapy, behaviour therapy, speech and communication therapy, parent counselling, and behavioural strategies, along with complementary Electrohomeopathy remedies and advanced ear acupuncture. Parents actively supported intervention at home.

Results: Over approximately three years, substantial functional improvements were reported in eye contact, social interaction, communication, self-care, adaptive functioning, classroom participation, and learning. The child progressed from absent functional speech to communicating needs and choices and demonstrated greater independence in daily activities. Teachers reportedly observed improved classroom participation, task completion, patience, and learning. At approximately five years of age, he was reported to recite multiplication tables up to 20, and a later psychological assessment reportedly yielded an IQ score of 101.

Conclusion: This case demonstrates notable developmental and functional changes following intensive, continuous, multidisciplinary and parent-supported intervention with complementary therapies. However, the concurrent use of multiple interventions and the single-case design prevent attribution of outcomes to any individual intervention. Controlled longitudinal studies are needed to evaluate the effectiveness and potential contribution of complementary interventions in ASD.

Keywords: Autism Spectrum Disorder, early intervention, multidisciplinary intervention, parent-mediated intervention, communication, developmental delay, adaptive functioning, acupuncture, Electrohomeopathy, case study.

1. Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterised by persistent difficulties in social communication and interaction, along with restricted or repetitive patterns of behaviour, interests, or activities. Its clinical presentation is heterogeneous, with children differing substantially in communication, cognition, adaptive functioning, sensory processing, social participation, and behaviour (American Psychiatric Association, 2013). The World Health Organisation (WHO) emphasises individualised, evidence-informed intervention and rehabilitation to support communication, functioning,

participation, and quality of life in autistic children (World Health Organisation, 2023).

Early intervention is particularly important during childhood because it can support the development of communication, adaptive, behavioural, learning, and functional skills. The aim is not to cure autism but to enhance independence, participation, communication, and quality of life. Developmental, behavioural, social-communication, caregiver-mediated, and rehabilitation approaches are therefore important components of autism support (World Health Organisation, 2023). Evidence from early intensive intervention research suggests potential developmental

benefits, although differences in intervention methods and methodological limitations should be considered (Warren *et al.*, 2011).

Parent participation is an important component of autism intervention because parents can reinforce skills within everyday routines and environments. Systematic reviews and meta-analyses have reported improvements in communication, social interaction, adaptive functioning, play, and behaviour following parent-mediated or parent-implemented interventions, although outcomes vary across children and intervention approaches (Althoff *et al.*, 2019; Cheng *et al.*, 2023). Family-mediated approaches, including Pivotal Response Treatment, Early Start Denver Model, and JASPER, have also demonstrated potential benefits for social communication in young children with ASD (Pacia *et al.*, 2022).

Given the heterogeneous nature of ASD, multidisciplinary rehabilitation may be particularly valuable. Occupational therapy can address sensory regulation, motor coordination, play, self-care, feeding-related participation, and activities of daily living. Evidence suggests that occupational therapy approaches, including appropriately selected sensory integration interventions, may improve functional participation and individually identified goals, although evidence strength varies (Case-Smith & Arbesman, 2008; Schaaf *et al.*, 2018). Research on activities of daily living further supports the potential contribution of occupational therapy to participation and occupational performance (Case-Smith *et al.*, 2015; American Occupational Therapy Association, 2023).

Speech and language intervention is central for children with receptive, expressive, or social communication difficulties. For children with limited functional speech, individualised strategies may include augmentative and alternative communication, visual supports, gestures, and picture-based communication. Behavioural interventions may additionally use prompting, modelling, shaping, positive reinforcement, task analysis, functional communication training, and functional assessment to increase socially meaningful behaviours and reduce behaviours that interfere with learning and participation. Meta-analytic and review evidence supports behavioural interventions for selected developmental and behavioural outcomes, although effects vary across approaches and study quality (Yu *et al.*, 2020; Chung *et al.*, 2024).

The integration of occupational, communication, and behavioural interventions can therefore provide a comprehensive framework for addressing interconnected developmental needs. Improved attention and sensory-motor regulation may facilitate communication, while effective communication may reduce frustration and behavioural difficulties. Parent involvement can further support skill acquisition and generalisation across home, school, and community environments.

The Indian Scale for Assessment of Autism (ISAA) is an Indian instrument used to assess autism-related characteristics and symptom severity. Research has reported satisfactory reliability and criterion validity, although limitations have been noted, particularly when assessing very young children (Gowda *et al.*, 2014; Juneja *et al.*, 2014).

Alongside conventional rehabilitation, some families seek complementary and alternative interventions. Acupuncture has been investigated as an adjunctive approach for children with ASD. Earlier systematic reviews reported mixed findings and methodological limitations (Lee *et al.*, 2012), while

subsequent reviews suggested possible benefits when acupuncture is combined with behavioural or educational interventions, although substantial heterogeneity remains (Lee *et al.*, 2018). A 2023 systematic review and meta-analysis reported possible improvements in autism-related outcomes but identified high risk of bias and low or very low certainty for several outcomes (Lun *et al.*, 2023). Similarly, a 2025 meta-analysis of scalp acupuncture combined with rehabilitation reported improvements in selected developmental and autism-related measures but emphasised the need for rigorous standardised trials (Zhao *et al.*, 2025).

Electrohomeopathy, also known as Electropathy, is a complementary medical system originating in nineteenth-century Europe and associated with Cesare Mattei. It primarily uses preparations derived from medicinal plants. In India, the system has been practised for several decades, although its scientific evidence and regulatory status remain less established than those of conventional medical and rehabilitation interventions. Sureshbabu *et al.* (2020) described its historical development, principles, plant-derived preparations, and contemporary practice and emphasised the need for systematic research regarding its therapeutic potential and safety.

The broader literature on complementary and alternative medicine (CAM) in ASD indicates continued family interest but limited and heterogeneous evidence. A recent systematic review emphasised substantial variation in intervention types, outcome measures, study designs, and methodological quality, limiting definitive conclusions regarding individual CAM therapies (Doherty *et al.*, 2025). Importantly, Electrohomeopathy should be distinguished from classical homeopathy, as they represent different therapeutic systems. Evidence concerning classical homeopathy therefore cannot be directly interpreted as evidence for Electrohomeopathy.

