**ABSTRACT:**

**Introduction:** *Panchakarma* is considered as one of the specialities of *Kayachikitsa* which includes five major therapeutic procedures of detoxification and body purification, along with many other supportive procedures. In fact, *Panchakarma* can be used efficiently in all the branches of *Astang-Ayurveda* and it can also be beneficial in *Kaumarbhritiya* for a comprehensive cure for many child disorders. This review was carried out to study the concept of *Panchakarma* in children and explore the variations and significance of *Panchakarma* in *Bala-Roga*. **Materials & Methods:** References regarding *Panchakarma* in Children were collected from various classical *Ayurveda* textbooks, published research papers from Internet sources, previous work done and compilation was done. Concept of *Panchakarma* in Children was studied in detail. **Results:** Most of the previous studies have emphasized on the importance of *Panchakarma* in children; however there were limited clinical studies have been carried out on procedural effectiveness of *Panchakarma* in children. *Panchakarma* measures executed with precautions is equally effective in a child as it results in adult. **Conclusion:** 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:** *Ayurveda, Panchakarma, Kaumarbhritiya, Bala-Roga*

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**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). *Panchakarma* therapies are an integral part of *Ayurveda*, which act as preventive as well as curative measures and improve the body immunity. *Panchakarma* is considered as one of the specialities of *Kayachikitsa* which includes five major therapeutic procedures of detoxification and body purification, along with many other supportive procedures. In fact *Panchakarma* can be used successfully in all the branches of *Astang-Ayurveda* and it can also be beneficial in *Kaumarbhritiya* as a comprehensive cure for many child disorders. This review was carried out to study the concept of *Panchakarma* in children and explore the variations and significance of *Panchakarma* in *Bala-Roga*. 

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MATERIALS & METHODS

References regarding Panchakarma in Children were collected from various classical Ayurveda textbooks, published research papers from Internet sources, previous work done and compilation was done. Concept of Panchakarma in Children was studied in detail.

Description of Panchakarma in Kaumarbhriya

Panchakarma is purificatory procedure which includes Purvakarma, Pradhanakarma and Paschakatrama. Purvakarma (Pre- Panchakarma procedures) involves Deepana and Pachana (administering oral medicines to improve digestion in order to enhance Agni), Snehana (oleation) and Swedana (fomentation). Panchakarma Pradhanakarma (main procedures); Vamana (therapeutic emesis), Virechana (therapeutic purgation), Basti (enemas), Nasya (nasal administration), Raktaomoksha (bloodletting) are performed to flush out unwanted substances from the body from the nearest tract. Pashchakatrama (Post- Panchakarma procedures) include precautions and diet regimen which are advised to prevent any further complications; to obtain desired results and also to bring back the patient’s body to normal lifestyle. The scope of Kaumarbhriya includes proper antenatal care to post-natal care. Childhood is a growing and development period with respect to physical, mental and social aspect. Although there are some variation but most classical texts have mentioned the Balya-kala (age) upto 16 years. The alterations in the Panchakarma with regards to Paediatric practice has been mentioned in the classics.

Deepana and Pachana: It is prescribed to obtain Niramavastha of Doshas and to improve Agni before main Panchakarma procedure. Water boiled with Shunthi (dry ginger) or Dhanyak (dry coriander) can be used in pediatric patient. It is given warm and in small quantity initially.

