CASE REPORT



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A Conceptual Study on Prevention & Management of Behavioral Disorders in Children through Complimentary & Alternative Medicine

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ABSTRACT



In India, behavioral problems are prevalent and estimated to the tune of 33.4%. Such a problem if untreated increases the risk of suffering children from various psychiatric illnesses. Around 6 million children are affected by Behavioral problems worldwide. The present review is aimed at providing Ayurvedic guidelines in the form of Sadvritta (Code of conduct), Acharrasayan-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. This review is based on data collected from classical Ayurvedic literature, published research works in various journals and counseling experiences. 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. Counseling 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, Yoga are Ayurvedic ways to balance Satva (good qualities of mind), (Passionate, agitated), Tama (Laziness, lack of concentration) applicable in the prevention of behavioral problems. Knowledge education and proper expressions of code, conduct or etiquettes along with Ayurveda interventions such as the use of Medhya (nervine tonic/nootropic) drugs, Panchkarma pre procedures can prove to be a significant therapeutic way to combat behavioral disorders. Ayurvedic principles such as AR, Sadvritta and SC are best nonpharmacological modalities required for early detection and prevention of behavioral problems.

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INTRODUCTION

Behavioral problems of children are becoming common, and roughly 6 million children globally (World Health Organisation, 2001) and out of these, 33.4% in India are affected by different behavioral problems (Sushma *et al.*, 2013). Poor parenting is one of the leading causes for the occurrence of behavioral problems (Stormshak *et al.*, 2000). According to World Health Organization, mental health disorders are one of the leading causes of disability worldwide (Ogundele, 2018), it is noted that ferocious-

ness, impulsivity in children has increased as compared to a 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 the development of children's personality (Agnivesh, 1993a). The 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, odd destructive behavior, lying, vandalism, anxiety etc (Agnivesh, 1993b). 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 (Agnivesh, 1993c). Some interventions have been advised such as Sadvritta, Achar-Rasayan AR (right conduct) and Satvavajava Chikitsa SC (mind control therapy) which can be applied in the prevention of psychological disorders including behavioral problems (Agnivesh, 2005).

Sadvritta and AR are simple tips regarding how to behave with others and considered as an alternative to getting rejuvenation effects; described in Ayurvedic classics (Rathi, 2013) SC is a psychic therapy for withdrawal of the mind from harmful objects and thoughts. (Sushruta, 2002) It is the need of the hour to explore the role of Ayurveda in present circumstances. Before conception itself, Ayurveda has emphasized balancing Doshas (three fundamental factors of the body, i.e. Vata, Pitta and Kapha) of parents through *Shodhan* (purificatory body measures) and Rasayan (immune modulatory measures) to ensure the healthy progeny. (Sastry et al., 2015) Thereby, the 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 the mother is in stress during pregnancy, results in the low mental development of fetus which later develops into behavioral problems in children (Mudzielwana et al., 2016).

Nutrition plays an important role to maintain good growth and development during gestation and later in lactation period, which also improve the quality of breastfeeding, essential tool required for both physical and mental development of the child (Banyard et al., 2003). Childhood age is the appropriate time of personality building, development of manners, etiquettes and 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 the development of child's personality. They must uti-

lize their potential to boost confidence, practical wisdom and inculcate good qualities in children by proper education and maintaining a healthy personality environment. To achieve these traits, some guidelines are a 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.

MATERIALS AND METHODS

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

RESULTS AND DISCUSSION

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 (Dauhridavastha); if their needs are not fulfilled or use of Garbhopghatkar bhavas (harmful measures to the fetus) then it may be a cause of these disorders (Baumrind, 1966). It can be interpreted that the desires of mothers towards various diet are 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 Dauhridavastha then it may result in a deficiency of vital requirements of the fetus; and such deficiencies cause the malformation of the nervous system in the born child and may have various psychological problems (Smith, 2010).

