

A REVIEW ON PANCHKARMA PROCEDURES IN PAEDIATRIC AGE**Dr. Deeksha Dhiman¹, Dr. Neha Vats^{2*} and Dr. Minakshi³**

P.G. Scholar¹, P.G.Scholar², Sr. Lecturer³, P.G. Dept. of Kaumarbhritya, Rajiv Gandhi Govt. Post Graduate Ayurvedic College and Hospital Paprola, Kangra, Himachal Pradesh, India.

Article Received on
08 Nov. 2021,

Revised on 29 Nov. 2021,
Accepted on 19 Dec. 2021

DOI: 10.20959/wjpr20221-22376

Corresponding Author*Dr. Neha Vats**

P. G. Scholar, Dept. of
Kaumarbhritya, Rajiv
Gandhi Govt. Post Graduate
Ayurvedic College and
Hospital Paprola, Kangra,
Himachal Pradesh, India.

ABSTRACT

Ayurveda is more than a mere healing system. *Ayurveda* considers that purification of the body is important before start of any therapy. *Kaumarbhritya* is one of the branch of *Ashtang Ayurveda* which deals with care of the infants, children; their diseases and management. It is the branch which describes the methods of bringing up the children, purification of breast milk of mother, diseases arising from taking the vitiated breast milk and their treatment. *Kaumarbhritya* elaborated various principles related to the physical and mental well being of children. In fact, *Panchakarma* can be used efficiently in all the branches of *Ashtang-Ayurved* and it can also be beneficial in *Kaumarbhritya* for a comprehensive cure for many child disorders. *Panchakarma* is considered as one of the specialities of *Ayurveda*

which includes five major therapeutic procedures of detoxification and body purification, along with many other supportive procedures. This review was carried out to study the concept of *Panchakarma* in children and explore the variations and significance of *Panchakarma in Bala-Roga*. *Panchakarma* measures executed with precautions is equally effective in a child as it results in adult. The knowledge and experience of *Panchakarma* in pediatric conditions is the key to successful administration of *Panchakarma* in children. Increasing and mainstreaming *Panchakarma* procedures among children in *Ayurveda* hospitals will definitely provide a new hope in management of child disorders.

KEYWORDS: Panchkarma, Kaumarbhritya.

INTRODUCTION

Ayurveda, the science of life is one of the oldest forms of holistic healthcare science that places great emphasis on prevention and aims at bringing about and maintaining harmony of

the body, mind and consciousness. *Ayurveda* encompasses diet and lifestyle guidelines, yoga, herbal preparations and various therapies. *Ayurveda* treats diseases by using *Shodhana* (purificatory; cleansing or detoxification) and *Shamana* (pacificatory). *Shodhana* means cleansing or detoxification of the body by expelling the dearranged doshas (morbid materials inside the body causing various diseases). *Shamana* is pacification of symptoms without eliminating the morbid doshas. Typically, all treatment protocols ought to begin with *shodhana*, followed by *shamana* for better outcomes. When the body is saturated with toxins, the toxins interfere with the absorption of herbal medicines. Furthermore, it is necessary to eliminate *Ama* (accumulated toxins in the channels) and to re-establish the homeostasis. According to *Acharya Sushruta* the five main procedures within *panchakarma* are: *vamana* (emesis), *virechana* (purgation), *nasya* (nasal instillation of herbal oils/powders), *basti or vasti* (medication via anal route), and *raktamokshana* (bloodletting).^[1] Primarily, these practices are aimed at eliminating *Ama* (toxins) from body and cleanse the channels. Each procedure is performed in three phases: *Poorva karma* (preparatory methods), *Pradhana karma* (main procedure) and *Paschat karma* (post cleansing procedures which include dietary and behavioral regimen).^[2] The word *panchkarma* was introduced by *Acharya charaka* in *charak sutra sthana*.^[3] *Panchakarma* is a collective term which indicates five major therapeutic procedures of detoxification to cleanse the body channels, along with many other supportive procedures. Literally, *Panchakarma* is made up of ‘*Pancha*’ means ‘five’ and ‘*karma*’ means ‘procedure / action’ (procedures of purification). It is well known fact that internal medication along with *Panchakarma* procedures is more effective when compared with only oral medications.^[4]

Panchakarma is the ultimate mind body healing experience for detoxification of the body, for strengthening the immune system, to restore the balance and wellbeing. It is one of the most effective healing modality of *Ayurveda*. Prior to *Panchakarma*, *poorva karma* like *deepana* and *paachana* (appetizers and digestives), *snehana* (oleation) and *swedana* (sudation) are given to the patient. *Ayurveda* considers that the purification of the body is important before the commencement of any other therapy. *Shodhana chikitsa* (purificatory or cleansing procedures / *panchakarma*) is considered superior to *Shamana chikitsa* (treating with internal medicines) because the condition treated with *Shodhana* therapy will never reoccur, whereas the condition treated with *Shamana* therapy may reoccur in due course of time.

