



## **“Homoeopathic Perspective of Attention Deficit Hyperactivity Disorder - Hyperactive Type – A Review”**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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**Review Article**

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### **ABSTRACT**

Attention Deficit Hyperactivity Disorder (ADHD) is commonly diagnosed neuropsychiatric condition affecting the children and adolescence. Nearly 8 percent of school - going children were diagnosed as ADHD and mostly as hyperactive type. More than 60 percent of children with ADHD were progressed to grow with the symptoms into adulthood which causes significant impaired academic achievements, poor interpersonal skills, disordered social activities, and various psychiatric disorders like learning disability, substance abuse, mood disorders, disruptive behavior disorder, etc., Homoeopathy a unique system of medicine which provides a beneficial effect on the human body through its ultra-diluted and potentized drug substances adopting holistic approach. There are reliable sources where homoeopathy proves its efficacy in treating ADHD children. This article provides a cluster of remedies derived through repertorisation considering only the symptoms of ADHD hyperactive type which will be helpful in cases where the individualization of the child is difficult to achieve. Considering the symptomatology of ADHD hyperactive type

mentioned in DSM V criteria the most indicated remedies among various remedies were Medorrhinum, Nux. Vom, Carcinosinum, Hyoscyamus, Anacardium, Chamomilla, Veratrum. Album, Coffea Cruda, Tarentula etc.

**Keywords:** ADHD – hyperactive type; DSM V – diagnosis; radar 09; homoeopathic remedies.

## 1. INTRODUCTION

ADHD is a neuropsychiatric disorder affecting preschoolers, children, adolescents, and adults all over the world. It is characterized by a pattern of decreased sustained attention and increased impulsivity or hyperactivity. There is strong evidence for a biological basis for ADHD based on family history, genotyping, and neuroimaging research. The neurotransmitter dopamine is considered as the main focus of investigation in ADHD comparing various other neurotransmitters. Dopamine is highly utilized in the prefrontal cortex and towards the function of decision making, working memory, response inhibition, and attention. In vigilance it has reciprocal connections [1].

Worldwide around eight to twelve percent of children are affected either by inattentive, hyperactive, or impulsive type of ADHD and more in lower socioeconomic status at a young age. Also on a gender basis males are affected more than female children [2]. In many studies, it has been concluded that the risk of getting ADHD is heritable from parents of nearly two to eightfold, and also similar magnitude was observed among the siblings of the ADHD children [3]. Few studies also demonstrated that biological relatives are more vulnerable to get ADHD children than adoptive relatives [4].

In a twin study conducted by Faraone et al to examine the heritability of ADHD, it is identified as monozygotic twins have more chances to get ADHD compared to the dizygotic twins and the mean estimate stands around 76% heritable to get ADHD features among many other psychiatric disorders [5]. The genetic study was conducted by Stephen.v.Faraone et al demonstrated that several genes stand for the aetiology of ADHD and through a meta-analysis it is evident that particular gene coding for DRD4, DRD5, SLC6A3, SNAP-25, and HTRIB were responsible for the genetic aetiology of the ADHD disorder [6].

### 1.1 Risk Factors

Few biological risk factors were certain dietary materials that influence the causative factors of

ADHD, pregnancy & delivery complications, toxemia, eclampsia, maternal smoking or alcohol intake, malnourished mother, prematurity, prolonged labor, and pre/postpartum hemorrhage. Due to hypoxia, the basal ganglia responsible for producing ADHD symptoms will hinder dopaminergic functions. The psychosocial risk factors were understood through the study conducted by Rutter who postulated that low socioeconomic status, parental discord, behavioral problems during childhood, large family members, criminal acts from parents, and fostering children add the risk factors of ADHD. Certain symptoms like depression in the mother, chronic long-standing conflict between the couples and in the family, exposure to parental psychopathology are common in ADHD children [7].

### 1.2 Pathophysiology

A growing body of research suggests that the frontostriatal network has a role in the pathophysiology of ADHD. The lateral prefrontal cortex, dorsal anterior cingulate cortex, caudate nucleus, and putamen are all part of this network. The volume of the basal ganglia, prefrontal cortex, cerebral volume, dorsal anterior cingulate cortex, corpus callosum, and cerebellum was found to be reduced in ADHD patients [8]. Few studies have been carried out to understand the symptom expression of inattention and hyperactivity/impulsivity in ADHD. In a meta-analysis, different functional abnormalities have been found in the domains of hyperactivity/impulsivity and inattention. A reduced activity has been observed in the right inferior frontal cortex which extends into the anterior cingulate cortex, anterior insula, supplementary motor area, caudate, and thalamus in cases of ADHD with motor inhibition tasks. On the other side, there is reduced activity of the right dorsolateral prefrontal cortex, posterior thalamus, parietal lobe, caudate tail, and putamen were noticed in cases of attentional tasks [9].

