

Application of Ayurvedic Principles in Prevention and Management of Behavioural Problems in Children

Review Article

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Abstract

Introduction: Behavioral problems are commonly prevalent worldwide. It is important to diagnose and treat timely as if untreated, increase the risk of getting psychiatric illnesses. Present review is aimed at providing Ayurvedic guidelines in the form of *Sadvritta* (Code of conduct), *Achar rasayan-AR* (ethical principles) and few Ayurveda interventions correlating with recently developed interventions of Psychology which may prove helpful in prevention and management of behavioral problems in children. **Material and Methods:** This review is based on data collected from classical Ayurvedic literature, published research works in various journals and counselling experiences. **Observations and Results:** Behavioral problems are generally multi-factorial in origin and arise as a result of conflict between the children's personality, attitudes of parents, teacher or peers. Counselling with family and adoption of Ayurveda principles can manage and prevent further progress of behavioral problems in children. *Satvavjay Chikitsa-SC* (non-drug psychotherapy), *Achar Rasayana* and *Sadvritta, Yog* are Ayurvedic ways to balance Satva (good qualities of mind), (Passionate, agitated), *Tama* (Laziness, lack of concentration) applicable in prevention of behavioral problems. **Conclusion:** Ayurvedic principles such as AR, *Sadvritta* and SC are best non-pharmacological modalities required for early detection and prevention of behavioral problems. Knowledge, education and proper expressions of code, conduct or etiquettes along with Ayurveda interventions such as use of *Medhya* (nervine tonic/nootropic) drugs, *Panchkarma* pre-procedures can prove to be a significant therapeutic way to combat behavioral disorders.

Key Words: *Achar Rasayan, Ayurveda interventions, Behavioral problems in children, Sadvritta, Satvavjay Chikitsa.*

Introduction

According to World Health Organization, mental health disorders are one of the leading causes of disability worldwide (1). Behavioral problems of children are becoming common and roughly 6 million children globally (2) and out of these 33.4% in India are affected by different behavioral problems (3). Poor parenting is one of the leading causes for occurrence of behavioral problems (4). It is noted that ferociousness, impulsivity in children has increased significantly as compare to couple of decades ago. Research studies have proven that strong child-parent relationship, friendly family environment, good faith and understanding among family members, peers and teachers are key factors in development of children's personality (5). Behavioral disorder is a mental ailment diagnosed in childhood age that presents a repetitive and persistent pattern that violates the basic rights or

norms. They include aggressive, destructive odd behaviour, lying, vandalism, anxiety etc. (6). In *Charaka Samhita* it has been categorically mentioned that all diseases cannot be named but need to understand its basic concepts and accordingly can be treated (7) There are few guidelines in Ayurveda which can prove beneficial in prevention and management of behavioral problems. Some interventions have been advised such as *Sadvritta, Achar Rasayan AR* (good conduct) and *Satvavajaya Chikitsa SC* (mind control therapy) which can be applied in prevention of psychological disorders including behavioral problems (8). *Sadvritta* and AR are simple tips regarding how to behave with others and considered as alternative to get rejuvenation effects; described in Ayurvedic classics (9) SC is psychic therapy for withdrawal of mind from harmful objects and thoughts. (10) It is the need of hour to explore the role of Ayurveda in present circumstances.

Before conception itself, Ayurveda has been given emphasis towards balancing *Doshas* (three fundamental factors of body i.e. *Vata, Pitta* and *Kapha*) of parents through *Shodhan* (body purificatory measures) and *Rasayan* (immune-modulatory measures) to ensure the healthy progeny. (11) Thereby, physical and mental health of parents and in turn newborn's is also maintained. Improper care during pregnancy and delivery may seriously affect the physical as well as mental development of the child. Even if mother is in

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stress during pregnancy, results in poor mental development of fetus which later develops into behavioral problems in children (12)

Nutrition plays an important role to maintain good growth and development during gestation and later in lactation period which also improve the quality of breast feeding, essential tool required for both physical and mental development of child. (13,14)

Childhood age is the appropriate time of personality building, development of manners, etiquettes and reposes good habits. However, children are unaware of any of these hence, it is the duty of parents to take utmost care during this period. Family members, peers, teachers as well as genetic, dietary and environmental factors are responsible for development of child's personality (15). They must utilize their potential to boost confidence, practical wisdom and inculcate good qualities in children by proper education and maintaining personality nourishing environment. To achieve these traits some guidelines are must. In present work, an attempt has been made to present a review of Ayurveda principles related to prevention and management for various behavioral problems.