Research on homeopathy in ASD remains limited. A systematic review of randomised placebo-controlled homeopathy trials across health conditions reported variable findings and substantial differences in methodological quality (Mathie *et al.*, 2023). Such evidence provides contextual information but does not establish the efficacy of Electrohomeopathy for ASD. Similarly, evidence concerning other complementary approaches, such as East Asian herbal medicine, has suggested potential benefits when combined with conventional therapy, but methodological limitations and the need for high-quality randomised trials remain (Lee *et al.*, 2022). A pilot study of electroacupuncture in two children with ASD also reported selected improvements, but its very small sample prevents generalisation (Wong *et al.*, 2008).

Overall, complementary interventions in ASD remain under investigation and should not be considered replacements for established developmental and behavioural rehabilitation. Their potential role is more appropriately examined as adjunctive approaches within individualised, multidisciplinary programmes using objective and standardised outcome measures.

The present case describes the approximately three-year developmental trajectory of a child who received occupational therapy, behaviour therapy, speech and communication therapy, parent counselling, behavioural modification strategies, advanced ear acupuncture, and Electrohomeopathy. The child also received active parental support and home-based practice. Because these interventions were provided concurrently, the independent contribution of any individual component cannot be determined. The purpose of this case study is therefore not to establish the causal efficacy of

Electrohomeopathy or acupuncture, but to document the child's developmental profile, comprehensive intervention programme, reported functional changes, and family experience over an extended period. The case may provide a basis for future controlled research examining multidisciplinary, family-supported rehabilitation and the potential role of complementary interventions in ASD.

2. Methodology

Study Design

The present report uses a longitudinal single-case study design. The child's developmental and functional progress was documented from the beginning of intervention at approximately 2 years and 6 months of age through approximately three years of continuous intervention.

The case study design was selected because it permits detailed description of developmental changes within an individual child over an extended period. However, because there was no untreated control condition, randomisation, or systematic withdrawal of individual treatment components, the design cannot establish causal relationships between a specific intervention and the observed outcomes.

Participant

The participant, Master "S", was a young male child diagnosed with Autism Spectrum Disorder. At the beginning of the intervention, he was approximately 2 years and 6 months old and demonstrated moderate autism-related difficulties and moderate developmental delay. The child was subsequently followed for approximately three years, during which he received regular multidisciplinary intervention together with complementary therapies and parent counselling.

Identification and Background

The participant, Master "S", was a male child who was brought to Brain Sharpner Child Development, Therapy and Research Centre, Rajnandgaon, Chhattisgarh, at the age of 2 years and 6 months by his parents because of concerns regarding delayed communication, limited social interaction, absence of functional speech, atypical play behaviour, poor eye contact, feeding difficulties, and delayed overall development.

The child was one of a pair of twins, comprising a male and female child. According to the parents, the child's early gross motor development was within the expected age range; however, significant concerns subsequently became evident in the domains of language, social communication, social interaction, play, adaptive functioning, and behaviour.

A detailed developmental and clinical history was obtained from the parents before commencement of intervention. The history included the child's presenting concerns, antenatal and birth history, postnatal history, developmental milestones, feeding history, communication development, social and behavioural characteristics, play behaviour, and functional abilities.

Chief Complaints

At the time of initial presentation at 2 years and 6 months, the parents reported significant developmental and behavioural concerns, including absence of functional speech, difficulty communicating basic needs, poor and inconsistent eye contact, limited social interaction, poor response to name, predominantly solitary and developmentally inappropriate play, poor eye-hand coordination, and difficulty participating

in age-appropriate activities. The child also had feeding difficulties, including difficulty swallowing food and episodes of vomiting during feeding. Overall, the concerns significantly affected the child's communication, social interaction, play, feeding, and day-to-day functioning.

Birth History

The child was one of a pair of twins, a male and a female, born following an uncomplicated pregnancy. The child was delivered at term through normal vaginal delivery, with a normal birth weight and an immediate cry after birth. No significant antenatal, birth-related, or perinatal complications were reported. There was no history of birth trauma or need for specialised neonatal care. Overall, the antenatal and perinatal history was unremarkable.

Postnatal History

According to the parents, the child's early postnatal period was generally uneventful. No major postnatal medical complications were reported during infancy. The parents did not report any significant neurological or medical event during the early postnatal period that could explain the subsequent developmental concerns. The child's early physical and gross motor development appeared broadly age-appropriate.

However, as the child grew older, concerns regarding communication, social interaction, behaviour, play, and adaptive functioning became increasingly noticeable. Feeding difficulties, including difficulty swallowing food and episodes of vomiting, were also reported and subsequently became an important concern for the family.

Developmental History

The child's early gross motor development was reported to be within the expected age range. According to parental history, major motor milestones such as head control, sitting, crawling, standing, and independent walking were achieved without significant delay. Despite relatively age-appropriate early motor development, concerns became increasingly apparent in the areas of language, social communication, social interaction, play, and adaptive functioning.

Language development was markedly delayed. By the age of 2 years and 6 months, the child had no functional speech and was unable to effectively communicate his basic needs. He did not consistently use words, gestures, or other functional communication strategies to indicate what he wanted or needed.

The parents also observed poor eye contact, limited social engagement, poor response to name, and a preference for solitary activities. The child demonstrated limited interest in reciprocal interaction and frequently engaged in play that was not appropriate for his developmental age. Thus, the developmental history suggested a pattern of relatively preserved early motor development with prominent subsequent difficulties in social communication, language, social interaction, play, adaptive behaviour, and feeding.

Social Communication History

At the time of initial assessment, the child demonstrated significant difficulties in social communication. Eye contact was poor and inconsistent, and he showed limited spontaneous interaction with parents and other people. The child did not consistently respond when his name was called and demonstrated limited orientation toward communication partners. He was unable to reliably indicate his basic needs,

preferences, or choices.

The parents reported that the child showed limited reciprocal interaction and rarely initiated communication for social purposes. His communication difficulties affected his participation in family routines and age-appropriate social activities. The absence of functional speech further increased his dependence on caregivers for interpretation of his needs and behaviours.

Play and Behavioural History

The child's play behaviour was predominantly solitary. He demonstrated limited interest in reciprocal or interactive play with parents or other children. The parents reported that the child frequently engaged in activities that were developmentally inappropriate and showed limited functional use of toys. He required considerable prompting and adult support to participate in structured and age-appropriate activities.

His limited social engagement and restricted participation in interactive play further affected opportunities for learning through social interaction. Behavioural intervention was therefore considered an important component of the rehabilitation programme, with the initial goals of increasing attention, participation, appropriate play, communication, response to instructions, and adaptive behaviour.