### 1.3 Diagnosis

According to DSM V, the behavioral symptoms of ADHD child are categorized into Inattention,

Hyperactive/impulsive, and combined type. The symptoms are persistent and interferes with normal functioning or development of the child. For diagnosis the symptoms must present for at least 6 months period of time in two settings.

The **Inattention type** –DSM V - 314.00(ICD 10 - F 90.0) which is characterized by the presence of six or more of the following behavior in the past 6 months.

1. Missing details and making careless mistakes in schools due to poor attention,
2. Difficulty in maintaining attention till achieving the task,
3. Not listening to words when spoken to,
4. Failing to complete the work by following any instructions,
5. Difficulty in keeping orderly acts and organized works,
6. Avoiding works which need sustained mental work,
7. Missing things that he/she regularly takes to school/work,
8. Easily distracted by external stimuli, and
9. Forgetful in daily events

The **Hyperactivity/Impulsivity type** – DSM V - 314.01(ICD 10 - F 90.1) are characterized by the presence of six or more of the behaviour in the past 6 months.

1. Fidgety hands or limbs,
2. Unable to maintain in same seat where supposed to be,
3. Running and climbing restlessly in an inappropriate places,
4. Difficulty to practice a quiet play,
5. Always on the go as if driven by a motor,
6. Increased talk,
7. Blur out answers before the completion of questions,
8. Difficulty to wait for the turn,
9. Repeated interruption in others conversations, games, etc.,

The **combined presentation** – DSM V - 314.01(ICD 10 - F 90.2) is characterized by both the behavioural patterns of inattention and the hyperactive/impulsive type.

Additionally for confirmatory diagnosis the symptoms must present before the age of 12 years and in two different settings with evidence of scholastic backwardness, significant impairment in quality of life and not a part of any

other psychiatric illness like schizophrenia, personality disorders, substance abuse, Intellectual disability, etc.,

The current severity of the condition is marked by

1. Mild (few symptoms with minor social impairment),
2. Moderate (few symptoms with impairment between mild & severe),
3. Severe (many symptoms with marked impairment in social and occupational functioning) [10]

#### 1.4 Assessment Tools

To identify the symptom for diagnosis, and severity of the symptoms the ADHD Rating Scales- IV is commonly used and found to have good reliability. It is an 18 item questionnaire with parent and school versions which approximately takes 5 - 10 minutes to complete [11].

To understand and evaluate the Quality of life of patients with ADHD symptoms and the core symptoms of ADHD the generic and self-reported scales like Adult ADHD Quality of life (AAQoL), Weiss Functional impairment scale (WFIRS), ADHD Impact Module for Adults (AIM-A), ADHD Impact Module-Child (AIM-C) can be used which was proven to have good reliability and also profitable [12].

The symptoms of ADHD are assessed primarily by long persistence in achieving a task like reading, drawing, group or single play, frequently changing games, and having good persistence in TV and computer games cannot be considered. Secondly the motor activity of the child is assessed through the proportion of fidgeting, restless running, climbing, or wandering in open areas like parks, shopping malls, and supermarkets. Lastly, impulsiveness is assessed through blurting of answers before the questions are completed, could not wait for the turn, and unnecessary involvement in other person games or arguments and conversations.

The condition has to be differentiated with normal child activity, situational hyperactivity which is recognized by normal scholastic performance, and other child psychiatric conditions like behavioral disorders, emotional disorders like severe anxiety, mania, depression, tic disorder, chorea, dyskinesia, autistic spectrum disorders, and intellectual disabilities. On prognosis, the

hyperactivity may resolve as the age ascends and the problem with impulsiveness and inattentiveness will lead to poor academic and occupational achievements. Children with ADHD & comorbid conditions are vulnerable to progress into substance abuse and antisocial behaviors [13].

### 1.5 Management

Psychostimulants like methylphenidate, dextroamphetamine were studied frequently and conveyed that it's most effective in the treatment of core symptoms of ADHD with few adverse effects. Many other studies shown that atomoxetine, guanfacine, and clonidine have lower effectiveness when compared to psychostimulants [14]. Medications like antidepressants (Bupropion), atypical antipsychotics (Risperidone, Aripiprazole), and mood stabilizers (Carbamazepine) were used off-label when psychostimulants are found ineffective which is not recommended by FDA for ADHD management [15].