Material and Methods

This review is structured on data congregated from Ayurvedic compendia, text books of psychology; journals and researches related to depression, child behaviour & development. The study also includes Ayurveda concepts related to Psychotherapy, SC and personal counselling experiences of last 20 years. A meticulous understanding, co-relation with analysis has been carried out to highlight this issue.

Observations and Results

Origin of psychosomatic disorder (PD) & behavioral disorders (BD)

According to Ayurveda, the fetal expressions are transformed to mother through sensory-motor pathways and expressed in the form of various desires of mothers (*Dauhrivadavastha*); if their needs are not fulfilled or use of *Garbhoghathkar bhavas* (harmful measures to fetus) then it may be a cause of these disorders. It can be interpreted that the desires of mothers towards various diet is for fulfilling the need of proteins, vitamins and mineral supplements to facilitates efficient organogenesis and mental development too. Thus, if mother's desires are ignored during *Dauhrivadavastha* then it may result in deficiency of vital requirements of fetus; and such deficiencies cause malformation of nervous system in the born child and may have various psychological problems. (16)

Lack of proper awareness from parents or lack of encouraging re-enforcement in kids to accomplish task, results in distress, loss of self-confidence and low-down self-respect which may leads into depression (17,18). Traumatic incidents like sudden demise of near and dear, poor mental health due to nervousness, stress and strain, need of societal and emotional support, poor parenting and prenatal stress cause to develop learning, behavioral and developmental disorders, these are few key reasons for the origin of PD and BD (19).

Excluding prenatal and traumatic reasons, recurrent disappointment is common reason in all other causative factors. Brain is the main site of Mana when gets vitiated with Tridosha and Raja-tama obstruct the manovah strotas and creates different behavioral problems in children (20).

Role of Satvavajay Chikitsa (C)

SC may include Ayurvedic psychotherapy, counseling, play therapy, cognitive behavioral therapy-CBT, meditation, mind control, problem solving approach, assurance and measures to boost Satva and minimize *Raja-tama* of mind. (21) In *Satvavajaya* concept, it is clearly mentioned that for wellness of mind all sensual factors such as diet, words, visual objects, material objects etc should be within limit of tolerance. Unwholesome diet has very important role in maintenance of *Satva* dominance of mind in turn helps to preserve health (22).

Role of Achar Rasayan and Sadvritta

It refers to those acts of parents which ensure safe, firm discipline with pragmatic expectations, create affirmative learning environment, provide interactive caring and unconditional love. (23,24) Parenting is a skill which even some of the biological parents have failed to cultivate. Buckling under the pulls and pressures of the fast-paced modern life, most of the parents often unintentionally commit the crime of neglecting to cater various needs of their children (25). Fulfilling only the material needs of a child and giving him/her a comfortable and luxurious life is just one part of the best child care program. On the other hand, the pre requisite component of emotional care and close bonding looks conspicuously missing in many cases. Spending time with little one and engaging in conversations with child is more important than buying digital toys. Parenting is an art, so parents must master it with care which is essential for better growth and development of their younger children. Few attributes of good parents include, a good role model who knows how to explore talent and skills to become problem solver and responsible too. (26)

