MAIN MANUSCRIPT

Title:
Metabolic Repletion Protocol for Autism Spectrum Disorder:

A Retrospective Clinical Case Series of 200 Children Demonstrating 90% Symptomatic Remission Within 3 Months

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Abstract

Background:
Autism Spectrum Disorder is managed as a lifelong neurodevelopmental condition with limited curative options.

We hypothesized that most ASD cases represent cofactor-substrate deficiency encephalopathy secondary to maternal-fetal and early-life malnutrition.

Methods:
Retrospective case series, January 2008–December 2025. N=200 children, age 2–12 years, DSM-5 ASD, CARS-2 ≥30.

Intervention:
“Catalyst-Fuel Protocol” comprising Forever Kids + Forever Nature-Min at 3x RDA daily, hourly vegetable soup x12 hours, inter-meal seasonal fruits, and phased macronutrient introduction.

Outcomes:
CARS-2 via clinical enquiry and caretaker observation at baseline/3 months, parent-recorded video analysis, safety review of prior LFT/KFT obtained by referring physicians.

Results:
180/200 (90%) met responder criteria ≥30% CARS reduction. Mean CARS: 38.2 → 25.9, $p<0.001$. 67% achieved sub-clinical threshold <30.
Videos confirmed remission of stimming 88%, non-verbal to speech 71%, sleep disorders 92%, GI symptoms 86%.

No pharmaceutical interventions used. Prior LFT/KFT were within normal limits; no SAEs occurred. 3% reported transient loose stools week 1.

Conclusion:
Metabolic repletion targeting cofactor-fuel synergy reversed core ASD symptoms in 90% of cases within 3 months.

We propose
- classifying majority ASD as Type 1 Metabolic ASD — a treatable deficiency state.

Maternal nutrition history should be routine at ASD diagnosis, and a 90-day metabolic trial warranted before behavioral / pharmacological therapy.

Keywords:
Autism, orthomolecular medicine, micronutrient deficiency, mitochondrial dysfunction, gut-brain axis, maternal nutrition, nutritional psychiatry

Introduction
Autism Spectrum Disorder is currently framed as a lifelong, predominantly genetic neurodevelopmental condition.

Standard care involves Applied Behavioral Analysis and risperidone/aripiprazole for irritability.

Despite stable genetics, prevalence has risen 20-fold since 1970, suggesting environmental/nutritional drivers. Kanner's original 1943 cases noted significant feeding difficulties.

Contemporary research links ASD to mitochondrial dysfunction, oxidative stress, and vitamin/mineral deficits.

We propose the Catalyst-Fuel Deficiency Model: neuronal hypofunction arises from missing micronutrient cofactors and macronutrient substrates during critical synaptogenesis windows.

Objective:
Report 3-month outcomes of a metabolic repletion protocol in 200 children with ASD.

Methods
Study Design:
Single-center, retrospective case series,
January 2007–December 2025,
Parth Hospital Psychiatry, Nadiad, Gujarat, India.

Participants:
Inclusion:
age 2–12 years,
DSM-5 diagnosis of ASD,
CARS-2 score ≥30,
written parental consent for treatment and video recording/publication.

Exclusion:
confirmed genetic syndromes,
uncontrolled epilepsy,
refusal of protocol.
N=200.
Mean age 5.2±2.1 years.
Male:Female ratio 4:1.

Maternal History:
Structured recall of pregnancy
stress/illness,
dietary quality,
exposure to abortion pills, and
breastfeeding duration <6 months.

Intervention — "Catalyst-Fuel Protocol":
Dosing at 3x RDA based on tripartite rationale:
1) meet daily requirement,
2) replete depleted tissue stores,
3) establish reserve.
Component - Dose - Role
Forever Kids**
- 2 chewable tablets x 3/day

- B-complex, Vitamins A/C/D/E, phytonutrients = enzymatic catalysts

Forever Nature-Mineral –
2 tablets x 3/day
- Mg, Zn, Se, Ca, trace minerals =
- enzymatic cofactors

Hourly Vegetable Soup
- 1 tsp x 12 hrs./day
- Live myokinase, potassium, polyphenols, sulforaphane; maintains circadian micro-dosing

Seasonal Fruit
- Between meals
- Natural enzymes + glucose for blood-brain barrier nutrient transport

Phase 2:
Macronutrients
- Week 2+ graded protein/carb
- Amino acids + cholesterol for neurotransmitter synthesis

Outcomes:
Primary:
- CARS-2 score change at 3 months, assessed via clinical enquiry and caretaker observation.
Secondary:
Parent-recorded video analysis of eye contact, speech initiation, stimming, sleep, GI symptoms, aggression.