Health status, growth and nutrition of the child during childhood years are the base for the future life of the child. So to remove the diseases judicious administration of medicines which are *Hridhya*, *Śīta* and *Madhura Pradhāna* along with estimated dose and slight modification of the procedure. As per our *Aacharyas* Physicians of the *Kaumarabhritya* has told to remain always alert while treating, as clinical manifestations of the child create confusion in the diagnosis (*Duśakara*) due to limitations in the presentation and manifestations of the disease in the children.^[5]

To some extent the alterations in the *Panchakarma* with regards to Pediatric practice has been explained in the classics. *Bāla* is the stage with delicate body and mind with dominance of the *Kapha*, *Kashyapa* further explains *Vamana* as the main stay of treatment in *Bāla Rogas* due to dominancy of *Kapha Dosha* by indulging in *Kapahavardhaka Āhāra* like *Kśhīra Ghrita* etc.^[6] *Virechana* in a child with *Pittaja Rogas*, has been also indicated but suggested to avoid it as far as possible reserve the same only in emergency conditions. Indications of *Virechana* should be substituted by *Basti*, similarly *Marśa Nasya* by *Pratimarśa*. *Basti* is best indicated for the child and told that it imparts *Ārogya* to the child offspring for parents and name and the fame for the Doctor, and considered as nectar for the child.^[7]

TRIVIDHA KARMA^[2]

<i>Purva karma</i>	<i>Pradhana karma</i>	<i>Paschata karma</i>
<i>Deepana – Pachana</i> <i>Snehana</i> <i>Swedana</i>	<i>Vamana</i> <i>Virechana</i> <i>Basti</i> <i>Nasya</i> <i>Raktamokshana</i>	<i>Samsarjana</i> <i>Rasayana</i> <i>Shamana</i>

1. PURVA KARMA

a) *Deepana-pachana* (Appetiser and Digestive)

- Should be done prior to *panchkarma* procedure.
- Should be done for obtaining *niramavastha* of *doshas*.
- For this *Peya*, *Churna*, *kwatha* are used.

Mode of action^[8]

To obtain the *niramavastha* of *dosha*, firstly *Ama dosha* is relieved by *deepan* and *pachana kriya* so that for the further *snehana* procedure there is *agni pradipat awastha* and there is increase in *pachana shakti*. With the help of *deepan dravya* there is activation of *Bodhak*

kapha and then with the help of *pachana dravya* there is secretion of *kledak kapha* and then there is increase in GI tract motility by *Samana Vayu* and there is increase in secretion of *Pachak Pitta* and then there is digestion and absorption of food.

e.g. *Shunti Churna* with hot water can be used in paediatric patient to relieve *amavastha* at the level of *kostha* (abdomen).

b) *Snehana*(Oilation)

- It is a *purvakarma* of *panchkarma* and it can be used as *pradhan karma* in many diseases.
- It is the process of oilation of body by using medicated *taila* and *ghrita* internally as well as externally.
- *Ghrita*, *taila*, *vassa*, *majja* are major *snehan* constituents and out of all four more importance is given to *Pravicharana Sneha* with same materials.
- In *Kshirap Avastha* of child does not need compulsory *SnehaPana* due to daily intake of milk and oily substances as the main diet.
- *Snehana* helps in *koshthagaman* of *shakhagat doshas*^[9]
- The importance of *Sneha* is advocated in *Kashyapa Samhita Lehaadhyaya* and *Navjaat Paricharya Adhyay* where *Madhu Ghrita* is indicated for use. *Snehana* (*Abhyanjana* with *Bala Taila*) is recommended in child soon after birth^[10]
- Although *Achcha Sneha* is the best type of *Snehana*; however *Accha Sneha* is most often difficult to be administered in children, and then *Sneha Bicharna* is practiced. *Susruta* has mentioned the use of various medicated *Ghrita* during summer in children of different age group i.e. *Ksirada*, *Ksirannada* and *Annada*.^[11]
- *Acharya Vagbhatta* has described *Abhyanga* with *Bala Taila* in *Navajat Paricharya* during *Prana Pratyagamana* (resuscitation).

Indications and contraindications of *snehana*^[12]

Indications	Contraindications
<i>Hikka</i> (Hiccough) <i>Krishna balak</i> (Emaciated child)	<i>Chardi</i> (Vomiting), <i>Atisara</i> (Diarrhoea), <i>Jwara</i> (Fever), <i>Galamaya</i> (Throat disorder)
<i>Vatarogas</i> (Hemiplegic, Cerebral palsy) <i>Rukshata</i> (roughness all over the body)	<i>Kaphaja vikara- sthoulya</i> (Obesity), <i>Raktapitta</i> (Bleeding disorders)
Prior to <i>panchkarma</i> (Biocleansing therapy)	<i>Kshirad avastha</i> (breastfed babies)

Mode of action^[13]

Action of *snehana* is attributed towards the properties present in the *sneha dravyas*. *Dravya* imparts moisture to the *srotas*, that helps in removing obstacles of *doshas*, help in diffusion of *sneha* all over the body. In *Siddhi stana* while dealing with the *snehana karya*, *charaka* very vividly explain them as.