Snehana: Snehana is the process of oleation of the body by using medicated ghee and oils internally and externally. For proper growth and development, it is most important practice in children. Ghrita, Taila, Vasa, Majja are Snehana Dravya (substance); and among all of them, Ghrita has been given more importance for Snehana in children. Majority of Acharyas have described the use of Snehana in children. 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. 2 Ghrita has definite role in first four days feeding of newborn. 3 Snehana is indicated in Purvakarma (before cleansing therapy), Varta-rogas, Rukshata (body roughness), Hikka (hiccough) Krisha Balaka (emaciated child). 4 Snehana is contraindicated in Kshirad Avastha (breastfeeds babies), Chardi (vomiting), Kaphaja Vikara such as Shhoulya (obesity), Raktaptita (bleeding disorders), Aitisara (diarrhoea), Jvara (fever), Galamaya (throat disorder). 5 Charak has described Sneha as contraindication in Grah Pidit and Talu Sosha. 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. 6 Kashyapa has restricted the Snehana in Ksirada.7 Charak has advocated the use of small amount of Sneha in children. 8 Snehana can be done with Ghrita preparations 9 like Ashwagandha Ghrita, Kumar Kalyan Ghrita, Samvardhana Ghrita, Abhaya Ghrita, Panchagavya Ghrita, Ashtang Ghrita, Shishu Kalyanaka Ghrita, Brahma Ghrita, Shodhana Ghrita, Ashhtamangala Ghrita. In the same way, Narayana Taila, Mahanarayana Taila, Mahamasha Taila, Bala Taila, Mashaadi Taila, Lakshadi Taila are also used. Acharya Vagbhatta has described Abhyanga with Bala Taila in Navajat Paricharya during Prana Pratyagamana (resuscitation).

Swedana: The procedure that induces sweating (sudation) is called as Swedana. It relieves heaviness, stiffness and coldness of the body. Kashyapa has given extensive description of Swedana Karma. 10 It is used in child suffering from Staimitya (rigidity), Kathorata (hardness), Malabandha (constipation), Anaha, Vani Nigrraha (suppression of voice), Hrillasa (nausea), Aruchi (anorexia), Alasaka (tympanitis), Kampana (cramps). Swedana may be mild, moderate or strong in nature according to the body parts exposed for Swedana. 11 The eight types the Swedana 12 - Hast, Pradeha, Nadi, Prastara, Sankar, Upnaha, Avgaha and Parisheka. Hastha Sweda, and Pata Sweda are considered useful in neonates and infants especially in abdominal colic (citation). Conditional Swedana is recommended for Krisha (thin) and medium strength child. 13 Hasta Sweda is recommended upto 4 month of age. Nadi Sweda, Prasthara, Sankar, Pradeha, Upnaha, Avgaha, Parisheka are other types which are practically applicable in children. Shashtika Shali Pinda Sweda is the general method of Swedana commonly used in neuromuscular disorders in pediatric patients. Swedana is indicated in Purvakarma, Vata Rogas (hemiplegic, cerebral palsy) Jadya, Kathinaya and Ruksha Sharira (heaviness, stiffness, dryness of body), Shwasa (asthma), Kasa (cough), Pratishyaya, rheumatic and degenerative conditions, obstruction to Mala (stool), Mutra (urine) and Shukra (semen). Swedana is contraindicated in Dagdho (burnt), Navajwar (acute fever), Kamala (jaundice), Pittarogi, Madhumehi (diabetic), Chhardi (vomiting), Trishna (dehydrated), Karshya (emaciated), Hridaya Rogas (cardiac diseases), Raktaopita (bleeding disorders) and Vishkari (poisoned). During the process of Swedana various articles like pearls, Candrapakattaman and pots filled with cold water should be kept continuously in contact of Hridaya Pradesha (cardiac region). 14 Mouth should be filled with powder of Karpura or with juice of citrus fruits mixed with unrefined sugar or with Draksha for easy procedure. 15

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**Vamana:** It is the process by which Doshas are eliminated through mouth by the act of vomiting. The first act of emesis is performed immediately after birth for elimination of Garbhodaka using Saindhava and Ghrita. Mridu Vamana with full stomach milk or breast milk followed by physical stimulation of the throat by physician or by mother has been indicated. 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 lebbeck) with rice to remove remaining Kapha. After emesis, exertional activities should be restricted for few hours. Acharya Kashyapa mentioned that, babies who emit vitiated milk from stomach repeatedly; will never suffer from diseases. Vamana is indicated in Ajeerna (indigestion), Peenasa (Sinusitis), Madhumeha (Diabetes), Unmada (Schizophrenia), Kushtha (skin diseases), Kasa (Cough), Shwasa (bronchial Asthma) and Shlipada (Filaria). Vamana is contraindicated in Bala (very young children), Hridroga (cardiac disorders), Shranta (exhausted), Pipasita (thirsty), Kshudhita (hungry), and Atikrisha (emaciated body).

