

Effectiveness evaluation of personalized-precision Homoeopathic Medical Interventions in Autism Spectrum Disorder Management: A Case Series Report

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Abstract

The prevalence of Autism Spectrum disorder (ASD) is a significantly increasing trend globally and considering its high prevalence now it's also termed "ASD epidemic". Autism Spectrum Disorders (ASDs) are a group of neurodevelopmental disorders found in children which are chronic in their presentation. ASD affects children's social, communicative and interactive behaviour spheres. The etiology of ASD is complex and its understanding has significant limitations. ASD patients also tends to have high significance of co comorbidities like epilepsy, Schizophrenia, IBS, cranial anomalies etc. Despite of ASD's high prevalence, there are significant limitations with its conventional medicine understanding and therapeutic approach. That may be possibly due complexity of ASD aetiology; multi sphered impact of diseases and symptoms manifestation change with individuals. Thus understanding and management approach to ASD demands a personalised and holistic approach. In this background, Homeopathy can be a potential system for managing ASD. Homoeopathy interventions focus on personalised-precise approach and rely upon holistic understanding of body, mind and consciousness. There are very limited scientific publications with evaluation of the effectiveness of homoeopathy intervention with ASD conditions. Thus here, we report case series of ASD patients treated with a personalised-precise approach of homoeopathy. A total of 30 diagnosed cases of both genders below 12 yrs of age with clinical symptoms of ASD were selected.

CARS scale assessment was used to evaluate the pre-intervention status—outcome of the treatment considered by analyzing the symptom change and assessing post-CARS scale values. The final evaluation of the data was done with paired 't-test. Results indicate that one year of homoeopathic personalised-precise intervention was observed to give improvement to ASD symptoms along with overall improvement in

health status. CARS scale value kept to significantly reduced in cases. The case series documentation can be considered an ideal practice based on evidence for establishing the effectiveness of personalised-precision homoeopathic intervention in managing ASD conditions. However well designed clinical trials are required further to evaluate the effectiveness of homoeopathy in ASD conditions for establishing high-quality totality of the evidence.

Keywords: ASD, Homoeopathic Medicinal Interventions, Personalized Precision Medicine, CARS Scale, case series report

Introduction: The global prevalence of Autism Spectrum Disorder (ASD) is showing an increasing trend, and it is also termed the "ASD epidemic"¹. Autism Spectrum Disorders (ASDs) are a group of neurodevelopmental disorders found in children with chronic clinical presentation. ASD affects children's social, communication and interactive behaviour spheres². They present unique challenges to families, teachers, and others who work with them³. Their deficits involve nonverbal and verbal communication, which requires intense effort and skill even in teaching basic information. As per the ICD-10 diagnosis, the ASD symptoms should be present before three years of age⁴. Children with ASD have delayed development in milestones during their first year of life, or they may develop typically and later come to a standstill. Most children with ASD may present with a lack or delay of development in communication skills during their first two years of life or regression of language, communication and social skills after 15 months or 2 yrs of age. In all children suspected of having ASD, a thorough physical examination and screening for hearing and vision problems should be conducted before going into the screening specific for ASD. One of the primary diagnostic tools used and accepted internationally is the Childhood Autism Rating Scale (CARS)⁵. The CARS has better inter-rater and test-retest reliability. Other than CARS, the Indian Scale for Assessment of Autism (ISAA)⁶ and the Autism Diagnostic Interview (ADI) are used for ASD assessment.

The aetiology of ASD is complex, and its understanding has significant limitations⁷. ASD patients also tend to have a high significance of comorbidities like epilepsy, schizophrenia, IBS, cranial anomalies, etc⁸. Despite ASD's high prevalence, there are significant limitations with its conventional medicine understanding and therapeutic approach. That may be possibly due to the complexity of ASD aetiology; multi sphered impact of diseases and manifestation of symptoms will change with individuals. Thus understanding and clinical management of ASD demand a personalised and holistic approach.

In this background, Homeopathy can be a potential system for the management of ASD as homeopathy interventions are focused upon a personalised-precision approach and rely upon a holistic understanding of body, mind and consciousness⁹.