Motor and Sensory-Motor Functioning

Although the child's early gross motor milestones were reported to be within the expected age range, difficulties in eye-hand coordination were evident at the time of initial presentation. These difficulties affected his ability to participate efficiently in activities requiring coordinated visual and motor responses. Occupational therapy was therefore incorporated into the intervention programme to support fine-motor coordination, functional participation, play, attention to activities, and age-appropriate activities of daily living. The child's motor profile was therefore characterised by relatively appropriate early gross motor milestone acquisition but later-observed difficulties in functional coordination and participation.

Feeding History

Feeding difficulties were a significant concern reported by the parents at the beginning of intervention. The child reportedly experienced difficulty swallowing food and episodes of vomiting. These difficulties created challenges during mealtimes and increased his dependence on caregivers.

Feeding-related concerns were monitored as part of the child's overall functional development. As intervention progressed, the parents reported gradual improvement in his participation in eating routines and increased attempts to eat independently. Because feeding difficulties may have multiple developmental, sensory, oral-motor, behavioural, or medical contributors, the reported improvement is interpreted as a functional outcome rather than being attributed to any single intervention.

Family and Educational History

The child was raised in a family environment in which his parents were actively involved in his developmental care and rehabilitation. Following recognition of developmental concerns, the parents sought professional assessment and intervention at an early age.

Parent participation became an important component of the intervention programme. The parents received counselling

and guidance regarding behavioural modification, communication opportunities, reinforcement strategies, developmental activities, and ways of supporting the generalisation of skills from therapy sessions to the home environment. At the beginning of intervention, the child's developmental and communication difficulties limited his participation in age-appropriate educational and social activities. With subsequent developmental progress, the child was reported to participate more actively in classroom activities.

Initial Clinical and Developmental Assessment

At approximately 2 years and 6 months (30 months) of age, the child underwent an initial clinical and developmental assessment due to concerns regarding communication, social interaction, developmental functioning, behaviour, play, and adaptive skills.

The Indian Scale for Assessment of Autism (ISAA) was administered to assess autism-related characteristics. The child obtained a total ISAA score of 145, which fell within the moderate level of autism-related difficulties. Clinically, the child demonstrated poor and inconsistent eye contact, markedly limited socialisation, poor response to name, absence of functional speech, inability to effectively communicate basic needs, predominantly solitary and developmentally inappropriate play, and difficulties in functional coordination and engagement.

The Developmental Screening Test (DST) indicated moderate developmental delay, with a Developmental Quotient (DQ) of 52. Considering the chronological age of 30 months, the corresponding developmental age was approximately 16 months, calculated using:

Thus, the child's overall developmental functioning was approximately 14–16 months, compared with his chronological age of 30 months, indicating a substantial developmental gap.

The Vineland Social Maturity Scale (VSMS) indicated significant limitations in adaptive and social maturity. The child's baseline Social Quotient (SQ) was 55, corresponding to a Social Age 17 months, compared with a chronological age of 30 months.

The Gesell Drawing Test was included to assess early visual-motor and graphomotor functioning. At baseline, the child was able to produce simple scribbling marks, but was unable to demonstrate drawing or copying abilities expected for his chronological age, indicating immature graphomotor and visual-motor functioning.

Table 1: Summary of Baseline Assessment Results

Assessment	Baseline Result	Interpretation
Chronological Age	30 months	2 years 6 months
ISAA Total Score	145	Moderate level of autism-related difficulties
DST Developmental Quotient (DQ)	52	Moderate developmental delay
DST Developmental Age (DA)	16 months	Substantially below chronological age
VSMS Social Quotient (SQ)	55	Significant adaptive/social maturity delay
VSMS Social Age	17 months	Below chronological age
Gesell Drawing Test	Scribbling only	Immature graphomotor/visual-motor functioning

Provisional Clinical Diagnosis

Based on the developmental history, clinical observations, and standardised assessment findings, the child was provisionally considered to have Autism Spectrum Disorder (ASD) with associated developmental delay and adaptive/social maturity difficulties.

The baseline assessment demonstrated a total ISAA score of 145, indicating a moderate level of autism-related difficulties, and a DST DQ of 52, corresponding to an estimated developmental age of approximately 16 months at a chronological age of 30 months. The VSMS further indicated significant adaptive and social maturity delay (SQ = 55; Social Age = 17 months). On the Gesell Drawing Test, the child was able to scribble but was unable to demonstrate age-appropriate drawing/copying skills.

The convergence of clinical observations and standardised assessment findings indicated significant difficulties in social communication, speech and language, socialisation, adaptive functioning, play, visual-motor/graphomotor development, and broader developmental functioning, providing the clinical rationale for initiation of an individualised multidisciplinary developmental rehabilitation programme.

Clinical Formulation and Rationale for Intervention

The child's developmental history indicated relatively age-appropriate early gross motor development in the context of an uncomplicated antenatal and birth history. However, developmental concerns subsequently became increasingly evident in the areas of communication, social interaction, language, play, adaptive functioning, graphomotor development, and feeding.

At 2 years and 6 months, the child presented with no functional speech, poor and inconsistent eye contact, poor socialisation, inconsistent response to name, inability to effectively communicate basic needs, predominantly solitary and developmentally inappropriate play, poor eye-hand coordination, immature graphomotor skills, and feeding difficulties. Although the child was able to scribble, he did not demonstrate drawing/copying abilities expected for his chronological age.

The baseline ISAA indicated a moderate level of autism-related difficulties, while the DST indicated moderate developmental delay. The VSMS demonstrated limitations in adaptive and social maturity, and the Gesell Drawing Test indicated immature visual-motor and graphomotor functioning. The convergence of clinical observations and standardised developmental assessments indicated the need for an individualised and multidisciplinary intervention programme.

Given the multidimensional nature of the child's difficulties, a structured rehabilitation programme was initiated, incorporating behaviour therapy, occupational/developmental therapy, speech and communication intervention, parent counselling, behavioural modification strategies, and home-based developmental activities. In addition, the family elected to incorporate Electrohomeopathy remedies and advanced ear acupuncture as complementary interventions within the broader rehabilitation programme.

The intervention was continued for approximately three years, with active parental involvement and regular home-based practice. The principal objectives were to improve functional communication, speech development, social engagement, eye contact, appropriate play, attention, imitation, following instructions, adaptive functioning, self-care, feeding-related independence, visual-motor skills, and overall developmental

functioning.

The child's developmental trajectory was subsequently monitored through clinical observation, parent-reported changes, educational/therapy feedback, functional performance, and available standardised developmental assessments. Particular attention was given to changes in communication, social responsiveness, adaptive functioning, developmental skills, and participation in structured activities. The subsequent sections of this case report describe the intervention protocol and developmental outcomes observed over the approximately three-year intervention period.