A systemic review and meta-analysis of RCTs involving dietary and psychological treatments conducted by Sonuga-Barke et. al convey that behavioral therapies like neurofeedback, cognitive training were found to have a positive role in the management of ADHD, still, the study recommends a blinded approach to understand the positive effects with more reliability. The study also suggests the free fatty acid addition and restriction of artificial food coloring have a shred of supporting evidence on the reduction of ADHD symptoms. The results of artificial food coloring factors were more effective in children sensitive to certain food substances. The study recommends the urgent need to have blinded randomized controlled trials based on the pathophysiology of ADHD symptoms and the future trials on the problems and management in the area of the parent, child and family relational issues [16].

A 14-month long period randomized controlled trial conducted by the National Institute of Mental Health (NIMH) with more than 500 children diagnosed with ADHD combined type, in six different clinical sites. It involved comparing four treatment methods such as the systemic medication, behavior therapies, combination of pharmacological and behavioral therapies and the fourth group with community care. At the outcome, the multimodal therapy, i.e the

combination of medication with behavioral therapies showed significant improvement in the children with ADHD. In long run, the combination therapy gave better results in aggressive symptoms, oppositional symptoms, and anxiety and mood symptoms. It also signifies the improvement in parent-child relationships, teacher-rated social skills, and reading achievement. Utilizing the combined therapy (Multimodal Therapy) has shown wide positive benefits in the children diagnosed with ADHD combined type. It is also effective in the management of comorbidities like disruptive behavioral disorders, learning disorders, anxiety disorders, and mood disorders which frequently co-occurs with ADHD children [17].

In review, herbal substances like Rhodiola (Rhodiolarosea) which is shown to have increasing serotonin levels, neuroprotective functions, improving cognitive abilities, nervous stimulants, works against fatiguing and anxiolytic actions. Chamomile (*Matricaria chamomilla*) acts as a mild sedative and also anxiolytic activity. St. Johns wort (*Hypericum perforatum*) has antidepressant actions, controlling the symptoms of irritability, restlessness, and anxiety, also has inhibiting actions in reuptake of dopamine, serotonin, and norepinephrine. Valerian (*Valeriana officinalis*) has anti-anxiolytic actions, antispasmodic and reduces restlessness, and improves sleep. Bacopa (*Bacopamonniera*) has positive effects on anti-anxiolytic activity, enhancing cognitive activities like concentration, memory, and learning. Few of above mentioned herbal active agents help in reducing the symptoms of ADHD and improving cognitive abilities. Certain herbal products were advised to take under the physician's supervision to avoid adverse reactions [18].

A double blind randomized placebo-controlled crossover study with 83 children between 6-16 years showed evidence & effectiveness of Homoeopathic management in ADHD especially in behavioural and cognitive domains which are assessed and analyzed through Conners Global Index (CGI) and neuropsychological testing [19]. A study conducted by John Lamont also shown the superiority and utility of homoeopathic medicines in the treatment of psychiatric illness and also support the evidence in the treatment of ADHD [20]. Another study conducted by Frie et al concluded that homoeopathy is useful especially in preschoolers diagnosed with ADHD.

**Table 1. ADHD Rating Scale IV: Scoring sheet in accordance to the presence of child behavior over the past 6 months**

S.No	ADHD symptoms	Never or Rarely	Sometime	Often	Very Often
<b>Inattention Symptoms</b>					
01	Fails to give close attention to details or makes careless mistakes in schoolwork.	0	1	2	3
02	Has difficulty sustaining attention in tasks or play activities	0	1	2	3
03	Does not listen when spoken to directly	0	1	2	3
04	Does not follow instructions and fails to finish work	0	1	2	3
05	Has difficulty organizing tasks and activities	0	1	2	3
06	Avoids tasks (eg. schoolwork, homework) that requires sustained mental work.	0	1	2	3
07	Loses things necessary for tasks or activities.	0	1	2	3
08	Easily distracted	0	1	2	3
09	Forgetful in daily activities	0	1	2	3
<b>Hyperactivity/Impulsivity Symptoms</b>					
01	Fidgets with hands or feet or squirms in seat.	0	1	2	3
02	Leaves seat in classroom or in other situations in which remaining seated is expected.	0	1	2	3
03	Runs or climbs excessively in inappropriate situations.	0	1	2	3
04	Difficulties in maintaining quiet play	0	1	2	3
05	Is "on the go" or act as if driven by a motor	0	1	2	3
06	Talkativeness	0	1	2	3
07	Burst out answers before the completion of question	0	1	2	3
08	Difficulty in waiting for his/her turn	0	1	2	3
09	Disturbs or intrudes on others works	0	1	2	3

Also, it reported that homoeopathy has similar effects to methylphenidate and it's a valuable alternative mode of treatment in children where the hyperactivity is not much marked [21].

## 2. HOMOEOPATHIC PERSPECTIVE

Homoeopathy is a safer system of management with ultra-diluted potentized medicinal substances which provide beneficial effects in the treatment of many physical and psychiatric disorders with no adverse effects. In the conventional mode of treatment, the usage of antibiotic courses for about 4 or more courses with a duration of 3 weeks or longer increases the ADHD risk in a certain population and which is not observed in the cohort of sibling [22].