Lack of proper awareness from parents or lack of encouraging re-enforcement in kids to accomplish the task, results in distress, loss of self-confidence and low-down self-respect, which may lead to depression (Singhal *et al.*, 2010). Traumatic incidents like the 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 (Mandlik *et al.*, 2019). Excluding prenatal and traumatic reasons, recurrent disappointment is common reason in all other causative factors.

Table 1: Details of Behavioral Problems and its Management.

Behavioral Problems	Clinical Features	Causes	Complications	External Treatment	Internal Treatment
ADHD, Autism	Hyperactive, poor attention, slow in aca- demics, defiant interpersonal relationship	Stress, prenatal, natal, postnatal origin, less quality time sharing by parents with wards.	Loss of confidence, frustration, inferiority, depression, low self esteem	Shiro Dhara, Abhang, Shirolepa, Shiro Pichu, Snehan Swedan, Matrabasti	Medhya, Balya, Vatahar, Bruhan Rasayan, Snehapan, coun- selling of parents, play, cognitive therapy to child
ODD- Oppositional Defiant Disorder	Negativistic attitude, disobe- dient, hostile behavior, Frequent arguments, annoyance, no physical aggression	The bad parent child relationship, no good parenting, insecurity, lack of love & care, wrong peer group, busy, overburdened parents, unfulfilled dreams of parents for child	Schizophrenia, addiction to drugs, may become criminal	Above all Rule out & avoid causes.	Psychologists positive enforcement Counseling,
Conduct disorder	Just above all features with an 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
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

The 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 (Tiwari and Dwivedi, 2014).

Role of Satvavajay Chikitsa (SC)

SC may include Ayurvedic psychotherapy, counseling, play therapy, cognitive behavioral therapy-CBT, and Meditation, Mind control, problem-solving approach, assurance and measures to boost *Satva* and minimize *Raja-tama* of mind (Negi *et al.*, 2000).

In Satvavajaya concept, it is mentioned that for the

wellness of mind, all sensual factors such as diet, words, visual objects, material objects etc. should be within the limit of tolerance.

Unwholesome diet has a crucial role in the maintenance of *Satva* dominance of mind, in turn, helps to preserve health.

Role of Achar Rasayan and Sadvritta

It refers to those acts of parents which ensure safe, firm discipline with pragmatic expectations, creates an affirmative learning environment, provides interactive caring and unconditional love.

Table 2: Research work done on behavioral problems of children.

S No	Behavioral Problems	Research done	Outcome
1	*ADHD	Medhya (memory booster) medicines + Panchakarma pre procedures	Better results than an only conventional one.
2	Autism	*CAM+ Yogasanas & meditation	Multimodal therapy proved more beneficial.
3	Conduct disorders	Satvavajay, Achar Rasayan, Sadvritta	Improves the condition with other measures.
4	Psychosomatic & habit disorders	Achar Rasayana, Satvavajay – corrections in family environ- mental causes	Symptoms are slightly relieved.
5	Learning disabilities, developmental delay	Ayurveda drugs, Panchkarma	Mental health promoting effect.

^{*} ADHD=Attention Deficit Hyperactive Disorder, HIE=Hypoxic Ischemic Encephalopathy, NBID=Neurodevelopmental Behavioral Intellectual Disorders, CAM= Complementary & Alternative Medicine.

Table 3: Do's and Don'ts for parents.

S No	Do's	Don'ts
1	Remove the bad habits by soft words from 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 overexcited, so strict or over disciplined.
3	Give affirmative instructions than a 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 for deny.	Fulfil their all desires; otherwise, they will become impulsive.

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 to various needs of their children. 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 prerequisite component of emotional care and close bonding looks conspicuously missing in many cases. Spending time with the little one and engaging in conversations with the 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 an excellent role model who knows how to explore talent and skills to become a problem solver and responsible too. 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 the code of conduct is not appropriately adopted.

According to Ayurveda, all ailments develop due to three basic reasons- Asatmyendriyartha Samyoga (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 Manas Doshas (Charak Sharir). Table 1 is showing details of Behavioral disorders and its management and complications if left untreated or not treated soon. There were few research works done in this regard. Table 2 is showing the current status of research work done regarding BD and PD with the outcome of research by Ayurveda interventions. BD and PD kind of problems are involved in origin so require multi-modal treatment strategy.