Garbhodaka Vamana can be done by administrating Vacha (Acorus calamus) and Saindhava Churna. Kashyapa has mentioned the use of Katphala (Myrica esculenta), Nichula (Barringtonia acutangula) and Sirisa (Albizia lebbeck) decoction, decoction of Grahaghnii (Gaur-Sarsapa), Kritaveda and seeds of Madana Phala (Randia spinosa) for emesis. In Ksheerada child, Vamana Sadhya diseases, Vamana could be done with Madanaphala on nipple along with areola i.e. dose of Madanaphala should not be more than that. Vamana is usually contraindicated below 6yr of age. Mild potency of the drugs are used in smaller quantity. In Ksheerada drugs are pasted over the breast of the mother and after it dries up it should be washed and baby is got ready to breast fed which lead to easy Vamana. In Ksheerannada administer drugs along with breast milk. In Annada the decoction of Madanaphala, Vacha and Saindhava or Katphala and Sarsapa can be used. The dosage of drugs for Vamana is depending upon the severity of the disease from 120 mg to 4 gm for Utakristamatra, Mdhyamatra and Hina Matra. Kashyapa has also mentioned that the dose of emetics should be one Vidanga, which is increased by one Vidanga every month till a maximum dose becomes one Amalaka.

**Virechana:** It is the process by which vitiated Doshas are eliminated through Adhomarga (rectum). It is specific for elimination of Pitta Dosa. It is proved that Virechana is the best for Pittaja disorders and imparts the clarity of Indriyas (sense organs) and good for ensuring the growth and development of the child. It also enhances the functional capacity of the child by purifying the Anamahya and Paskwashayya by regularizing the bowel habits. Normally, Virechana should not be given to children, but when it’s necessary, it can be used as a last option; when all other measure failing to cure the disease. Virechana is better avoided in children except in the emergencies, and is substituted by Basti. This procedure should be administered with extreme caution. Virechana in case administrated, should be given at least fifteen days after the Vamana by satisfying all the prerequisites. In Ksheerada, Virechana Aushadha is given to mother, however in Ksheerannada and Annada in need one can utilise Mridu Virechana with Trivritta (Opcerculina turpethum) and Chatatangula (Cassia fistula), Teekshna drugs are not advised. Virechana is indicated in Tamak Shwasa (Bronchial Asthma), Pakshaghat (hemiplegic), Madhumeha (diabetes), Arbuda (tumour), Krimi (worm infestation), Kamala (jaundice). Virechana is contraindicated in Navajwara (acute fevers), Krisha (emaciated patients) Rajayakshma (tuberculosis), Garbhini (pregnant women). The Vega of Virechana is 2, 3, and 4, in place of 10, 20, and 30 for adult Hina, Madhyama, and Uttama respectively. Kashyapa has described the complication on Virechana.

**Basti:** It is the procedure where the medicines are administered through rectum or genitourinary tract using Basti Yantra (enema can or specific apparatus). Mainly Basti Karma is used in Vata Doshon elimination; and diseases where there is association of Vata. The 3 types of Basti are Asthapana Basti (Niruha), Anuvasa Basti (Sneha) and Utrara Basti (Uterine and urinary). 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 Anuvasa Basti or Basti in which oil is more than quantity of Kashyaya. There are great controversies in Basti Yogya Ayu between Acharyas, Gargya, Mathara, Atreya, Parashara and Bhela have stated that Basti should be started just after birth, after 1 month, after 4 month, after 3 years, and 6th year respectively. Kashyapa has stated that Basti should be started at Annada (about 1 years of age). Basti is indicated in Amavata (juvenile rheumatoid arthritis), Vata Roga (hemiplegic, muscular dystrophy) , Rajonasha (secondary amenorrhea), Jeerna Jwara (chronic fever), Ashmari (kidney stone, bladder stone) Niram Atisar (chronic diarrhoea), cerebral palsy, delayed milestones. Basti is contraindicated in Amatisara (acute diarrhoea), Kasa (Cough), Shwasa (asthma), Chhardi (vomiting), Krisha(emaciated body), Madhumeha (diabetes), Shoono Payu (inflamed anus), Kritahara (immediately after taking food). 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.