Few other studies suggest that intake of non-absorbable antibiotics during the time of pregnancy interrupts the microbiota of the maternal gut in turn resulting in behavioral problems in the offspring's and which the

detailed mechanisms have to be studied further [23].

Homoeopathy cures rapidly and safely. It uses dilute and minute drugs that will do the cure, so there is no danger of poisoning, or an idiosyncrasy of the patient to a remedy. As a result, it does not cause allergies or other bad effects. The general health of the patient improves under homoeopathic treatment, even when treatment is directed toward some particular ailment or disease. Homoeopathy overcomes the bad effects of various treatments, such as vaccinations, inoculations, antibiotics, and various crude treatments, which often do so much harm to the patients [24].

Samuel Hahnemann classified mental diseases into four main categories.

- A. Mental diseases originating from corporeal diseases. (\$210 220)

- B. Mental diseases are suddenly broken out as an acute disease in the patient's ordinary calm state, arising from internal psora i.e. mania or insanity(\$221 223)
- C. Mental diseases of doubtful origin(\$224)
- D. Mental diseases originate primarily from emotional causes (\$225 227) [25].

differs depends on the availability of detailed case information through ailments from, mental disposition, physical generals including sleep & dreams, Thermal state, characteristic particulars, and temperamental build-up and predispositions of disease affections, etc. The following group of remedies derived may be utilized in cases where there is a deficiency of plausible symptoms to arrive at the constitutional picture.

Considering the DSM symptoms of the hyperactivity symptoms like fidgety nature, leaves seat in classroom or in places where seating is expected, restless running here and there, climbing inappropriately, difficulty in maintaining quiet play, often on the go as if driven by motor, talkativeness, advanced answering before the completion of questions, difficulty in waiting for her/his turn, frequent interruption in other works has been converted into identifiable direct rubrics to arrive at commonly indicated remedies based on disease symptoms. However, the constitutional picture

Schroyens F.synthesis 9.0 English (SE 90), using RADAR Homoeopathic software [26] original version 10 has been used to repertorise the symptoms of ADHD – hyperactivity expressions. Based on the keywords of the symptoms(as mentioned in DSM V) were used to arrive at the repertorial totality based on disease symptoms through direct rubric search. The group of remedies arrived based on the symptoms has been shown in Fig. 1 – Investigation window for remedies.