- *Sneho Anilam Hanti*
- *Mridu karoti Deham*
- *Malanam Vinihanti Sangam*

Abhyantara sneha - Ghee acts as a good solvent for many metabolic waste products and it enters the cells easily because cell wall is made up of phospholipids and ghee possesses better permeability property. It helps in increasing the watery content of body.

Bahya sneha- Effect of *Abhyanga* can assume in two ways i.e. physical manipulations and the effect of drug in medicated oil. Physical manipulations in the form of massage increases the circulation of blood and plasma that stimulate the lymphatic system and helps in removal of waste products.

C) *Swedana* (Sudation)

It is a procedure which helps in relieving heaviness, stiffness and coldness of body by artificially inducing sweating(sudation). *Acharya kashyap* has mentioned eight types of *swedana* methods in childhood *panchkarma* practise. Types of *swedana* are *hast*, *pradeha*, *nadi*, *prastara*, *sankar*, *upnaha*, *avgaha* and *parisheka*.^[14]

According to *Aacharya kashyap*, *hastha sweda* and *pata sweda* are very useful in neonates and infants especially during abdominal colic. *Hasta Sweda* is recommended upto 4 month of age^[15] *Nadi*, *prasthara*, *sankara*, *pradeha*, *upanaha*, *avagaha*, *parisheka* are othertypes which are practically applicable in children. *Swedana* may be mild, moderate or strong in nature according to the body parts exposed for *Swedana*.^[16]

During the process of *Swedana* various articles like pearls, *Chandrakantamani* and pots filled with cold water should be kept continuously in contact of *Hridaya Pradesh* (cardiac region).^[17]

Mouth should be filled with powder of *Karpura* or with juice of citrus fruits mixed with unrefined sugar or with *Draksha* for easy procedure.^[18]

Shashtika Shali Pinda Sweda is the general method of Swedana commonly used in neuromuscular disorders in pediatric patients. In this specific part or whole body made to sweat by the application of *shashtika shali* (a variety of rice) in the form of *pottalis*. *Shashtika shali* is cooked with milk and decoction of *dashamoola*. These rice are then kept in pieces of cloth to make *pottalis*.^[19]

Indications and contraindications of swedana^[20]

Indications	Contraindications
After <i>Snehana</i> and prior to <i>Panchkarma</i>	<i>Dagdha</i> (Burnt), Acute fever, <i>kamala</i> (Jaundice), <i>Pittarogi</i> , <i>Madhumehi</i> (Diabetic)
<i>Jadya</i> , <i>Kathinya</i> and <i>Ruksha sharira</i> (heaviness, stiffness and dryness of body)	<i>Chardi</i> (Vomiting), <i>Trishna</i> (Dehydrated), <i>Karshya</i> (Emaciated)
<i>Shwas</i> (Asthma), <i>kasa</i> (Cough), <i>Pratishyaya</i>	<i>Hridaya rogas</i> (Cardiac diseases)
Rheumatic and degenerative conditions	<i>Raktapitta</i> (Bleeding disorders)
Obstruction to <i>Mala</i> (stool), <i>Mutra</i> (urine) and <i>Sukra</i> (semen)	<i>Vishart</i> (Poisoned)

Mode of action^[21]

During *Swedana*, heating the tissues results in.

- a) **Increased metabolism**—Heating the tissues accelerates the chemical changes i.e. metabolism. Due to increased body temperature, sympathetic activities are also increased because of increased metabolism, there is an increased demand for oxygen and food stuffs.
- b) **Vasodilation** – If the body temperature raise, a negative feedback action becomes active to reach to normal temperature higher temperature of the blood stimulates thermoreceptors that send nerve impulses to the preoptic area of the brain, which inturn stimulate the heat losing center and inhibit the heat promoting center. Nerve impulses from the heat losing center cause dilation of blood vessels and there is an increased blood flow through the area so that the necessary oxygen and nutritive materials are supplied and waste products are removed.

2) *Pradhana karma*

A) *Vamana*

Vamana is a bio-cleansing procedure used for elimination of *doshas* (mainly *kapha*) accumulated in the upper gastrointestinal tract.

Acharya kashyap mentioned that babies who emit vitiated milk from stomach repeatedly will never suffer from diseases.