The subsequent developmental trajectory of the child was monitored through clinical observation, parental reports, educational feedback, and available standardised assessments. The outcomes observed during the three-year intervention period are described in the subsequent sections of this case report.

At baseline, the major functional difficulties can be summarized as follows:

Table 2: Initial Functional Difficulties

Developmental Domain	Initial Presentation
Social interaction	Poor social engagement and limited reciprocal interaction
Eye contact	Poor and inconsistent
Response to name	Frequently absent/inconsistent
Communication	Unable to communicate basic needs effectively
Speech	No functional speech reported
Play	Predominantly solitary and developmentally inappropriate
Joint engagement	Markedly limited
Behaviour	Difficulty participating in age-appropriate activities
Fine-motor coordination	Poor eye-hand coordination
Feeding	Difficulty swallowing and vomiting episodes
Adaptive functioning	High dependence on caregivers
Development	Moderate developmental delay on DST
Autism severity	Moderate level according to initial ISAA assessment

This initial profile indicated the need for a comprehensive intervention programme rather than an intervention directed toward a single developmental domain

Procedure

The intervention was implemented at Brain Sharpner Child Care, Therapy and Research Centre, Rajnandgaon, Chhattisgarh, with support from a multidisciplinary team of professionals. Following the initial developmental and clinical assessment, an individualised intervention plan was developed based on the child's developmental, behavioural, communication, sensory-motor, and adaptive needs.

The child received a structured multidisciplinary intervention programme consisting of behaviour therapy, occupational/developmental therapy, speech and communication therapy, parent counselling, and behavioural modification strategies. Intervention sessions were conducted regularly at the centre, with therapeutic goals reviewed and modified according to the child's developmental needs and clinical observations.

Parents were actively involved throughout the intervention.

They received guidance regarding behavioural management, communication facilitation, developmental activities, reinforcement strategies, and home-based practice. Parents were encouraged to incorporate these strategies into the child's daily routines to promote consistency and generalisation of skills.

As complementary interventions, the family also opted for advanced ear acupuncture and Electrohomeopathy remedies, which were provided alongside the multidisciplinary rehabilitation programme. These interventions were administered according to the centre's established clinical practice.

The intervention was continued for approximately three years, with periodic clinical monitoring and developmental reassessment. Follow-up assessments were conducted at baseline and subsequently during the first, second, and third years to document developmental and functional changes using standardised assessment tools and clinical observations.

Intervention Programme

Multidisciplinary Intervention

The child participated in a multidisciplinary rehabilitation programme for approximately three years. The major components included occupational therapy, behaviour therapy, speech and communication therapy, and parent counselling.

- **Occupational Therapy:** Occupational therapy focused on improving functional participation, eye-hand coordination, fine-motor abilities, attention to activities, sensory-motor engagement, play skills, and age-appropriate activities of daily living. Therapeutic activities were progressively adapted according to the child's tolerance and developmental level. Tasks were introduced in manageable steps, with modelling, prompting, repetition, and reinforcement.
- **Behaviour Therapy:** Behaviour therapy focused on increasing adaptive and socially meaningful behaviours while reducing behaviours that interfered with learning and participation. The intervention used positive reinforcement, prompting and prompt fading, modelling, shaping, task analysis, structured routines, differential reinforcement, redirection, functional communication training, attention-building activities, and generalization of learned skills. The overall aim was to improve functional communication, social engagement, appropriate play, self-care abilities, compliance with simple instructions, and participation in structured activities.
- **Speech and Communication Therapy:** Speech and communication intervention initially focused on developing prelinguistic and functional communication skills, as the child had no functional speech at baseline. The intervention targeted attention to communication partners, responding to name, eye contact during communication, requesting, indicating choices, understanding simple instructions, imitation, functional vocalization, word development, and functional use of language. Communication opportunities were incorporated into everyday activities to encourage spontaneous and meaningful communication rather than being limited to formal therapy sessions.
- **Parent Counselling and Behaviour Modification:** Parent counselling was an important component of the intervention programme. Parents were trained to identify antecedents and consequences of behaviour, provide clear

and simple instructions, reinforce appropriate behaviours, avoid unintentionally reinforcing inappropriate behaviours, and create structured opportunities for communication and requesting. They were also guided to encourage independence in daily activities, use modelling and prompting, gradually fade prompts, practice learned skills at home, maintain predictable routines, and promote generalization of skills across different settings. Parent-mediated intervention is recognized as an important component of autism intervention and may support improvements in communication, social interaction, adaptive behaviour, and behavioural functioning when appropriately structured.

Complementary Interventions

Advanced Ear Acupuncture: Advanced ear acupuncture was incorporated as a complementary intervention within the broader multidisciplinary rehabilitation programme. It was administered once weekly alongside behavioural therapy, developmental training, parent-mediated intervention, and home-based practice, and was not used as a replacement for evidence-based behavioural or educational intervention.

The auricular intervention was selected with the clinical objective of providing supportive modulation of domains relevant to the child's rehabilitation, including attention and behavioural regulation, communication readiness, sensory regulation, relaxation, and general developmental engagement. Depending on the child's clinical presentation and tolerance, auricular points used within the treating centre's protocol included Shen Men, Point Zero, Sympathetic/Autonomic point, Subcortex, Brain, Endocrine, and relevant functional/organ-system points. Point selection was individualized according to the treating practitioner's clinical assessment and was not based on a standardized ASD-specific acupuncture protocol.

The rationale for including auricular acupuncture was based on its use as a complementary rehabilitation approach intended to support autonomic regulation, arousal modulation, attention, behavioural organization, and readiness for therapeutic engagement. In the present case, parents reported that the child appeared calmer following the weekly ear acupuncture sessions and that periods following the intervention were associated with more noticeable and comparatively faster gains in speech and communication behaviours. Parents particularly described improved calmness, better engagement, and increased responsiveness during communication-related activities. These observations were recorded as caregiver-reported clinical observations and were considered supportive observations rather than independent measures of treatment efficacy.

Previous systematic reviews and meta-analyses of acupuncture in children with ASD have reported potentially favourable changes in measures such as the Childhood Autism Rating Scale (CARS), Autism Behavior Checklist (ABC), and selected communication or functional outcomes when acupuncture was used in conjunction with conventional interventions. However, substantial heterogeneity in acupuncture methods, treatment schedules, outcome measures, and study quality limits the certainty with which these findings can be interpreted.