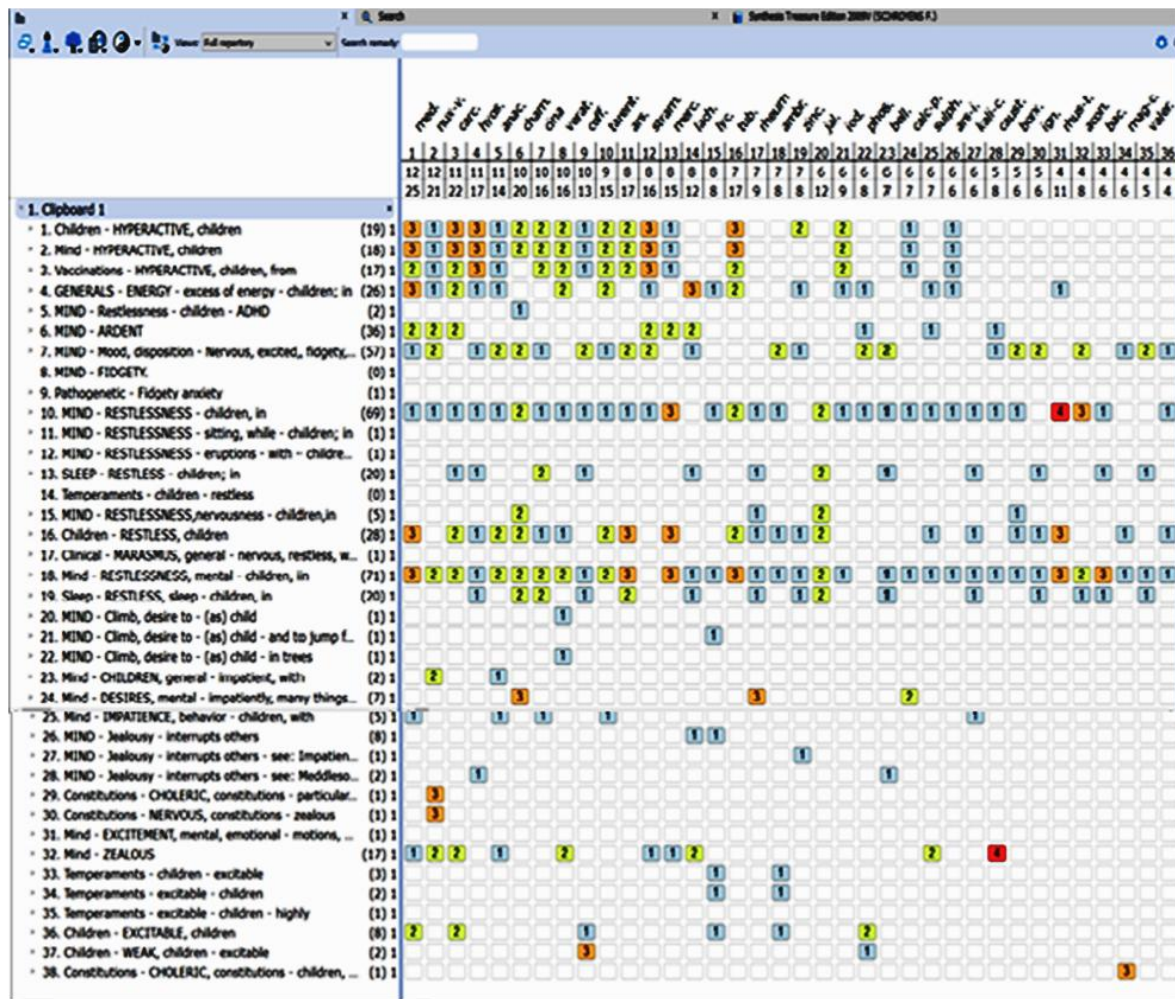


Fig. 1. Investigation window for remedies

## 2.1 Homoeopathic Remedies

The remedies derived considering the hyperactivity traits of ADHD symptoms were Medorrhinum, Nux.Vom, Carcinosinum, Hyoscyamus, Anacardium, Chamomilla, China, Verat.Alb, Coffea, Tarentula, Arsenic.Album, Stramonium, Mercurius, Lachesis, Lycopodium, Tuberculinum, etc., Based on various Materia Medica the key indications and characteristic symptoms of few derived remedies are summarized below [27 – 32].

### 2.1.1 Medorrhinum

On the mental/emotional level, this remedy is almost maniacal – aggressive, forceful, and wild. Most of the time the emotions & nervous system were over-excited similar to Nux.vom and Tarentula. There is always an internal wildness and it's like a sudden storm. There is a feeling of hurriedness like In Tarentula but in Medorrhinum it is fitful. They are always in a hurried state with no works completed methodologically and in the right manner. Children are prone to develop burning and red eruptions over the perineum. Children of beauty conscious with a desire to use aromatic sprays and deodorants, fearless to strange persons and places, independent child and does things on their own. Children with a family history of domination, child abuse, or discord among parents, curious, impatient, and zealous child. The mentally unfocused child with no aims in activities enjoys inflicting injuries to animals and small children, disobedience, weakness of memory, especially of his/her close friends. A pale, rachitic, mentally dull, and weak child, cannot speak without crying, craving for fresh air, early milestones with love for adventure. Irritated during the day and active and creative during the night. Passionate, optimistic, and enthusiastic children with a desire to have a royal and prestigious life. Prone to get asthma which is better by lying on the abdomen and also rheumatic affections in childhood. Complaints are generally worse in damp weather, daytime, 3 AM to 4 AM, after micturation, perspiration, leaning the head forward, and better by lying on abdomen, fresh air, seaside, and at sunset.

### 2.1.2 Nux.Vomica

A Child with the quality of achieving its best, ardent, and ambitious nature. Good in studies and involves most of the time in studies. Zealous. Very Careful and precise attention in activities. Sensitive to least noise. Always wants to be

independent. Always keeps busy with some activities. Disposed to anger, enmity, or deception. Dominating nature towards the siblings and possessive towards their personal belongings. Academic Jealousy, can't tolerate other children scoring more marks, envious. The Impulse to injure, kick animals with cruelty. Increased sexual impulse in child, impatient, scolding others, hypersensitive, disposed to malicious act, reproaching others for silly reasons. Predominantly male remedy with quickness, activeness, and quarrelsome nature. Adapted to a thin child who likes to have a sedentary lifestyle and likes prolonged work hours and continuous business accomplishment. To continue with prolonged work pressure prefer to take stimulants. Prone to get digestive disturbance, portal congestion, with hypochondriacal states. Generally, complaints aggravated after spicy food, using stimulants, slight noise and touch, dry weather, and cold exposure. Feels better by rest, hard pressure, and in the evening. Nux.vomica antidotes Coffea, Cocculus, and Ignatia.