Depicting different *panchakarma* and its pre procedural mode of action proven by research

There is an essential 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 installation in nostrils). *Basti* (medicated oil/ decoction installation inside the rectum) and Raktamokshan (blood letting). Some important pre procedures are Shirolep/ Talapodichhil (medicated external application on the scalp), Shirodhara (pouring of a stream of medicated liquid on the head) snehan (oleation therapy), Swedan (hot fomentation) etc. are meant for a rehabilitative purpose and facilitate the major five procedures. (Kumar et al., 2017) Depicting different Panchakarma pre-procedures with their mode of action helping to cure as well as prevent behavioral problems in children. According to Ayurveda, body and mind have symbiotic association; therefore, diseases of body and mind affect vice versa to each other. Relating to mental health and behavioral problems, ancient seers have described various mental diseases such as Apasmara (epilepsy), Atatvabhinivesh (schizophrenia) and Unmad (mania/ psychosis) (Conelea et al., 2007).

Charak, Sushrut classifies 16 groups of psychic built and Kashyapa added two more. Classification of these psychic patterns is based on the developmental complex of ego and superego. Both ego and superego are formed by a difference in the extent of the combination of three attributes viz Satva, Raja, Tama. Satva is responsible for mental health, while Raja and Tama are the causative factors of psychological problems. Sadavritta and SC are responsible for strengthening Satva and controlling Raja and It is understood that *Satva* predominant activity, i.e. work done with detachment from result can not affect individuals mind; hence, the focus should be on the accomplishment of deeds without fear of the 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 a gradual withdrawal of bad habits with adopting good habits suitable for making acceptable behavior, building patience, mental calmness and strength to overcome psychological or environmental triggers. As the root causes of BD & PD are related to

mind; hence focus should be given to correct mental health first by balancing *Satva*, *Raja* and *Tama* by *SC*. The management in such a situation consists of educating the parents to make them understand the developing psyche of the child as intellectual blasphemy (*Pragyaparadha*) is the leading cause amongst mental and physical derangement.

Role of Counseling

It sorts out the problem with proper compliance with grievances. Good counseling helps in preventing psychosomatic or psychiatric illnesses. Counseling has other advantages such as, and 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.

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 the child. 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 noncompliance. As play therapy involves both physical and mental discipline; hence, it can be considered as a novel way in the prevention of BD and PD. 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.

Application of Cognitive Behavior therapy(CBT)

The CBT model is based on a combination of the basic principles of behavioral and cognitive psychology. CBT is "problem-focused" and "actionoriented", 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. CBT is based on the belief that thought distortions and maladaptive behaviors 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 (Rathi et al., 2020). CBT is based on behaviors and emotional regulation; hence, it is a developed part of SC.

Mode of action of Sadvritta

AR and SC is through avoidance of misbehavior as

Table 4: Ayurvedic herbs and their role in psychological problems.

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S No	Botanical name & Sanskrit name	Mode of action
1	Mandukparni-Centellaasitica Linn.	Neuroprotective, brain growth booster, Proven memory, learning enhancer, boost neuro-development, stimulant effect on an animal as well as a clinical study.
2.	Bramhi-Bacopamonnieri	Memory enhancement, cognitive function,
3.	Madhuyashti/Yashtimadhu-Glycyrrhiza glabra Linn	Improves learning, memory
4	Jatamansi	Role in brain and memory disorders in the elderly.
5	Shankhpushpi-Convolvulus pluricaulis Chois.	Nervine tonic, stimulant to the nervous system
6	Guduchi-Tinosporacordifolia Wild Miers.	Anti-oxidant, nervine cum general tonic
7	Ashwagandha-Withania somnifera Linn.	Anti-stress, anti-anxiety, anti-oxidant
8	Jyotishmati-Celastrus paniculata	Inhibition of Acetylcholine
9	Vacha-Acorus calamus Linn.	Sharpens IQ, memory, helps in neuro-development.