There are minimal scientific publications about the evaluation of the effectiveness of homeopathic interventions in ASD conditions. Thus we observe that this series documentation of ASD patients treated with homeopathy can evaluate the effectiveness of homeopathy intervention in the management of ASD.

Methods:-

Thirty diagnosed cases of both genders below 12 yrs of age with clinical symptoms of ASD were identified and subjected to homeopathic medicinal interventions. CARS scale assessment was used to evaluate the pre-intervention status. Outcomes of the treatment were evaluated by analysing the symptom changes and assessing its associated post-CARS scale values. Paired t-test was used to evaluate the final outcome.

Discussion: Homeopathy, one of the complementary and alternative systems of medicine, is based on a holistic and personalised treatment approach. It can play an effective role in the treatment of ASD since it requires personalized care and a holistic approach.

Certain studies have been on the effect of Homeopathic medicine on ASD¹⁰. They have given encouraging results in reducing stereotypes and repetitive and behavioural issues of affected children. Most of them have been single symptom-based results only. Some scientific reviews published on the evaluation of the effectiveness of Homeopathic medicine on ASD did not get sufficient popularity due to a limited number of case studies and also the use of acute medicines to manage symptoms like hyperactivity. In homeopathy, Dr. S. Hahnemann defined the totality of symptoms in aphorism 7, 16 & 17 defined and explained the totality of symptoms and how it forms the expression of deviation from health. He defined the totality of symptoms in aphorism seven as the “outwardly reflected picture of the internal essence of the vital force, i.e., the affection of the vital force”¹¹. According to him, the only way in which the disease finds its expression is through the signs and symptoms. The manifestation of the signs and symptoms are the expressions of the deranged health of an individual. It is through these we perceive a diseased individual and the correction of these expressions only leads to the ultimate cure of the disease. Various Homeopathic repertories represent ASD features under several rubrics. Schroyens listed most of the symptoms of ASD in the chapter Mind. He gave important remedies that come under the condition Autism under the rubric AUTISM and various common behavioural symptoms commonly found in ASD in the mind chapter under the rubrics. Homeopathic Materia medica is a

collection of recordings or daybook of proving of homoeopathic medicines done on healthy human beings. It is rich in information about the changes in sensations and functions, giving the physical and mental makeup of the person while proving a particular medicine. And this is the basis of the concept of the constitution in the study of homoeopathic materia medica. The constitution of a person or homoeopathic medicine can be studied from various materia medica. By taking into account of all the symptoms of the patient any remedy in homoeopathic materia medica can be selected for the treatment of ASD. In these 30 ASD cases, Single medicines matching the symptoms were given. They were followed up at fortnightly intervals with periodic consultation with the Clinical Psychologist as required. The potency of the medicine had been selected based on changes in the duration of action. In all the 30 cases homoeopathic medicines are selected based on the totality of symptoms and individualization of each case.(Table 1.1)

The medicine selected showed no adverse reaction in autistic kids/patients.

A few patients who were on allopathic medication for hyperactivity showed an increase of hyperactivity for a shorter duration on withdrawal of that medicine. But resumed back later on the continuation of indicated homoeopathic medicine.

Each autistic individual is different and is characterized by peculiar autistic symptoms in the entire spectrum. And hence addressing their issues are purely individualistic or personalized. Since Homoeopathic medicine selection is purely based on individualization based on the law of similars, matching the symptoms of the patients with the symptoms listed in materia medica acts as a precision medicine addressing precisely the individual totality thereby giving an overall change in the individual or patient. This is the rationale for selecting specific Homoeopathic medicine for managing these ASD patients.

All the 30 cases were started with 200th Potency and they reached up to 50 M. Five of the cases after reaching 50 M indicated another remedy with a change in symptoms picture or totality of symptoms. A significant improvement is being observed in almost all cases in terms CARS scale(Table 1.2). The improvement with the CARS scale after homoeopathy treatment was also found statistically significant.(Table 1.3)

Throughout the study along with the reduction in symptoms of ASD, there was also an overall improvement in the health of the children which appeared to increase their resistance to infections. Another important observation was that all the children who had seizure disorder showed a reduction in the frequency by 80% or more. We observe that The improvements with co-morbidities of ASD patients are important as they significantly affect the quality of life of ASD affected individuals and it's very challenging for caregivers as well¹².