### 2.1.3 Carcinosinum

The Child with excessive responsibility is imposed at an early age due to an unsupportive family environment. Most of the time interested in reading books and are poor in physical abilities and competencies. Suppressed emotions due to irresponsible parents and revengeful against his parents. Child freedom, interest, and expressions were suppressed by parents due to excessive love, care, and affection. Children of stubborn, strict, overambitious, and passionate parents. Over maturity of children, always prefers to have a company with elderly. Silent observers with great interest to learn new ideas and experiments. The Passionate and ambitious child with good perseverance in attaining the highest goal. Affectionate and enjoys the time with animals by caressing, kissing, holding, etc. Keener in cleanliness and does things with perfection at all attitudes. Express high anxiety before appearing in public and during exams, bashful and timid child in the classroom. Clairvoyant child. Attached with family members, feels anxious and nervous if any of the family members have health issues. Tendency to develop obsessive features like checking and rechecking, repeated cleaning, and washing. Complaints have origin from obstinate and dominant parents, after physical or sexual abuse, mortified, punished, after the death of loved ones, and unresolved or prolonged grief.

Aversion to feathery and fluffy toys. The Violent child with temper tantrums towards family members and teachers after contradiction. Difficulty in reading and learning with reduced confidence with average scholastic performance. Feels better during thunderstorm, lightening and near seashore.

#### **2.1.4 Hyoscyamus**

Commonly known as henbane which acts more predominantly in the brain and nervous system. Adapted to talkative, hyperactive, disruptive, violent, and contradictive children. Suited to sanguine temperament with nervous and hysterical features. Explosive, jealous, and has fear of being poisoned. Indicated in cases with seizures, cramps, and tremors in extremities. Neglected feeling and jealousy of child after the birth of the younger ones. Fear of being betrayed. Poor or no control in expressing the thoughts and actions especially in inappropriate situations. Injurious destructive, insulting nature, contradictive and quarrelsome. Early sexual indulgence with increased sexual desire. Enjoys singing lascivious and amorous songs in public. Erotic most of the time. Increased talk with great energy. Cursive, using filthy language, complaining about others, slandering, and mocking. Generally, complaints are more after eating, at night, and lying down, and feel better by bending forward. Hyos can be used as an antidote after Bell and Camphora.

#### **2.1.5 Anacardium**

Commonly called as marking nut and available in tropical parts of India and Himalayas. The nuts look dark & hard with deep inside sweet. On remedial understanding expresses the same as malicious nature with a good heart inside. Indicated for child abuse, mostly by strict parents with cruel punishments. Feels controlled by two wills. Poor self-control increased anger and misbehavior and destructive nature. Excessively sensitive in minor faults leading to great violence. Indifference and odd feeling. Either acceptable or unaccepted issues excite his sympathy. Could not tolerate contradiction leading to rage. Loud screaming with furious acts compels the child to restrain. Uncontrolled desire to curse and swear. Early involvement in sexual activities. Forgetfulness and sudden loss of continuity of thoughts. Poor attention. Difficulty in performing all intellectual activities. Difficult to differentiate between right or wrong decisions. Out of control, knows the things are wrong but repeats the

doings. Poor or no interactions between the right and left sides of the brain. Laughs at serious moments and serious at laughter. Fearful to appear in public and stage, inferiority complex, poor confidence, cruel playing towards insects, difficulties in making correct decisions.

#### **2.1.6 Chamomilla**

The nervous types of children from Borland's classification. Children with high irritability, restlessness, anger, hyperesthetic, and never satisfied. Restlessness is similar to Ars.Alb. Oversensitive to mild pain leading to a frenzy of rage. Liable to scream at great tone and stamp when abstained. Child better by slow movement and carrying about. Hyperactive and restless children due to increased anger and dissatisfaction with one cheek red and hot and other pale and cold. Peevish hits and strikes at parents and care-takers. Restless walking, quarrelsome, snappish, impatient, inconsolable, capriciousness with piteous moaning and never satisfied with things when offered. Never satisfied in his doings. Won't allow anybody nearby and aversion to touch. Mental restlessness is highly marked. Frightful dreams with loud screaming. Generally, complaints are aggravated at night and by anger and feel better by being carried.

#### **2.1.7 Cina**

Borland's nervous type of children with similar features of chamomilla. The major difference denotes cina child is highly obstinate and chamomilla the child is more unstable. Suited to children of an ill-humored, capricious, cross, restless, dark-haired child. Hurts parents by pinching, scratching while frustrated. Elderly look, ugly, moody, and dissatisfied child. Restless during sleep. Circular red patches over cheeks and noticeable pallor over mouth and nose. Over-sensitive to touch and completely better by carrying and steady passive motion. Demands food immediately after a heavy meal, nightmares, and night terrors after a late and heavy meal. Tendency to get diarrhea with white watery stool. Repeated abdominal upsets with better by pressure over the abdomen and lying on the abdomen. Sensitive to any draughts of air, muscular cramps, and twitching. Hyperesthesia in head and scalp. Uncontrollable yawning with a tendency to dislocation of the jaw and linked with acidosis sometimes. Intestinal upsets leading to restlessness and rubbing the head into the pillows due to meningeal irritation. Tendency to



develop to internal squint. Complaints generally worsen from annoyance and vexation, angry. Better by slow and steady motion.