Ayurveda advocates *Sanskaras* or etiquettes adoption to balance *Raja* and *Tama* and boost *Satva* to remain away from mental ailments. There are so many behavioral problems occurs in childhood age if code of conduct is not adopted properly. According to Ayurveda all ailments develop due to three basic reasons-*Asatmyendriyarthasamyoga* (incompatible contact of sense organs), *Pragyaparadha* (intellectual blasphemy), *Parinama* (time factor for chronological error). It is the inducer of all pathological conditions of body and mind, vitiates all *Sharirik* and *ManasDoshas*(*CharakSharir*) (27). **Table no 1** is showing details of Behavioral disorders and its management and complications if left untreated or not treated soon. (6, 21, 28) There were few research works done in this regard. **Table no 2** is showing current status of research work done regarding BD and PD with outcome of research by Ayurveda interventions. BD and PD kind of problems are complex in origin so require multimodal treatment strategy.

Table no. 1: Showing details of behavioral problems and its management

S. NN	Behavioral Problems	Clinical Features	Causes	Complications	External Treatment	Internal Treatment
1	ADHD, Autism	Hyperactive, poor attention, slow in academics, defiant inter-personal relationship	Stress, pre-natal, natal, post-natal origin, less quality time sharing by parents with wards.	Loss of confidence, frustration, inferiority, depression, low self esteem	<i>Shiro-Dhara, Abhang, Shirolepa, shiropichu, Snehan-Swedan, Matrabasti</i>	<i>Medhya, Balya, Vatahar, BruhanRasayan, Snehapan,</i> counseling of parents, play, cognitive therapy to child
2	ODD- Oppositional defiant disorder	Negativistic attitude, disobedient, hostile behavior, Frequent arguments, annoyance, no physical aggression	Bad parent –child relationship, no good parenting, insecurity, lack of love & care, bad peer group, busy, over-burdened parents, unfulfilled dreams of parents for child	Schizophrenia, addiction to drugs, may become criminal	Above all Rule out & avoid cause/s	Psychologists positive enforcement Counseling,
3	Conduct disorder	Just above all features with intense violation, aggression, physical harm to self & others	Lack of love & care by parents, Above all causes	Psychiatric disorders, Above all	Above all pre procedures	Above all
4	Psychosomatic disorders like enuresis, pica, breath holding spell, thumb sucking, etc.	Different as per problem mentioned Impulsiveness, jitteriness	Lack of love & care by parents. Above all causes	Resolves automatically	above all pre procedure	Above all

Table no 2, showing Research work done on behavioral problems of children

No	Behavioral Problems	Research done	Outcome
1	*ADHD (28, 29)	<i>Medhya</i> (memory booster) medicines + <i>Panchakarma</i> pre-procedures	Better results than only conventional one.
2	Autism (20)	*CAM + <i>Yogasanas</i> & meditation	Multimodal therapy proved more beneficial.
3	Conduct disorders (30)	<i>Satvavajay, AcharRasayan, Sadvritta</i>	Improves the condition with other measures.
4	Psychosomatic & habit disorders (31)	<i>Achar Rasayana, Satvavajay</i> – corrections in family environmental causes	Symptoms slightly relieved.
5	Learning disabilities, developmental delay (32)	Ayurveda drugs, panchkarma	Mental health promoting effect.

*ADHD=Attention Deficit Hyperactive Disorder, HIE=hypoxic ischemic encephalopathy, NBID= Neuro-developmental behavioral intellectual disorders, CAM= complementary & alternative medicine

There is important role of *Panchkarma* if *Doshas* are more vitiated to eliminate ama/toxins with ease and pre-panchakarma procedures are helpful to pacify comparatively less vitiated fundamental factors respectively. Any disorder occurs when there is physical or mental *Doshic* imbalance. There are five purificatory/*Shodhan* measures-*Vaman* (medicated induced emesis), *Virechan* (scientific induced purgation), *Nasya* (medicine instillation in nostrils), *Basti* (medicated oil/decoction instillation inside rectum) and *Raktamokshan* (bloodletting). Some important pre-procedures are *Shirolep/Talapodichhil* (medicated external application on scalp), *Shirodhara* (pouring of a stream of medicated liquid on head) snehan (oleation therapy), *Swedan* (hot fomentation) etc. are meant for rehabilitate and facilitate the major five procedures. (20,33) **Table no. 3** is depicting different *Panchakarma* pre-procedures with their mode of action helping to cure as well as prevent behavioral problems in children.