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 self-care, compassion, ability to distract from negative thoughts, relaxation of body and mind, in turn, soothe anger, anxiety and irritability. SC an Ayurveda Psychotherapy facilitate mental well-being and strength Sadvritta and AR help the child to develop mentally healthy as well as protect from psychosomatic, behavioral and psychiatric complaints. Acharyas have elaborated the counseling ethics separately in Sadvritta description (Jyoti, 2012).

Acharyas have described the role of Asatmyendriyartha Samyoga, Pragyaparadha and Parinama in inducing the pathological conditions in body and mind. They are accountable for vitiating for all Sharirik Dosha and Manas Doshas-Pragyaparadha means unbalanced act in less, excess or unusual way.

For this inducer, control over the mind is necessary. It consists of preventing the mind from the desire of unwholesome objects with the right understanding and spirituality of all sense organs to avert PD, BD and psychic diseases. Mental health is essential for a 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 3, thereby control the misbehavior at earliest and straightforward guidelines to parents.

Role of Panchkarma and Ayurvedic formulations

Number of herbal & herbo mineral formulations can be advised to curb the problems of children cited in Table 4 with their mode of action. Along with or without panchakarma, these medicines can work in this regard. Ashwagandha, Yashtimadhu, Guduchi, Mandukparni, Bramhi, Shankhapushpi, Jatamansi, Jyotishmati, Vacha.

Medhya medicines may regulate the neuropsychological process, stimulate alpha waves, sensory motor centers of the brain, and correct the mental disturbances. *Kalyanaka Ghrit, Panchagavya Ghrit, Smrutisagar Rasa Vati, Medhya Rasayana,* etc (Rathi and Rathi, 2020).

Ghrita kalpas play an essential role in the prevention and management of psychic, psychosomatic and CNS issues. Several research studies have proven that *Panchakarma* pre procedures, major procedures with Ayurvedic medication have an excellent impact on conduct disorders by maintaining *Dhruti* and preventing ethics negligence. *Doshik* imbalance can be taken care with the help of *panchakarma* to detoxify toxins, facilitate adequate nutrition to *Dhatus* and balance equilibrium in the brain.

Stress plays a vital role in the equilibrium of *Dhee, Dhruti* and *Smruti*. 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 **ACKNOWLEDGEMENT** central nervous system (Conelea et al., 2007).

Shirodhara results in vasodilatation. cutaneous penetration of oil, tactile and thermoreceptors stimulation to nerve endings. It stimulates to Marmas (vital areas of the body) increases circulation and also enhances the action of neurotransmitters like Serotonin, Nor-epinephrine and metabolism of Dopamine and catecholamines.

The pressure of *Dhara* has an effect on impulse conduction, removes Aam/toxins, relieves Strotorodha (channels obstruction) and nourishes cells to relax and gives a natural tranquillizing effect. 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 immunopotentiation For enhancement in concentration, awareness and selfesteem levels, the multi-therapy approach is needed with good parenting which would provide a sigh of relief toward the search of ideal treatment for behavioral problems in children.

Limitation of this review is that there are no RCTs or not many clinical studies could be added as evidence to establish the role of Ayurveda principles except Panchakarma 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. Acharya has been intended to practice them in routine life (Sharma et al., 2012).

CONCLUSIONS

Improvement of child behavior does not wholly depend on classroom educational teaching but mostly relies on good conduct, practical wisdom which is safe, can use long-term and of nonpharmacological approach, thereby apt to behave correctly and tackle day to day problems with ease. Avurveda can act as an excellent adjuvant in an advanced stage or alone capable of dealing with PD and BD with the help of Satvavajay, Acharrasayan, Sadvritta, Yog and no tropic medicines with Panchkarma and its pre-procedures. It is imperative to direct them through elders to prevent behavioral and conduct problems with adoption of Ayurved. The present study may prove as a torchbearer for focusing on the importance of Ayurved in defeating the behavioral problems in children.

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