#### **2.1.8 Verat.Alb**

Adapted to nervous sanguine temperament, disobedience, and behavioral problems due to inner frustration. Restless and repeated acts like cutting papers and stacking things. The child with extreme coldness, blueness, and weakness. Frequent lying and talks unrealistic things. Acute violent mania with insanity, shrieking, howling at night, regretful and coprophagia. Great desire to take icy cold water, sour and acid things. Increased perspiration of the forehead. Kissing mania and exposes genitalia. Vomiting, purging, and frequent cramps in extremities. Complaints worse in a dark, cold, and wet climate and feels better by warmth, heat, and walking.

#### **2.1.9 Coffea.Cruda**

Adapted to tall, thin children with stooping shoulders and dark complexion. Careful children and remorseful when things go wrong. Sensitive to slight touch and any noise, slight pain leading to restlessness, anguish, and despair. Active memory, cheerful, vivacious, prefers to stay in darkness. Full of ideas, sharp to act could not relax during sleep. Good phenomenal memory to remember lengthy logarithms, tables, poems, formulas, etc., Industrious and Creative mind with keenness, intellectual mind with the unusual activity of mind and body. Hyperactive and restless like an untiring horse. Slow in eating and drinking. Howling and screaming over trifles. Capricious. Fear of pain and suffering. Says alright even at the sick stage. Sudden emotions make him faint easily.

#### **2.1.10 Tarentula hispanica**

Children with excess energy and restlessness, reckless and always busy with doing some of the other activities. Hurried, fiery red loses control easily, desire to walk still aggravates the complaints. Fidgety, restless legs, incessant motion with difficulty to do anything. Irritable and destructive, violence with self-hurting, banging head himself. Tears clothes and break things. Erotomania, intense sexual desire, overt sexual advances. Cunning, desire to dance which relieves the complaints. Hysterical convulsions. The least excitement gives irritation followed by vivid sadness. Poor self-control, changeable mood, from nervous laughter to sudden scream,

hateful, clever, crafty, destructive, and kleptomania. Dislikes Company still needs someone nearby. Angered, ungrateful, discontented. Loves music, feels calm and pleasant on hearing music, better by wild dancing. Complaints worse from motion, contact, noise, weather change, and touch on the affected part. Feels better by music, dance, rubbing affected parts, outdoors. Tarentula is complementary to Ars. Alb

#### **2.1.11 Stramonium**

Adapted to plethoric children, stammering speech, red hot face with a circumscribed red cheek, struggles to frame a word, complaints after witnessing acts of violence, heavy road traffic accident, and sexual abuse. Primary action over the brain with marked mental disorders, delirium, and hallucinations. Increases muscular mobility which is graceful, rhythmic, or disorderly of head and arms. The commonest mania is nymphomania of lying-in women, religious mania in exaggerated and ridiculous scruple of conscience. Frightful events followed by nightmares developed into a rage. Fear of red and black color, dogs, closed places and tunnels, cemeteries, and heavy water bodies. Fearful clings to mother, desire light and company, the changeable mood from raving mania with cursing and praying, a joy to sadness. Weeps in dreams and awakes with screaming. Sleepy but could not sleep. Painlessness with most of the conditions. Rage is uncontrollable, impulsive, and without malicious forethought. Purposeless Hyperactive children, distract themselves and others, all kinds of destructiveness, striking, tearing, shearing, and smashing things with extraordinary strength and power. Complaints worse on dark, from fright, alone, bright or shining objects, after sleep and swallowing. Feels better in a company, from bright light.

#### **2.1.12 Mercurius**

A hyperactive and restless child with fidgety fingers, hands, and toes, impulse to pull others hair or nose, runs around and climbs excessively, constant move and hurried movements, talkative, and difficulty in maintaining seat in the classroom. Aggressive on slight contradiction, abusive, destructive, and tendency to initiate fights, lack of guilt. Destructiveness, induces physical harm, serious violence and misconduct. Cruelty to animals and indulges other children in sexual activities. Responsible children with conducting duties

conscientiously. Workaholics. An adventurous child with an excessive desire for activity and no sense of danger. Makes mistakes in reading, writing, misplacing words, difficulty in calculations. Temper tantrums tendency to spit on other faces. Obstinate, furious, headstrong children. Sleeplessness at night and feels drowsy during the daytime. Fear of high altitudes, injections, robbers, and thunderstorms. Loves thrilling and adventurous games. Constantly dissatisfied, moaning and groaning. Sensitive to both extremes of temperature. Tendency to get glandular and scrofulous affections of children. Immune-compromised children with a history of recurrent ear infection and marked action over lymphatic glands. Great weakness, debility on slight exertion especially after stool. Lack of vital heat & worse from the warmth of bed and night aggravation, damp weather, getting wet & perspiration.