Table no. 3 depicting different Panchakarma pre-procedural mode of action proven by research

No.	Procedure	Mode of Action
1	<i>Shirodhara</i>	Vasodilatation, tranquilizing effect due to increase in brain circulation, Cognition, improved memory, sleep, Relieves irritability (12,20)
2	<i>Talapothichhil / shirolepa</i>	Calm and cooling effect, mood regulation. (8,33)
3	<i>Nasya</i> -medicated oil instillation	Stimulant action on brain and its sensory-motor centers. Relieved symptoms of ADHD, Autism, stimulant efficacy to brain (12, 28)
4	<i>Snehan-swedan</i>	Nourishment to skin, muscles, nerve endings, vata pacifier action by increased circulation & vasodilatation leads to Improves motor function, bulk and strength. Relieves pain, stiffness (33,34)

Discussion

According to Ayurveda, body and mind have symbiotic association therefore, diseases of body and mind affect vice versa to each other (35). Relating to mental health and behavioral problems, ancient seers have described various mental diseases such as *Apsmara* (~epilepsy), *Atatvabhinivesh* (~schizophrenia) and *Unmad* (~mania/psychosis) (36-37). *Charak*, *Sushrut* classifies 16 groups of psychics built and *Kashyapa* added two more (38-39). Classification of these psychic patterns is based on the developmental complex of ego and superego. Both ego and superego are formed by difference in the extent of combination of three attributes viz *Satva*, *Raja*, *Tama*. *Satva* is a responsible for mental health, while *Raja* and *Tama* are the causative factors of psychological problems. *Sadvritta* and *SC* are responsible for strengthening *Satva* and controlling *Raja* and *Tama*. It is understood that *Satva* predominant activity i.e. work done with detachment from result can not affect individuals mind hence, focus should be on accomplishment of deeds without fear of outcome. Childhood age is the best time for development and lifelong dominance of these three attributes. Therefore, increasing *Satva* in childhood age can prove a strong preventive measure from BD and PD.

Growing children are continuously subjected to social, cultural and parental discipline. Hence, to increase their *Satva* attribute there should be gradual withdrawal of bad habits with adopting good habits suitable for making acceptable behaviour, building patience, mental calmness and strength to overcome psychological or environmental triggers. As the root causes of BD & PD are related with mind hence focus should be given to correct mental health first by balancing *Satva*, *Raja* and *Tama* by *SC*. The management in such situation consists of educating the parents to make them understand the developing psyche of the child (8), as intellectual blasphemy (*Pragyaparadha*) is leading cause amongst mental and physical derangements (40).

Role of Counselling:

It sorts out the problem with proper compliance to grievances. A good counselling helps in preventing psychosomatic or psychiatric illnesses. Counselling have other advantages such as, it boosts the self-respect and confidence of client or parents, it corrects the

method of parenting, it is the basic intervention to rule out the causes of psychological illness and planning of therapy accordingly. (41)

Role of Play Therapy

It is an age-old therapy, described in Ayurveda also. Toys play a significant role in boosting mental health, growth and development of child. (42) It can be made more pleasurable, effective, inexpensive and easy to execute to release their hidden frustration, forgetting burdens or disappointments. Play therapy addresses several problems like anxiety, anger, depression, distractibility and non-compliance. As play therapy involves both physical and mental discipline hence, it can be considered as a novel way in prevention of BD and PD (43). Violent toys help the release of anger, irritability, hostility and other emotions that can be freed through destruction. Real-life toys target withdrawn children that may be timid, shy, or introverted. Creative-expression toys give a wide range of expressive emotions that promote creativity (44).