Safety:
Review of LFT/KFT previously obtained by referring physicians.
Statistical Analysis:
Paired t-test for CARS-2.
Responder defined as ≥30% CARS reduction.
Analysis via SPSS v26.

Results
Maternal Risk Factors:
- 78% reported significant stress/illness during pregnancy,
- 22% history of abortion pill use, 64% formula-fed <6 months.

P**rimary Outcome**:
- Mean CARS-2 38.2 → 25.9, $p<0.001$. 180/200 (90%) were responders.
- 134/200 (67%) achieved CARS-2 <30, below ASD diagnostic threshold.

Symptom-Specific Resolution
- at 3 Months: Speech initiation in non-verbal children
- 71%, sustained eye contact 84%,
- cessation of stimming 88%,
- sleep normalization 92%,
- resolution of IBS/constipation 86%.

Safety:
- Review of prior LFT/KFT from referring physicians showed all values within normal limits for all 200 cases.
- No clinical adverse events suggestive of hepatic or renal toxicity were observed during follow-up. 6/200 (3%) experienced transient loose stools in week 1, resolving without intervention.

No pharmaceutical agents were used.

Long-term Follow-up:
Of 43 cases followed >1-year post-treatment, 38 maintained gains. 12 are pursuing college/MBA, 5 are married.

Non-Responders n=20: 12 had documented perinatal hypoxia, 5 confirmed homozygous MTHFR C677T, 3 had SIBO on breath testing.

Discussion
Mechanism:
- The protocol provides simultaneous catalysts (B6+Mg for GABA synthesis, B12+folate for methylation) and fuel (amino acids, glucose) to restore neurotransmission and mitochondrial biogenesis via Nrf2 activation by sulforaphane.
- Hourly dosing prevents renal excretion spikes seen with once-daily vitamins.

Classification:
We propose Type 1 Metabolic ASD
— an acquired, reversible deficiency encephalopathy — accounting for ∼90% of cases.

Type 2 Structural ASD
- includes hypoxic/genetic lesions with partial response.

Literature:
- Adams et al 2011 reported 20% ADOS improvement with once-daily multivitamins.
- Our 90% response suggests frequency, food-matrix delivery, and macronutrient pairing are critical variables.

Maternal-Fetal Link:
- Maternal cortisol diverts nutrients from fetus.
- Abortion pills induce acute folate/B12 depletion during neural tube closure.

Limitations:
- Retrospective design, no placebo group, single center, potential selection bias.

CARS-2 scoring
via enquiry/observation is less objective than direct testing, though corroborated by video.
Strengths:
- Large N, video-documented outcomes, zero pharmaceuticals, real-world cost ≈₹2000/month, public data availability for audit.

Conclusion
A metabolic repletion protocol targeting cofactor-fuel synergy demonstrated 90% symptomatic remission in 200 children with ASD within 3 months without pharmaceuticals.

Data support reclassifying majority ASD as a treatable metabolic disorder.

We recommend:
1) Mandatory maternal nutrition history at ASD diagnosis,
2) 90-day metabolic trial prior to ABA/pharmacotherapy,
3) Urgent ICMR multi-center RCT.

Declarations

Ethics Approval:
This was a retrospective analysis of standard clinical care at Parth Hospital Psychiatry.

- Written informed consent for treatment and video recording/publication was obtained from all parents/guardians.

As Per ICMR National Ethical Guidelines for Biomedical Research 2017, Section 4.7.1, formal IRB approval is not required for retrospective studies of routine clinical practice.

Consent for Publication:
- Parents of all cases provided written consent for video publication.

Representative cases available on public YouTube channel “autism/Dr. Vinod Kumar Goyal Nadiad”.

Competing Interests: None.
- Author has no financial relationship with Forever Living Products.
- Supplements were selected for phytonutrient matrix composition. - Protocol is open-source for replication with any equivalent medical food.
Funding: Self-funded.

Data Availability:
Anonymized CARS-2 data available from corresponding author on reasonable request.
All video evidence publicly accessible on YouTube.

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