#### **2.1.13 Lycopodium**

Adopted to thin, tied looking, poor health, large-headed, elderly look, obstinate and haughty child. Restless, hateful, difficulty in memorizing and remembering, easily irritable, screaming and kicking tendency, cannot tolerate contradiction, feels extremely irritated for silly insults and disobedient child. Dominating, irritable, bossy, behaves rudely to persons who are too permissive, complaints from suppressed anger, fright, modification, vexation, and displeasure. Problematic child at school often receives frequent suspension which makes parents confused to identify the right school for children. Often bullying, poor conduct, and intolerable child at school. Stubborn to parents, dominating and arrogant to family members, and behaving politely with superiors and authorities in the society. Difficulty in writing words and letters and tendency to write the mirror image, misplacing or disordered words, missing letters or words, and could not able to read what he writes. The child with constant sated feeling after food with more hunger, few mouths makes the child stomach full. Tendency to take food at midnight with constant hunger. Dry mouth with the absence of thirst. A Weaker person with active mental functions. Generally, complaints aggravated from 4 -8 pm, and feels better by motion.

#### **2.1.14 Lachesis**

Adapted to self-centered, arrogant, foppish, possessive children who love dancing, singing, and likes to play musical instruments.

Charismatic and extroverted child. Tendency to get hemorrhagic complaints, profuse bleeding from minor injuries with dark blood. Family history of valvular and rheumatic heart disease. Tendency to get cold complaints frequently. An expressive, extrovert child who likes excitement, difficulty in doing things in an orderly manner. Difficulty in writing words with frequent spelling mistakes. Restless and hyperactive children with making gestures with hands, easily frightened. Usually observed as a manipulator, behaves obediently towards superior and authoritative peoples and disrespect towards peers and weaker peoples. Jealousy malice and mocking nature. Prefers neat dress to attract people. Loquacious, attractive speech, cunning, active, interfering with other works, creative, inclined to insult others with mockery words. Intelligent, precocious maturity with a strong observation mind. Maternal pregnancy history of severe abuse and unhappiness. Early sexual maturity. Destructive nature of fury, punching, jealousy, and quarreling. Complaints aggravated during or after sleep, extremes of climate, hot drinks, and hot bath induce convulsions, clothing around neck and abdomen. Sensitive to warm and wet weather.

#### **2.1.15 Tuberculinum**

Adapted to tall, slim, light complexion, narrow chest with blue eyes. A sudden change of mood, irritable towards parents. Mentally hyperactive wants to travel, wants to go out, desire wandering, and frequently changes toys while playing. Prefers to drive fast, watches fast-moving kites, planes, and movies. Likes games with risk and thrill. Use filthy language, curse, and swear. Independent. Weak memory with poor interest in studies. Complaining attitude. Headache of school children. Sensitive physically and mentally. A pleasant child with a borderline of insanity. Demanding, restless, and capriciousness. Destructive, obstinate, malicious, and disobedient. Contradiction leads to violence, especially with parents. Changeable desires, dissatisfied and reckless. Fear of dogs. Insomnia with rapid emaciation, tendency to take cold easily. Desires for cold milk. Nocturnal enuresis. Complaints aggravated from mental excitement, music, thinking, and closed room. Feels better by open air and traveling [27 – 32].

### **3. CONCLUSION**

Attention deficit hyperactivity disorder has been identified as the most commonly diagnosed

childhood disorder at schooling age which hinders the children normal academic achievement. In undiagnosed or untreated ADHD children end up with isolation, discrimination due to peer conflicts, academic under achievements, substance abuse, and other psychiatric conditions. It is one of the most researched topics to find an effective mode of management and to reduce the further consequences. There are studies concludes that conventional method like methylphenidate and other stimulant drugs are effective yet with adverse drug events. Behavioral therapy also has an effective role. Homoeopathic management provides a vast opportunity to identify the child's individuality with an effective outcome. It also serves a variety of remedies as discussed above considering only the disease symptoms and can be utilized in cases where the individualization process is difficult to achieve in real clinical practice. The above review displays a group of remedies which has a specific role in the management of hyperactivity in children based on various homoeopathic literature resources.

## CONSENT

It is not applicable.

## ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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