**Nasya:** It is the process of administration of medicines through nostrils. It is indicated mainly in aggravated and accumulated Doshas (disease causing factor) of head and
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 Dhathu Prayam (drastic growth and development). This is reason 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 Surahbi (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.

Tripathi N and Tiwari published review article entitled Panchakarma in Pediatrics of Current Scenario. 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.

Navane K and Devane Y published review article entitled Fundamentals of Panchakarma in child health care. They concluded that 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, Vaya and Bala of the children.

Rajkumar Harinheke et al published Specific Therapeutic Panchakarma Procedure in Pediatric Patients: A Classical Review. The review concluded that Panchakarma is highly individualized based on the Doshic imbalance (imbalance of bio-elements), age, digestive strength, immune status and other factors. In paediatric patients, Panchakarma procedure are equally effective as they in adult but must be given due consideration. When doing Panchakarma procedure in paediatric patient measures should be taken in the prevention of complications.

Jagdish P Patil. et al published Advancement Of Panchakarma For Different Age Group: A Review. This review concluded that various research investigations proved efficacy of Panchakarma in different diseases. It is also believed that Panchakarma therapy not restricted to the particular age group but it is established as valuable therapy for all age groups. Article suggested that Panchakarma may be utilized for various age groups but precautionary considerations are essential for use of Panchakarma in pediatric.

Kalpana Ladvika published A Review on Panchakarma and Its Application in Pediatrics Practice. This review concluded Panchakarma therapy is an integral part of Ayurveda. Panchakarma therapy can be beneficial in children as a comprehensive cure for many diseases because it made the equilibrium of Dosha when it is used with precaution and scientific rationale.

Vanita T et al published Administration of Panchakarma in Paediatric Age Group – A Classical Review. This review concluded that these Panchakarma therapies are also helpful in pediatric practice if administered with due consideration in stage of the diseases, dosage of medicines, proper method, Vaya and Bala of the children.

Mulla Aayeesha published review article entitled Panchakarma in Balaroga. The article concluded that all the five Panchakarmas are systematically explained in classics with special interest of the child. Disease status of
the child, physical and mental strength of child and extent of independency which forms administration criteria for Panchakarma procedure in child rather than age.

Nainav et al. 35 published a review article Entitled Role of Rasayan and Panchakarma in Bal-Rog. The article emphasized management of Bal-Rog using various ancient approaches of Ayurveda science. This article also mentioned importances of careful practice of Rasayana and Panchakarma in the management of some Bal-Rog.

Chandran S et al 36 published review article entitled Unique Contributions of Keraleeya Ayurveda In Pediatric Health Care. The review concluded that therapies like Shashtikapindaswedha, Thalapothichil (Stirolep) etc. are an inevitable part of Balacikitsa. The present article addresses, theoretical concepts and unique practices of Balacikitsa and traditional knowledge waned away from the Mainstream Ayurveda.

Bhinde SM et al 37 published article entitled Management of spastic cerebral palsy through multiple Ayurveda treatment modalities. In this clinical study Udavartana, Abhyanga, Sarvanga Swedana and Yoga Basti were performed and the study concluded on significance of Multisystem approach to improve the condition of the patient. Panchakarma along with internal medication have given improvements in all the facets of spastic CP.

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.

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