The first changes noted are moderation in behavioural issues and a reduction in the frequency of infections. Retardation in the pace of change was noted in the development of speech in all of the cases. This agrees with the Homoeopathic law of

cure which states that the first noticed symptom will be the last one to disappear if the cure is in the right direction. Another reason appeared to be that the speech in ASD was found to be lost or regressed when the children were at a younger age group during which the cognitive functioning in speech begins to appear and progress. So when we begin the treatment at a later age, the speed of recovery appears to happen at a slower pace to achieve all those cognitive abilities a normal child achieved through the years.

Results:-

Results indicate that one year of homoeopathic personalised-precision interventions provided an improvement to the symptoms of ASD patients. The overall health status of the subjects was improved and it was evident from the reduction in CARS scale values of the subjects after the homoeopathic interventions. CARS scale improvement after treatment was also observed to be statistically significant. The improvement of CARS scale value was also observed to be statistically significant.

Conclusion:-

This case series documentation is ideal practice-based evidence for establishing the effectiveness of personalised-precision homoeopathic intervention in the management of ASD conditions. However well-designed clinical trials are required further to evaluate the effectiveness of homoeopathy in ASD conditions for establishing a high-quality totality of the evidence.

Disclosure statement

The authors has neither financial interests nor conflicts of interest to declare in relation to the material in the manuscript.

Author contribution: Conceptualization: SL; Data curation: BBR ; Formal analysis: SL; Supervision: NG; Validation: GS; Writing - original draft: SL; Writing - review & editing: NG

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Tables

Table (1.1).

This table contains list of homeopathy medicines used for treating documented cases of ASD.

S.No.	Medicines	No:
1	Veratrum alb	3
2	Medorrhinum	4
3	Carcinocin	7
4	Phosphorous	4
5	Calcarea phos	4
6	Kali Carb	1
7	Baryta carb	2

S.No.	Medicines	No:
1	Veratrum alb	3
2	Medorrhinum	4
3	Carcinocin	7
8	Cina	1
9	Natrum Mur	1
10	Calcarea carb	2
11	Kreosote	1
12	Psorinum	1
13	Hyoscyamus	1

Table(1.2)

This table shows CARS scale value before and after of personalised-precision homeopathy treatment

S. No:	CARS Score-Before Treatment	CARS Score-After Treatment	d	d²
1	47	37.5	9.5	90.25
2	40	35.5	4.5	20.25
3	45.5	26.5	19	361
4	50	42.5	7.5	56.25
5	49	43	6	36
6	45	24	21	441
7	31	24	7	49
8	48.5	34	14.5	210.25
9	35	27	8	64
10	40	24	16	256
11	42	23	19	361
12	36	30.5	5.5	30.25
13	45	38	7	49
14	48	41	7	49
15	38	31	7	49
16	34	31	3	9
17	34	32	2	4

S. No:	CARS Score-Before Treatment	CARS Score-After Treatment	d	d²
1	47	37.5	9.5	90.25
2	40	35.5	4.5	20.25
3	45.5	26.5	19	361
4	50	42.5	7.5	56.25
18	41	33	8	64
19	43	35	8	64
20	38.5	24.5	14	196
21	25.5	20.5	5	25
22	47	43	4	16
23	45.5	32	13.5	182.25
24	42.5	35	7.5	56.25
25	39	31	8	64
26	41.5	37	4.5	20.25
27	36	32	4	16
28	46	43	3	9
29	36	34.5	1.5	2.25
30	38	32	6	36

Table (1.3)

This table shows statistical test done with CARS scale before and after homeopathy treatment

Result	Before Treatment (X1)	After Treatment (X2)	Calculated 't' value	Tabled 't' value
Mean (\bar{X})	40.91	32.56	8.743	2.756
SD	5.79	6.32	<div style="display: flex; justify-content: space-around; padding: 10px;"> 8.743 2.756 </div>	
Minimum Value	31	20.5		
Maximum Value	49	43		