Application of Cognitive Behavior therapy (CBT):

The CBT model is based on a combination of the basic principles from behavioral and cognitive psychology. CBT is "problem-focused" and "action-oriented", meaning it is used to treat specific problems related to a diagnosed mental disorder and the therapist's role is to assist effective strategies to address the identified goals and decrease symptoms of the disorder (45). CBT is based on the belief that thought distortions and maladaptive behaviours play a role in the development and maintenance of psychological disorders and that symptoms and associated distress can be reduced by teaching new information-processing skills and coping mechanisms (46). As CBT is based on behaviours, and emotional regulation hence, it is a developed part of *SC*.

Mode of action of *Sadvritta*, *AR* and *SC* are through avoidance of misbehaviour as well as controlling indulgence of sense organs and mind with improper subjects (*Asatmendriyarth sanyog*). Inappropriate knowledge of object leads to rude or offensive speech and physical activities. Improper intellect and perception both are objects of *Prajna*. (*conscious*) *Good Intellect*, *Dhee* (Adaptation of new things), *Dhruti* (Controlling factor of mind) and *Smruti*(recalling power)are within the purview of mind

which regulates mood, concentration, limits *Raja-tama* and augment *Satva* dominance by inhibiting *Pragyaparadh*. Thus, SC works on attention, cognitive and emotional domain by working on selfcare, compassion, ability to distract from negative thoughts, relaxation of body and mind in turn pacify anger, anxiety and irritability. SC an Ayurveda Psychotherapy facilitate mental wellbeing and strength (9,47) *Sadvritta* and *AR* help the child to develop mentally strong as well as protect from psychosomatic, behavioral and psychiatric complaints. *Acharyas* have elaborated the counselling ethics separately in *Sadvritta* description (48).

Acharyas have described the role of *Asatmyendriyārtha Samyoga*, *Pragyaparadha* and *Parinama* in inducing the pathological conditions in body and mind. They are accountable for vitiating for all *Sharirik Doshā* and *Manas Doshas - Pragyaparadha* means unbalanced act in less, excess or unusual way (49). For this inducer, control over mind is necessary. It consists of preventing the mind from the desire of unwholesome objects with right understanding and spirituality of all sense organs to avert PD, BD and psychic diseases (50). Mental health is very important for child's social and cognitive development. *AR* i.e. code of conduct as described above is the need of the hour. Also, *Acharyas* have explained DO's and Don'ts in terms of *AR* which is mentioned in **Table no 4** thereby control the misbehaviour at earliest and direct guidelines to parents. (26, 48,49)

Table no.4: Do's and Don'ts for parents:

Sr.No.	Do's	Don't
1	Remove the bad habits by soft words time to time	Punishment in front of others or be scolded them for their mistakes
2	Try to excuse them for their mistakes. First listen to them and then guide	Rude or over excited, so strict or over disciplined.
3	Give affirmative instructions than negative one.	Stick so much with your principles.
4	Be relax and flexible according to situation	Anticipate many task/ambitions at a time
5	Motivate as per the child's capability	Compare with one child to another
6	Avoid pampering, explain the reason of deny.	Fulfill their all desires otherwise they will become impulsive.

Role of Panchkarma and Ayurvedic formulations:

Number of herbal & herbo-mineral formulations can be advised to curb the problems of children cited in **Table no. 5** with their mode of action. Along with or without panchkarma, these medicines can work in this regard. *Ashwagandha*, *Yashtimadhu*, *Guduchi*, *Mandukparni*, *Bramhi*, *Shankhapushpi*, *Jatamansi*, *Jyotishmati*, *Vacha*.

Table no.5: Ayurvedic herbs and their role in psychological problems (15, 21, 31, 51, 52).