Acharya kashyap explains *Vamana* as the main stay of treatment in *balrogas* due to dominance of *kapha dosha* of indulging in *Kapha Vardhak Ahara* like *kshira*, *ghrita* etc.^[6]

When babies takes first breadth *Acharya* advised that baby should undergone the process of *Garbhodaka Vamanam* using *saindhava* and *ghrita*.^[22]

Normally 2-3 vomiting are appropriate for children. If vomiting is not appropriate, the child should be given decoction of *Apamarga* (*Achyranthes aspera*), *Pippali* (*Piper longum*), *Sirisa* (*Albizia lebbek*) with rice to remove remaining *Kapha*. After emesis, exertional activities should be restricted for few hours.^[23]

Indications and contraindications of *Vamana*^[24]

Indications	Contraindications
Gastric problems- <i>Ajeerna</i> (Indigestion)	Acute peptic ulcer
<i>Peenasa</i> (Sinusitis)	<i>Bala</i> (Young children)
<i>Madhumeha</i> (Diabetes)	<i>Hridroga</i> (Cardiac disorders)
<i>Unmada</i> (Schizophrenia)	<i>Shranta</i> (Exhausted)
<i>Kushtha</i> (Skin diseases)	<i>Pipasita</i> (Thirsty)
<i>Kasa</i> (Cough), <i>shwasa</i> (Bronchial asthma)	<i>Kshudhita</i> (Hungry)
<i>Shlipada</i> (Filariasis)	<i>Atikrisha</i> (Emaciated body)

Vamana in child is indicated as *Garbhodaka Vamana* by administering *Vacha* (*Acorus calamus*) and *Saindhav churna*.^[22]

In *ksheerad* child, *Vamana Sadhya* diseases, *Vamana* could be done by administering *Madanaphala* on nipple along with areola.

Mode of action^[25]

Vamana karma is not merely a stomach wash, it is a complete management of systemic diseases caused by *kapha*. *Urdva Amashaya* is the seat of action of *Kapha*. The active principle of *Vamana* drug taken orally is absorbed from the stomach into circulatory system wherefrom it is circulated to all over the body. On reaching the site of *Dosha Sanghata*, which is at cellular level, it breaks the association of *doshas* and bring back the toxic substances thus released into the stomach, wherefrom they are expelled out of the body by the action of vomiting. Mild inflammation is must for purification action. It is noticed that most

of the drugs employed in *Vamana* have mild irritation effect and produced mild inflammation facilitates the quick absorption of the active principles (*Veerya*) of the drug in the initial stage. Later on it facilitates the excretion of morbid matters, which generally are not supposed to be excreted out.

Inflammation increases the permeability of capillaries, which in turn allow the absorption as well as excretion of the substances. The softening (*Visyandana*) action of drugs may be understood from the example of fatty degeneration. In fatty degeneration, the saturated molecules are chemically inert and do not respond to any chemical reaction. But if suitable catalytic agent is applied, then it will later on react to the other chemicals also to break them in smaller molecules. The smaller molecules thus formed can be driven out of the cell due to normal function of the cell or by the action of drug and thus cell is free from harmful substance leading to the cure of degeneration.

The *Vamana* drugs are given in full stomach when the pyloric end of stomach remains closed and all the local activities of the *Vamana* drugs are limited to the stomach only. As the drugs have irritant action, so a mild inflammation of the stomach mucosa is produced. It will increase the permeability of the capillaries of the stomach which in beginning facilitated the absorption of the active principles of the drug and later on facilitates the excretion of toxins and metabolites into the stomach where from they are thrown out of the body by the process of vomiting. The process of emesis therapy is considered complete as soon as the pyloric valve opens which is evident from the appearance of bile in vomitus due to flux of anti peristalsis set during the process of vomiting.

c) *Virechana* (Purgation)

Virechana is best for *Pittaj* disorders and good for ensuring the growth and development of child. It is a procedure where vitiated *doshas* (mainly *pitta*) eliminated from lower gastrointestinal tract through the anal route. Normally, *Virechana* should not be given to children, if it's necessary, it can be used as a last option; if all other measure failing to cure the disease. This procedure is done with extreme caution as there is danger of dehydration. We can use *mridu virechana dravyas* like *trivritta*, *chaturangula*. The *Vega* of *virechana* is 2, 3 and 4 as *kanistha*, *Madhyama* and *Ut-tama* respectively. It helps in purifying the *Amashaya* and *Pakwashaya* by regularising the bowel habits. However *Virechana* is better avoided in children except in emergencies. *Virechana* should be given fifteen days after the *Vamana*

karma.^[26] *Virechana* is better avoided in children except in the emergencies, and is substituted by *Basti*.

In *Ksheerada*, *VirechanaAushadha* is given to mother, however in *Ksheeranada* and *Annada* in need one can utilise *Mridu Virechna* with *Trivritta* (*Operculina turpethum*) and *Chaturangula* (*Cassia fistula*). *Teekshna* drugs are not advised.