Accordingly, the parent-reported temporal association between weekly ear acupuncture sessions and periods of increased calmness and communication engagement should not be interpreted as evidence that ear acupuncture independently caused the developmental improvements. The

child's progress occurred within a multimodal intervention programme involving structured behavioural intervention, parent participation, repeated developmental practice, home-based activities, environmental modification, Electrohomeopathy, and natural developmental maturation. Therefore, the observed improvements in speech, communication, attention, behaviour, and developmental functioning are interpreted as outcomes occurring during the overall intervention programme, while the reported response following ear acupuncture is presented as a clinically observed and parent-reported association requiring further systematic investigation.

Electrohomeopathy Remedies: As a complementary component of the intervention programme, the child received individualised Electrohomeopathy remedies under the supervision of the treating practitioner. The supportive protocol included remedies belonging to the Scrofoloso, Febrifugo, Canceroso, and Linfatico groups, together with preparations referred to within the centre's protocol as Red Electricity, Blue Electricity, and Green Electricity.

These preparations were administered regularly on a daily basis according to the prescribed dosage and treatment schedule, with the regimen individualized according to the child's clinical presentation, behavioural characteristics, developmental needs, and response during follow-up. The complementary treatment was provided concurrently with structured behavioural therapy, developmental training, parent-mediated intervention, home-based practice, and other supportive interventions.

Within the treating centre's clinical framework, these Electrohomeopathy groups and preparations were used as supportive measures with the intention of promoting behavioural regulation, attention and engagement, emotional stability, sensory regulation, and general developmental readiness, thereby facilitating the child's participation in the primary rehabilitation programme.

The administration of Electrohomeopathy was not considered a replacement for evidence-based behavioural, developmental, educational, or communication interventions. Furthermore, because the remedies were administered concurrently with multiple other intervention components, the present single-case study cannot determine the independent contribution of Electrohomeopathy to the developmental changes observed. Therefore, improvements in sitting tolerance, imitation, following instructions, developmental functioning, and other outcomes are interpreted as changes occurring during the overall multimodal intervention programme, rather than as effects attributable solely to Electrohomeopathy.

Ethical Considerations

The case study was conducted with due consideration for the ethical principles applicable to clinical and developmental research involving children. Written informed consent was obtained from the child's parent/legal guardian for participation in the intervention programme and for the use of anonymized clinical, developmental, and assessment information for academic and research purposes.

The parent/legal guardian was informed about the nature and objectives of the intervention programme, the complementary nature of advanced ear acupuncture and Electrohomeopathy, and the fact that these complementary approaches were provided alongside the child's multidisciplinary developmental and behavioural interventions. Participation was voluntary, and the parent was informed of the right to

discontinue participation or withdraw consent for the use of research information without affecting the child's access to routine services.

Confidentiality and privacy of the child were maintained throughout the study. Identifying information was excluded from the case report, and the child's clinical and developmental information was used only for the stated academic and research purposes. Any photographs, videos, or other identifiable materials, where applicable, were used only after obtaining specific parental consent.

The interventions were provided under the supervision of appropriately trained professionals, with the child's tolerance, behavioural response, and developmental needs considered throughout the intervention period. The complementary interventions were used as adjunctive components and were not presented as substitutes for established developmental, behavioural, educational, speech, or occupational interventions.

Follow-up and Outcome Assessment

The child was followed longitudinally for approximately three years following initiation of the individualised multidisciplinary intervention programme. Follow-up was conducted through regular clinical observation, therapy records, parent feedback, home-practice reports, and monitoring of functional developmental changes.

To objectively monitor developmental progress, standardised developmental and autism-related assessments were repeated approximately once every year during the follow-up period. The annual assessments were used to document changes in autism-related characteristics, developmental functioning, adaptive/social maturity, and relevant developmental skills.

The assessment schedule included the Indian Scale for Assessment of Autism (ISAA), Developmental Screening Test (DST), Vineland Social Maturity Scale (VSMS), and Gesell Drawing Test, where appropriate and feasible according to the child's age and developmental level at the time of reassessment.

Between formal annual assessments, progress was monitored through therapy-based functional observations and caregiver reports, including changes in functional communication, speech and language, eye contact, social interaction, attention, imitation, following instructions, play skills, adaptive behaviour, self-care, feeding, visual-motor skills, and participation in structured activities.

The annual standardised assessments provided periodic objective measures of developmental change, while the interim clinical observations and parent reports helped document functional changes occurring between formal assessment points. The longitudinal follow-up therefore provided information regarding the child's developmental trajectory over the approximately three-year intervention period.

Because multiple interventions were delivered concurrently, including behavioural therapy, developmental/occupational intervention, speech and communication training, parent-mediated intervention, home-based practice, advanced ear acupuncture, and complementary Electrohomeopathy, the longitudinal follow-up was interpreted as evaluating change during the overall multimodal intervention programme rather than establishing the independent efficacy of any single intervention component.

3. Results

The child commenced intervention at approximately 2 years

and 6 months of age with significant developmental and functional difficulties. At baseline, the child had no functional speech, poor and inconsistent eye contact, limited socialisation, poor response to name, inability to communicate basic needs, predominantly solitary and developmentally inappropriate play, poor eye-hand coordination, feeding difficulties, and significant dependence on caregivers. The child's developmental progress was monitored longitudinally over approximately three years, with standardised assessments conducted at baseline and subsequently at approximately one-year intervals. The assessment battery included the Indian Scale for Assessment of Autism (ISAA), Developmental Screening Test (DST), Vineland Social Maturity Scale (VSMS), and Gesell Drawing Test. A psychological assessment of intellectual functioning was also conducted at the final stage of follow-up.

The baseline Indian Scale for Assessment of Autism (ISAA) score was 145, falling within the moderate range of autism-related difficulties. The Developmental Screening Test (DST) indicated moderate developmental delay, with a DQ of 52 and an estimated developmental age of approximately 16 months, compared with a chronological age of 30 months. The Vineland Social Maturity Scale (VSMS) showed a Social Quotient of 55 and a Social Age of 17 months. On the Gesell Drawing Test, the child was able to scribble but did not demonstrate age-appropriate drawing/copying skills.

The child subsequently participated in an approximately three-year individualised multidisciplinary intervention programme, including behavioural intervention, developmental/occupational therapy, speech and

communication intervention, parent counselling, home-based practice, behavioural modification strategies, and complementary interventions including advanced ear acupuncture and Electrohomeopathy. Progress was documented at each annual follow-up, demonstrating a gradual improvement in autism-related characteristics, developmental functioning, adaptive/social maturity, and visual-motor skills.