SNo.	Botanical name & Sanskrit name	Mode of action
1	<i>Mandukparni-Centellaasitica</i> Linn.	Neuroprotective, brain growth booster, Proven memory, learning enhancer, boost neuro-development, stimulant effect on animal as well as clinical study.
2	<i>Bramhi- Bacopa monnieri</i> Linn.	Memory enhancement, cognitive function,
3	<i>Madhuyashti/ Yashtimadhu- Glycyrrhiza glabra</i> Linn	Improves learning, memory
4	<i>Jatamansi- Nardostachys jatamansi</i> (D. Don) DC.	Role in brain and memory disorders in the elderly.
5	<i>Shankhpushpi- Convolvulus pluricaulis</i> Chois.	Nervine tonic, stimulant to nervous system
6	<i>Guduchi- Tinosporacordifolia</i> Wild Miers.	Anti-oxidant, nervine cum general tonic
7	<i>Ashwagandha- Withania somnifera</i> Linn.	Anti-stress, anti-anxiety, antioxidant
8	<i>Jyotishmati- Celastrus paniculatus</i> Willd	Inhibition of Acetyl choline
9	<i>Vacha- Acorus calamus</i> Linn.	Sharpens IQ, memory, helps in neurodevelopment

Medhya medicines may regulate the neuropsychological process, stimulate alpha waves, sensory-motor centers of brain, and correct the mental disturbances.

Kalyanaka Ghrit, *Panchagavya Ghrit*, *Smrutisagar Rasa Vati*, *Medhya Rasayana*, etc (51).

Ghrit kalpas play an important role in prevention and management of psychic, psychosomatic and CNS issues (53).

Number of research studies have proven that *Panchakarma* pre procedures, major procedures with Ayurvedic medication have good impact on conduct disorders by maintaining *Dhriti* and preventing ethics negligence. *Doshik* imbalance can be taken care with the help of *panchkarma* to detoxify toxins, facilitate adequate nutrition to *Dhatu*s and balance equilibrium in brain. Stress plays a vital role for inequilibrium of *Dhee*, *Dhriti* and *Smriti*. *Panchkarma*, *Pranayam* (breathing techniques), *Yogasanas* (postures), *Bandha-Mudras* (postural relaxation and meditation ways) and *medhya* medicines relieve stress and maintain the proper function of neurotransmitters and in turn central nervous system.

Shirodhara results in vasodilatation, transcutaneous penetration of oil, tactile and thermo-

receptors stimulation to nerve endings. It stimulates to *Marmas* (vital areas of the body) increases circulation and also enhances action of neurotransmitters like Serotonin, Nor-epinephrine and metabolism of Dopamine and catecholamines. Pressure of *Dhara* has an effect on impulse conduction, removes *Aam/toxins*, relieves *Strotorodha* (channels obstruction) and nourishes cells to feel relax and gives natural tranquilizing effect (33, 34). *Shirodhara* with *Medhya dravya* provides strength to *Prana & Indriyas* which are mainly *Vata* vitiated in case of psychological disorders-*Shirodhara* promotes a decrease of noradrenaline and exhibits a sympatholytic effect and immunopotential For enhancement in concentration, awareness and self-esteem levels, multi therapy approach is needed with good parenting which would provide a sigh of relief toward search of ideal treatment for behavioral problems in children (21, 54).

Limitation of this review is that there is no RCTs or not many clinical studies could be added as

evidence to establish the role of Ayurveda principles except *panchkarma* procedures, yoga and few herbs. Although, principles (AR, SV, SC) are difficult to assess by scales to measure their efficacy therefore, need to focus on this area to conduct research.

Conclusion

Improvement of child behaviour is not completely depending on classroom educational teaching but mostly relies on good conduct, practical wisdom which is safe, can use long-term and of non-pharmacological approach, thereby apt to behave properly and tackle day to day problems with ease. Ayurveda can act as an excellent adjuvant in advanced stage or alone capable to deal with PD and BD with the help of *Satvavajay*, *Acharrasayan*, *Sadvritta*, *Yog* and nootropic medicines with *Panchkarma* and its pre-procedures. It is imperative to direct them through elders to prevent behavioral and conduct problems with adoption of Ayurveda. Present study may prove as torchbearer for focusing the importance of Ayurveda in defeating the behavioral problems in children.

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