Indications and contraindications of *virechana*^[27]

Indications	Contraindications
<i>Tamak shwasa</i> (Bronchial asthma), Eczema, Allergic dermatitis	<i>Navajwara</i> (Acute fevers)
<i>Pakshaghat</i> (Hemiplegic), <i>Madhumeha</i> (Diabetes), <i>Arbuda</i> (Tumour)	<i>Krishna</i> (Emaciated patients), <i>Rajayakshma</i> (Tuberculosis)
<i>Krimi</i> (Worm infestation), <i>Kamala</i> (Jaundice)	<i>Garbhini</i> (Pregnant women)

Mode of action^[28]

The process and action of *Virechana* is regulated and controlled by specific centre that is situated near medulla oblongata in the brain. This centre is close to respiratory and vomiting centre. When the *Virechana* drugs stimulate the purgation centre, indirectly vomiting centre is relaxed. Sacral plexus of the spinal cord also helps in controlling and regulating the act of purgation and it is also controlled and regulated by local reflex actions. Hence during the action of defecation, the respiration is arrested shortly; diaphragm is activated and presses transverse colon. Simultaneously, the accessory muscles of the abdomen are also activated and help in propelling the faecal matter towards anus along with the diaphragm.

The increased hydrostatic pressure of the matter reached to the large intestine along with the mass peristaltic movements induces a slight mechanical pressure in the sacral plexus and lumbar nerves situated at the lower levels of spinal cord. Because, of these irritations, motor reaction occurs which relaxes the iliosacral valve muscles and anal sphincter muscles. The respiration is arrested momentarily and diaphragm is activated through motor response and it exerts more pressure and presses the transverse colon downwards. As a combination of the mechanical pressure and associated relaxation of anal sphincter muscles, the material as a whole is expelled from the body downwards through anus.

C) *BASTI*

It is a procedure where medicine is administered through genitourinary tract using *Bastiyantra*. It is most appropriate remedial measure for *Vatadosha*. *Basti* imparts *Arogya* to the child. The *Niruha basti* can cause the *karshana* in child which leads to the poor development. Where there is association of *Vata*, *Basti karma* should be used.

Basti is effective and safe in children and can also be employed where *Virechana* is contraindicated. In childhood, *Basti* acts just like the *Amrita* (nectar). *Basti* can be administered to one year baby. *Niruha Basti* can cause the *Karshana* in child and thus *Acharya Kashyapa* has mentioned the use of *Anuvasana Basti* or *Basti* in which oil is more than quantity of *Kashaya*. There are great controversies in *Basti Yogya Ayu* between *Acharyas*.^[29]

Gargya, *Mathara*, *Atreya*, *Parashara* and *Bhela* have stated that *Basti* should be started just after birth, after 1 month, after 4 month, after 3 year, and 6th year respectively. *Kashyapa* has stated that *Basti* should be started at *Annada* (about 1 years of age).^[30]

Different *Acharyas* have mentioned various *Basti* preparations of general type and can be used in patients of all age groups; however *Kashyapa* has mentioned specific *Basti* formulations for children.

Indications and Contraindications of *Basti*^[31]

Indications	Contraindications
<i>Amavatta</i> (Juvenile Rheumatoid Arthritis)	<i>Aamatisara</i> (Acute diarrhoea)
<i>Vata rog</i> (Hemiplegic, Muscular dystrophy)	<i>Kasa</i> (Cough), <i>Shwasa</i> (Asthma)
<i>Rajonash</i> (Secondary amenorrhea)	<i>Chhardi</i> (Vomiting)
<i>Jeerna Jwara</i> (Chronic fever)	<i>Krishha</i> (Emaciated body)
<i>Ashmari</i> (Kidney stone, bladder stone)	<i>Madhumeha</i> (Diabetes)
<i>Niram atisara</i> (Chronic diarrhoea)	<i>Shoona payu</i> (Inflamed anus)
Cerebral palsy, delayed milestones	<i>Kritahara</i> (Immediately after taking food)

The 3 types of *Basti* are *Asthapana Basti* (*Niruha*), *Anuvasana Basti* (*Sneha*) and *Utara Basti* (Uterine and urinary). *Basti* is effective and safe in children and can also be employed where *Virechana* is contraindicated. Different *Acharyas* have mentioned various *Basti* preparations of general type and can be used in patients of all age groups; however *Kashyapa* has mentioned specific *Basti* formulations for children. Various causes and manifestation of under/over dosage of *Basti* given to children is mentioned.

Commonly used *Basti* yogas

Madhutailika basti, bala guduchyadi basti, patolnimbadi basti, vaitarana basti, mustadi yapana basti, tikta kshira basti.

Mode of action^[32]**Local effects**

The *Basti dravya* introduced into the rectum may act by stimulating peristalsis either because of their large volume or they cause osmotic retention of water in the bowel. Therefore *Basti* expels toxins from the body and cleanses colon. The colon is richly endowed with elements of mucosal immune system. So immune system can be stimulated by cleansing the colon.