The standardised assessments demonstrated a consistent pattern of improvement across the approximately three-year intervention period.

Table 3: Longitudinal Developmental Changes over the Three-Year Intervention Period.

Measure	Baseline	Year 1	Year 2	Year 3/Final
Chronological Age	2 y 6 m	~3 y 6 m	~4 y 6 m	~5 y 5 m
ISAA	145	126	92	65
DST DQ	52	68	82	101
DST Developmental Age	16 months	29 months	44 months	66 months
VSMS SQ	55	72	86	100
VSMS Social Age	17 months	30 months	46 months	65 months
Gesell Drawing Test	Scribbling only	Scribbling	Copy square	Copy diamond
IQ	Not assessed	—	—	101

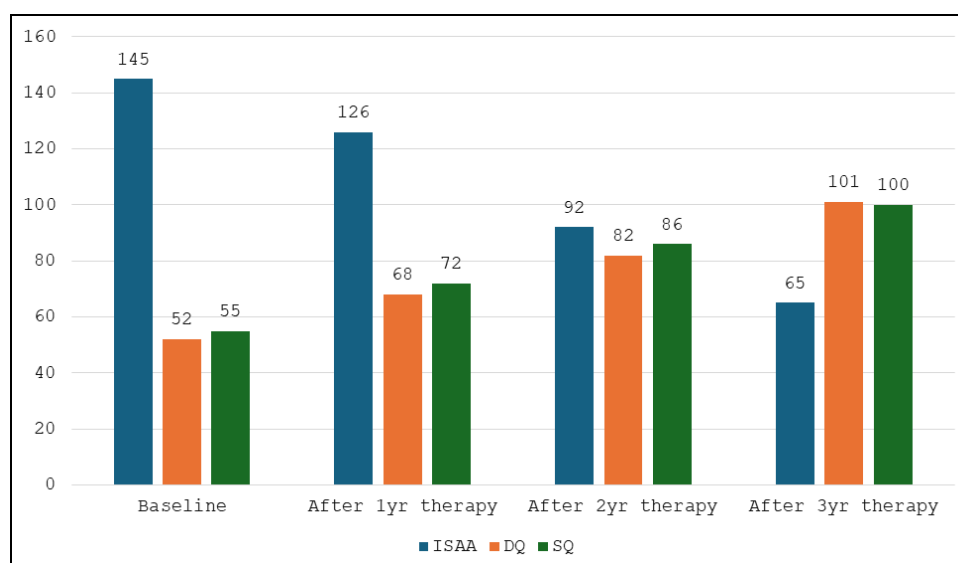


Fig 1: Longitudinal Developmental Changes over the Three-Year Intervention Period

First-Year Follow-up

At approximately 3 years 6 months of age, the child's first annual reassessment demonstrated measurable developmental progress across several domains.

The ISAA score decreased from 145 at baseline to 126, representing a reduction of 19 points. Although autism-related difficulties remained evident, the reduction was accompanied by clinically observed improvements in behavioural regulation, attention, engagement, and responsiveness.

The DST DQ increased from 52 to 68, with the corresponding developmental age increasing from 16 months to 29 months. This indicated substantial progress in overall developmental functioning during the first year. The child showed increasing ability to participate in structured activities and demonstrated

emerging intentional communication.

Adaptive and social functioning also improved. The VSMS Social Quotient increased from 55 to 72, while the Social Age increased from 17 months to 30 months. This suggested improvement in the child's ability to participate in age-appropriate social and adaptive activities.

On the Gesell Drawing Test, the child continued to demonstrate scribbling skills. Although age-appropriate drawing abilities had not yet emerged, the child showed increased willingness to engage in graphomotor activities.

Functionally, the first year was therefore characterised by the establishment of foundational communication, attention, behavioural regulation, social engagement, and adaptive skills.

Second-Year Follow-up

At approximately 4 years 6 months of age, further developmental gains were observed. The ISAA score decreased from 126 at Year 1 to 92, representing a further reduction of 34 points. Compared with the baseline score of 145, the cumulative reduction by the second year was 53 points. This was accompanied by observable improvements in social responsiveness, communication, participation, and behavioural organisation.

The child's DST DQ increased from 68 at Year 1 to 82, while developmental age increased from 29 months to 44 months. This represented continued improvement in overall developmental functioning and a narrowing of the developmental gap relative to chronological age.

The VSMS Social Quotient increased from 72 to 86, and the Social Age increased from 30 months to 46 months. These findings indicated continued development of adaptive and social maturity.

A notable qualitative improvement was observed in the child's visual-motor and graphomotor functioning. On the Gesell Drawing Test, the child progressed from simple scribbling to the ability to copy a square. This represented a meaningful developmental change in visual-motor coordination, imitation, and graphomotor control.

During this period, the child reportedly became increasingly capable of communicating wants and needs, participating in structured learning activities, interacting with caregivers, and performing daily routines with reduced assistance. Parents also reported improvements in attention, memory, learning ability, and participation in educational activities.

The second year therefore represented a period of consolidation and generalisation of communication, social, adaptive, cognitive, and visual-motor skills.

Third-Year/Final Follow-up

At approximately 5 years 5 months, the child demonstrated substantial developmental and functional progress. The ISAA score decreased from 145 at baseline to 65 at Year 3, representing a 55.2% reduction and falling within the non-autism classification according to the criteria applied. However, this finding should not be interpreted as definitive resolution of ASD and should be considered alongside clinical and developmental assessments.

The DST DQ increased from 52 to 101, with developmental age progressing from 16 to 66 months. Similarly, the VSMS Social Quotient increased from 55 to 100, with Social Age increasing from 17 to approximately 65 months, indicating marked gains in developmental and adaptive functioning.

Visual-motor development also improved, progressing from simple scribbling at baseline to copying a square in Year 2 and a diamond at the final assessment. A subsequent psychological assessment reported an IQ of 101, within the broadly average range.

Functionally, the child demonstrated improved communication, eye contact, social responsiveness, classroom participation, learning, self-care, and independence in daily routines. Overall, the third-year follow-up reflected substantial consolidation and generalisation of gains across autism-related, developmental, adaptive, and functional domains.

These improvements should be interpreted cautiously because the child received multiple interventions concurrently, including behavioural, occupational/developmental, speech and communication therapy, parent counselling, home-based practice, ear acupuncture, and Electrohomeopathy. Therefore,

the observed improvements cannot be attributed to any single intervention and may also reflect developmental maturation, educational exposure, parental involvement, and sustained therapeutic support.