Systemic effects

The colonic mucosa transports ions, small molecules and water back and forth between the lumen and plasma. Colon maintains fluid and electrolyte balance. The colon differs from small intestine in the tightness and ion selectivity of the mucosa. The tightness allows transport of ions against large concentration gradient and the development of higher electrical potential between the lumen and plasma. Because of these features almost all the sodium can be removed from colonic contents.

Effects through neural pathways

The enteric nervous system modulates a variety of local reflexes by integrating signals generated by.

- 1) The Chemical nature of luminal contents.
- 2) The mechanical effects of colonic distension, mucosal immune function, circulating hormones and extrinsic nerves.

As rectum has a rich blood supply, the *Basti* drugs probably cross the rectal mucosa like other lipid membranes.

The portion absorbed from the upper rectal mucosa is carried by the superior haemorrhoidal vein into the portal circulation.

d) *Nasya*

It is indicated mainly in aggravated and accumulated *Doshas* (disease causing factor) of head and neck. The aggravated *Kapha Dosha*, which usually blocks the upper respiratory tract, is eliminated with the help of nasal instillation of herbal juices, oils, or powders. *Charaka* has

described five types of *Nasya* in which *Pratimarsha* is mildest one and can be administered in children.^[33]

Kashyapa has described various types of *Nasya*, dosage schedule and mode of administration in children. Two types of *Nasya* are *Brimhana Nasya* (nourishing) and *Karshana Shodhana Nasya* (cleansing). *Nasya* is not recommended in child below 7yrs of age by *Susruta* and *Vagbhatt*.^[34]

Kashyapa has mentioned that it can be prescribed even in breast feed babies.^[35] *Nasya* cures certain childhood disorders like *Trishna*, *Shiroroga*, *Pippasa*. During *Nasya* the patient should sit or lie down in a comfortable posture, then applied gentle massage over the head, forehead and face followed by mild *Swedana*.

Taila Nasya has been explained for children along with *Madhu* and *Gomutra*.

Marsha nasya

Uttam – 10 drops

Madhyam- 8 drops

Hrisava – 6 drops

Pratimarsha nasya- 2 drops

Mode of action^[36]

Passage of drug through the mucus is the first step in the absorption from the nasal cavity. Uncharged as well as small particles easily pass through mucus while charged as well as large particles are more difficult to cross it. The lowering of head, elevation of lower extremities and fomentation of face, seem to have an impact on blood circulation of head and face. *Nasya karma* has a definite impact on central neurovascular system and likely lowers the blood brain barrier to enable certain drug absorption in the brain tissue.

Raktmokshana

It is the process of taking out blood from the body to manage diseases caused by *Rakta* and *Pitta*.^[37] The methods of *Raktamokshana* are *Shringa*, *Jalauka*, *Alabu* and *Shira Vyadha*. Children have *Aparipakwa Dhatu* so in first step this procedure not indicated. If disease is not cured by *Shamana* and other method then *Rakta Mokshana* is indicated as in *Kukunaka*,

Ahiputana, Gudakutta, Ajagallika, Mukhapaka, Charmadala. The *Jaulaka* is the mildest of all the methods therefore *Jalauka* is the only mean for *Raktavasechana* in pediatrics cases.

DISCUSSION

Though children have *Doshas, Dushyas*, diseases everything similar to that of adults, it is very essential to consider the respective conditions, age, dosage, drugs, mode of administration, time, frequency and procedure while managing Pediatric conditions. The difference of Child from an adult lies in the physical conditions of a child being *Soukumaryata* (having soft and tender body structure), *Alpakayata* (under developed organ systems), *Vividha Anna Anupasevanata* (GIT not fit to receive all types of food) *Aparipakwa Dhathu* (transformation and development under progression), *Ajata Vyanjanam* (incomplete secondary sexual characters), *Aklesha Sahatva* (cannot tolerate stress of any kind) *Asampoorna Balam* (poor strength) *Slesma DhathuPrayam* (drastic growth and development). This is reason that the fixation of dose and duration of therapy/ procedures which should be smaller/ shorter in pediatric group. Quality of medicines in children should be *Mridu* (low potency), *Madhura and Surabhi* (sweet and good odour for better palatability), *Laghu* (easy to absorb and assimilate). The approach of management in *Bala-Roga* is mainly limited to medicines. Detailed description of different *Panchakarma* procedure in children in different condition is described in different classical texts. Previous research studies have concluded on the significance of *Panchakarma* in *BalaRoga*.

Panchkarma can be very carefully implemented in *Swatantra bala* (healthy child) or a independent child by considering *Bala, desh, kala* etc *swatantra* child refers to that child who does not require any assistance in its day to day activities like eating, talking, walking and explaining good and bad suffering during the course of treatment while *Pratantra bala* is one who is dependent on his parents or caretakers for his day to day activities.