Communication

At the beginning of the intervention, the child had no functional speech and was unable to communicate his basic needs appropriately. Over the three-year intervention period, communication developed progressively. The child began to indicate preferences, request desired objects, communicate choices, and express wants and needs more effectively. Parents reported that functional communication increasingly replaced dependence on non-verbal or unclear means of expressing needs. The transition from absent functional communication at baseline to meaningful functional communication at follow-up represented one of the most clinically important changes observed during the intervention period.

Social Interaction and Eye Contact

At baseline, the child demonstrated poor and inconsistent eye contact, markedly limited socialisation, poor response to name, and predominantly solitary play. During follow-up, parents and therapists reported gradual improvement in social responsiveness. The child became increasingly willing to interact with caregivers and participate in structured activities. Eye contact became more consistent, particularly during familiar communication and learning activities.

The improvement in social participation was clinically meaningful because increased social engagement can facilitate communication, learning, play, and participation in family and educational environments.

Play, Attention and Participation

At baseline, the child's play was predominantly solitary and developmentally inappropriate, with limited ability to participate in structured activities. With continued intervention, the child demonstrated greater tolerance for structured activities and increased purposeful engagement. His ability to remain involved in therapy and educational activities gradually improved. The progression suggested improvement in attention, task engagement, imitation, following instructions, and functional participation.

Adaptive and Self-Care Skills

Progress in adaptive functioning was one of the important functional outcomes observed during the three-year intervention period. According to the parents, the child gradually developed greater independence in toileting, attempting to eat independently, communicating his preferences and needs, moving within familiar environments, participating in classroom activities, following familiar daily routines, and completing age-appropriate activities with reduced assistance. These improvements indicate a progressive increase in the child's ability to apply his developing skills in everyday situations and reduce his dependence on caregivers. From a functional rehabilitation perspective, these changes are particularly meaningful because adaptive functioning reflects the practical application of developmental, communication, social, and self-care abilities in daily life.

Feeding and Oral-Motor Difficulties

At baseline, feeding was a significant parental concern. The

child reportedly experienced difficulty swallowing food and episodes of vomiting. During the intervention period, parents reported progressive improvement in eating-related participation and independence. The child increasingly attempted to eat independently and participated more appropriately in mealtime routines.

Because feeding difficulties may have developmental, sensory, oral-motor, gastrointestinal, behavioural, or other contributing factors, the observed improvement should be interpreted cautiously. The present case cannot determine whether the change resulted from therapy, behavioural intervention, maturation, changes in feeding routines, complementary interventions, or their combined effects.

Cognitive and Academic Development

The child's later cognitive and academic functioning represented an important change from his baseline developmental presentation. By approximately five years of age, parents reported that the child demonstrated rapid learning, good recall, increased attention, and active participation in classroom activities. Teachers reportedly described him as patient, attentive, neat in completing work, and able to understand academic tasks efficiently. The parents additionally reported that the child could recite approximately 20 multiplication tables without mistakes at approximately five years of age.

A subsequent psychological assessment yielded an IQ score of 101, indicating intellectual functioning within the broadly average range. This finding was particularly encouraging in the context of the moderate developmental delay documented at baseline. However, IQ represents only one aspect of functioning. An IQ score of 101 should therefore not be interpreted as indicating complete resolution of ASD or as predicting future academic or occupational outcomes. Communication, adaptive functioning, social reciprocity, behaviour, emotional regulation, and independent living skills require separate consideration.

Teacher Observations

The child's teachers reportedly observed meaningful changes in classroom participation and learning. According to parental reports, teachers described the child as actively participating in Balvatika-1, demonstrating patience, completing classroom work neatly, and showing good learning ability. He was also reportedly able to complete examinations efficiently and confidently. These observations are relevant because the ability to demonstrate skills within an educational setting may indicate generalisation of developmental gains beyond the therapy environment.

Parent-Reported Outcome

The parents described the approximately three-year intervention period as a major positive developmental transition for their child. At the beginning of intervention, they reported significant concerns regarding communication, eye contact, socialisation, feeding, behaviour, and dependence on caregivers. Over the subsequent years, they observed progressive changes in communication, social interaction, self-care, learning, classroom participation, and independence.

The parents particularly valued the integrated nature of the intervention, which included behavioural and developmental therapies, parent counselling, home-based practice, advanced ear acupuncture, and Electrohomeopathy as complementary components.

The parents also reported that the developmental difference between the child and his twin sibling appeared less pronounced in several functional areas over time. This observation provides a meaningful family perspective, although it should not be considered a controlled comparison. The final ISAA score of 65 and IQ score of 101 were described by the family as particularly encouraging milestones.

Parent reports were considered important qualitative evidence of functional change; however, they were interpreted alongside standardised assessments and clinical observations rather than being treated as independent evidence of treatment efficacy.

4. Discussion

The present case describes the longitudinal developmental trajectory of a child who commenced intervention at 2 years 6 months with moderate autism-related difficulties and moderate developmental delay. At baseline, the child had an ISAA score of 145, DST DQ of 52, and VSMS SQ of 55, with absent functional speech, poor eye contact, limited socialisation, poor response to name, restricted functional communication, inappropriate solitary play, and adaptive difficulties. Over approximately three years of sustained multidisciplinary intervention, progressive improvements were observed. The ISAA score decreased from 145 to 65, while the DST DQ increased from 52 to 101 and the VSMS SQ from 55 to 100. The child's developmental age and social age also increased substantially, accompanied by progression in visual-motor skills from scribbling to copying a square and subsequently a diamond. A final psychological assessment yielded an IQ of 101.

The observed developmental trajectory is broadly consistent with evidence supporting early and individualised intervention for children with ASD. Systematic review and meta-analytic evidence indicates that early interventions may improve cognitive functioning, adaptive behaviour, daily living skills, and motor development, although the magnitude of benefit varies across intervention approaches and study quality (Daniolou *et al.*, 2022). Evidence also supports the potential contribution of parent-mediated interventions, particularly in improving parent-child interaction, social communication, and functional engagement, although effects on child outcomes remain variable (Oono *et al.*, 2013). The active involvement of parents and continued home-based practice in the present case may therefore have facilitated repetition and generalisation of newly acquired skills across everyday settings.

The child's substantial improvement in functional communication and adaptive behaviour is particularly clinically relevant. Progression from an inability to communicate basic needs to functional expression of wants, needs, and choices, together with increased independence in toileting, eating, routines, classroom participation, and other daily activities, suggests improvement extending beyond symptom measures to practical functioning. Such functional outcomes are important indicators of meaningful developmental progress.

Advanced ear acupuncture was incorporated as a complementary intervention, administered approximately once weekly alongside multidisciplinary rehabilitation. Parents reported that the child appeared calmer following sessions and showed improved engagement and communication. Existing systematic reviews have reported potentially favourable effects of acupuncture on some ASD-

related outcomes; however, substantial methodological heterogeneity and high risk of bias limit the certainty of the evidence (Lun *et al.*, 2023). Therefore, the present case can only document the use of acupuncture within the intervention programme and cannot establish an independent causal effect. Electrohomeopathy was also provided as a complementary component of the programme. However, because it was administered concurrently with behavioural, developmental, communication, parental, and other interventions, its independent contribution cannot be determined. Moreover, there is insufficient high-quality evidence to establish Electrohomeopathy as an effective treatment for ASD. Accordingly, the observed developmental gains should be interpreted as outcomes occurring during a comprehensive, multimodal intervention programme, rather than as evidence of efficacy of any individual complementary treatment.

An important consideration is developmental maturation, as the child progressed from 2 years 6 months to approximately 5 years 5 months during the observation period. Natural development, educational exposure, repeated learning opportunities, parental involvement, and sustained intervention may all have contributed to the observed changes. The reduction in ISAA score from 145 to 65 is therefore best interpreted as a marked reduction in autism-related characteristics measured by the instrument. Although the final score fell within the non-autism classification according to the scoring criteria used in the assessment, this finding should not by itself be interpreted as definitive resolution of ASD.

Overall, this case highlights the potential value of early, sustained, individualized multidisciplinary intervention with active parental participation in supporting communication, adaptive functioning, social participation, learning, and independence. The findings are encouraging but hypothesis-generating. Larger prospective and controlled studies are required to determine the independent contribution of behavioural, developmental, parent-mediated, acupuncture, and other complementary interventions.

5. Conclusion

This longitudinal case describes the developmental journey of a child who began intervention at 2 years and 6 months with moderate autism-related difficulties and moderate developmental delay. At baseline, he demonstrated severe functional limitations in communication, social interaction, eye contact, play, response to name, coordination, feeding, and adaptive functioning.

Over approximately three years of continuous intervention, the child reportedly demonstrated substantial improvements in functional communication, social engagement, self-care, classroom participation, learning, and independence. His parents reported that he progressed from being unable to communicate basic needs and being highly dependent on caregivers to becoming more expressive, socially engaged, academically participatory, and independent in everyday activities. A later psychological assessment reportedly yielded an IQ score of 101.

The case highlights the potential importance of early intervention, intensive multidisciplinary rehabilitation, parent counselling, behavioural modification, and consistent practice across home and educational environments. It also documents the family's experience with complementary interventions, including advanced ear acupuncture and Electrohomeopathy. However, the observed improvements cannot be attributed independently to any one treatment because multiple

interventions were administered concurrently over a prolonged period. In particular, this case should not be interpreted as evidence that Electrohomeopathy or ear acupuncture alone can treat or cure ASD.

Future research should examine integrated multidisciplinary models using prospective longitudinal designs, standardised outcome measures, clearly defined intervention protocols, repeated developmental assessments, and appropriate comparison groups. Research specifically evaluating complementary interventions should separate their effects from those of established behavioural, developmental, speech, occupational, and parent-mediated interventions.

The case nevertheless provides a valuable clinical illustration of how sustained intervention beginning during early childhood, combined with active family participation and comprehensive rehabilitation, may be associated with meaningful improvements in communication, adaptive functioning, learning, and participation in a child with ASD.

6. Clinical Implications

- i). **Early Intervention:** Intervention beginning during early childhood may provide opportunities to establish foundational communication, social, behavioural, motor, and adaptive skills.
- ii). **Multidisciplinary Rehabilitation:** Children with ASD frequently present with difficulties across multiple functional domains. Collaboration among occupational therapists, speech and language professionals, behaviour therapists, psychologists, educators, and parents can provide a more comprehensive intervention framework.
- iii). **Parent Involvement:** Parents should not be considered passive recipients of therapy. With appropriate training, they can support skill acquisition and generalisation throughout daily routines.
- iv). **Functional Outcomes:** Outcome evaluation should extend beyond symptom severity and include meaningful functional outcomes such as communication of needs, self-care, toileting, eating, classroom participation, social engagement, and independence.
- v). **Complementary Therapies:** Complementary interventions should be considered carefully and transparently. Families should be informed about the current level of evidence, potential uncertainties, and the importance of continuing appropriate evidence-based developmental and rehabilitation services.

7. Limitations of the Case Report

- **Single-case design:** The report describes only one child; therefore, the findings cannot be generalised to other children with ASD.
- **Multiple simultaneous interventions:** The child received occupational therapy, behaviour therapy, speech therapy, parent counselling, ear acupuncture, and Electrohomeopathy concurrently. Hence, the independent contribution of each intervention cannot be determined.
- **Absence of a control condition:** The case did not include a randomised control condition or a treatment withdrawal phase, limiting the ability to establish a causal relationship between the intervention and observed improvements.
- **Reliance on subjective reports:** Some later outcomes were based on parent and teacher reports rather than standardised, repeated assessments, which may introduce reporting bias.

- **Limited cognitive assessment information:** The reported IQ score of 101 was obtained after the intervention period; however, details regarding the specific intelligence test, testing conditions, examiner, and pre-intervention cognitive score were not available.
- **Insufficient treatment-dosage details:** The report does not provide adequate session-by-session information regarding treatment frequency, duration, and dosage, which limits the replicability of the intervention.
- **Potential developmental and environmental influences:** Natural developmental maturation, changes in the child's environment, and other contextual factors may have contributed to the observed improvements.
- **Interpretation of findings:** Given these limitations, the findings should be considered hypothesis-generating and preliminary, rather than definitive evidence of treatment efficacy.

8. Future Recommendations

- **Larger controlled studies** should be conducted to establish the effectiveness and generalizability of the observed outcomes.
- **Individual intervention effects** should be examined separately, particularly for behavioural therapy, occupational therapy, speech therapy, ear acupuncture, and Electrohomeopathy.
- **Standardized objective assessments** should be used at baseline, during intervention, and follow-up to document changes in communication, adaptive functioning, behaviour, and developmental skills.
- **Long-term follow-up studies** are recommended to determine whether the observed improvements are maintained and generalized across home, school, and community settings.
- **Further research on complementary therapies** such as ear acupuncture and Electrohomeopathy should use rigorous study designs with appropriate safety monitoring and clearly defined treatment protocols.

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