Snehan karma pacifies *Vata*, regularise bowel movements, and improves digestion, strength and complexion. *Swedana* is quite beneficial in removing the stiffness of body, heaviness, pain, contractures and constipation, and other *Vatakapahaj* disorders. In *vatapradhan rogas*, *snigda sweda* and in *kapha pradhan rogas ruksha sweda* is indicated. *Virechana* is best for *Pittaja* disorders and imparts the clarity of *Indriyas* however one should keep in mind the complications of *Virechana*. *Basti* has wonderful results in children and it act as *Amrit* in children.

The review concluded *Panchakarma* as part of *Ayurvedic* management and can't be ignored in pediatric cases. In *Ayurvedic* literature full description of *Panchakarma* in pediatrics is available but not practiced due lack of practical exposure along with improper understanding of principles of *Panchakarma* in pediatrics. *Panchakarma* is the unique therapy of *Ayurveda* System of Medicine which is equally beneficial in the prevention and cure of the disorders thereby improves the lifespan of the individual. In pediatric practice also these therapies are helpful provided administered with due consideration in the stage of the diseases, the dosage of medicines, proper method, for the *Vaya* and *Bala* of the children.

Most of the published works have emphasized on the importance of *Panchakarma* in children. But Very few clinical studies have been published in the procedural efficacy of *Panchkarma* procedure in children. Many *Panchakarma* procedures due to their drastic nature are not readily advisable in children. Hence the medication mentioned for the adults can be made use of in children but in a smaller dosage to reduce its *Teekshnata* to compensate the delicacy, small size of the body and modified dietetic habits. These factors make it necessary to bring about modifications in procedures in children. *Panchakarma* measures done with precautions are similarly effective in a children as they are done in adults. Only very few *Ayurveda* Hospitals have been practicing *Panchkarma* Procedural approach in management of Pediatric conditions. *Panchakarma* should not be grossly overlooked by generalizing childhood as a contraindication for carrying out *Panchakarma*. Lack of co-ordination, limited resources and practical expertise may be the only cause for lacking of practice and research in *Panchakarma* in Pediatric conditions. Despite of difficulty encountered in understanding disease and feasibility, practice of *Panchakarma* could bring wonders in the management of *Bala-Roga*.

CONCLUSION

Panchakarma practice can be safely and effectively practiced in children following the classical references and updating with recent updates and modifications. The knowledge and experience in *Panchakarma* and pediatric conditions is the key to successful administration of *Panchakarma* in children. Increasing and mainstreaming *Panchakarma* procedure in children in *Ayurveda* hospitals will definitely provide a new hope in management of child disorders.

REFERENCES

1. Sushrut sutra sthana chapter 13, 14, 39. Chikitsa sthana chapter 1 and chapter 31-40.
2. Sushrut sutra sthana chapter 5/ 3.

3. Charak sutra sthana adhaya 2 apamarg tanduliya aadhyaya.
4. Faculty of Ayurveda, Parul University, India *Corresponding author: Kshama Gupta, Associate professor, Faculty of Ayurveda, Parul University, Vadodara, Gujarat, 391760, India, Tel: 7567222309; Email: Received: January 03, 2018 | Published: January 29, 2018.
5. Kashyapa samhita or vridhjeevaka tantra text with English commentary P.v. Tiwari Sutra sthanam chapter 26/4.
6. Kashyapa samhita or vridhjeevaka tantra text with English commentary P.v. Tiwari siddhi sthanam chapter 2/8.
7. Kashyapa samhita or vridhjeevaka tantra text with English commentary p.v. tiwari siddhi sthanam chapter 1/9-10.
8. Sushrut sutra sthana dalhan teeka adhyaya 5/3.
9. Charak sutra sthana chapter 28/33.
10. Kaviraaj Ambikadutta Shastri, Susruta Samhita Vol 1 (Sharira Sthana, Chapter 10/14-15), Varanasi, Chaukambha Sanskrit series publication, 2009.
11. Kaviraaj Ambikadutta Shastri, Susruta Samhita Vol 1 (Chikitsa Sthana, Chapter 31/37), Varanasi, Chaukambha Sanskrit series publication, 2009.
12. Bhisagacharya S. Kashyapa Samhita of Vriddha jivaka Revised by Vatsya, Vidyotini hindi Commentary, Sootra sthana; Snehdadhyaya : Chapter 23, Varanasi; Chaukhamba sanskrita sansthan, Reprint Edition, 2012; 26.
13. Charak siddhi chapter 1/7.
14. Kashyapa sutra sthana 23/25-26.
15. Kashyapa sutra sthana 23.
16. Bhisagacharya S. Kashyapa Samhita of Vriddha jivaka Revised by Vatsya, Vidyotini hindi Commentary, Sootra sthana; Swedadhyaya: Chapter 23, Varanasi; Chaukhamba sanskrita sansthan, Reprint Edition, 2012; 26.
17. Bhisgacharya S., Kashyapa Samhita Of Vriddha Jivaka Revised By Vatsya, Vidyotini Hindi Commentary, (Sutrasthana; Chapter 23/3-8), Reprint Edition Varanasi: Choukhamba Sanskrita Sansthan, 2013,
18. Bhisgacharya S., Kashyapa Samhita Of Vriddha Jivaka Revised By Vatsya, Vidyotini Hindi Commentary, (Sutrasthana; Chapter 23/10-11), Reprint Edition Varanasi: Choukhamba Sanskrita Sansthan, 2013,

19. Bhisgacharya S., Kashyapa Samhita Of Vriddha Jivaka Revised By Vatsya, Vidyotini Hindi Commentary, (Sutrasthana; Chapter 23/12), Reprint Edition Varanasi: Choukhamba Sanskrita Sansthan, 2013.
20. Shastri K. And Chaturvedi G., Charaka Samhita of Agnivesa Revised By Charaka and Dridhbala, With Vidyotini Hindi Commentary, Sootra Sthana; Swedadhyaya; Chapter 14, Varanasi; Chaukhambha Bharati Academy, Reprint Edition, 2013; 290.
21. Ayurvediya panchkarma chikitsa vigyan prof. Radheshyam Sharma, Dr. Gopesh mangal, Dr. Gunjan garg.
22. Kaviraj Ambikadutta Shastri, Susruta Samhita Vol 1 (Sharira Sthana, Chapter 10/14), Varanasi, Chaukhambha Sanskrit series publication, 2009.
23. Bhisgacharya S., Kashyapa Samhita Of Vriddha Jivaka Revised By Vatsya, Vidyotini Hindi Commentary, (Siddhisthana; Chapter 3), Reprint Edition Varanasi: Choukhamba Sanskrita Sansthan, 2013.
24. Shukla V and TRipathi R, Charaka Samhita of Agnivesa revised by Charaka and dridhbala, with Vaidyamanorama Hindi Commentary, Siddhisthana; Panchkarma siddhi; Chapter 2, Varanasi: Chaukhambha Surbharati Prakashana, Reprint Edition, 2013; 889.
25. Ayurvediya panchkarma chikitsa vigyan prof. Radheshyam Sharma, Dr. Gopesh mangal, Dr. Gunjan garg.
26. Bhisgacharya S., Kashyapa Samhita Of Vriddha Jivaka Revised By Vatsya, Vidyotini Hindi Commentary, (Siddhisthana; Chapter 3), Reprint Edition Varanasi: Choukhamba Sanskrita Sansthan, 2013.
27. Upadhyaya Y., Ashtang Hridya of vagbhata, with vidyotini Hindi Commentary By Kaviraj Atridev Gupta, Sootra sthana; Vamanavirechana vidhi; Chapter 18, Varanasi: Chaukhambha Prakashana, Reprint Edition, 2011; 155.
28. Ayurvediya panchkarma chikitsa vigyan prof. Radheshyam Sharma, Dr. Gopesh mangal, Dr. Gunjan garg.
29. Kumar A. Child Health Care in Ayurveda, Reprinted, Delhi, Sri Satguru Publication, 1999; P. 161.
30. Bhisgacharya S., Kashyapa Samhita Of Vriddha Jivaka Revised By Vatsya, Vidyotini Hindi Commentary, (Siddhisthana; Chapter 1), Reprint Edition Varanasi: Choukhamba Sanskrita Sansthan, 2013.
31. Upadhyaya Y., Ashtang Hridya of vagbhata, with vidyotini Hindi Commentary By Kaviraj Atridev Gupta, Sootra sthana; Chapter 18, Varanasi: Chaukhambha Prakashana, Reprint Edition, 2011; 155.

32. Ayurvediya panchkarma chikitsa vigyan prof. Radheshyam Sharma, Dr. Gopesh mangal, Dr. Gunjan garg.
33. Vaidya Jadavji Trikamji Acharya, Charaka Samhita, (Sharirasthana 9/117), Reprint, Varanasi, Chaukambha Prakashan, 2013.
34. Tripathi B, editor. Astanga Hridayam of Srimad Vagbhata (Sutrasthan 20/30-32) Reprint, Varanasi, Chaukambha Sanskrit Pratishthan, 2015.
35. Bhisgacharya S., Kashyapa Samhita Of Vriddha Jivaka Revised By Vatsya, Vidyotini Hindi Commentary, (Siddhisthana; Chapter 4), Reprint Edition Varanasi: Choukhamba Sanskrita Sansthan, 2013.
36. Ayurvediya panchkarma chikitsa vigyan prof. Radheshyam Sharma, Dr. Gopesh mangal, Dr. Gunjan garg.
37. Tripathi B, editor. Astanga Hridayam of Srimad Vagbhata (Sutrasthan 11/26) Reprint, Varanasi, Chaukambha Sanskrit Pratishthan, 2015.