



Review Article

EVIDENCE BASED REVIEW OF SCOPE OF PANCHKARMA IN CHILDREN

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ABSTRACT

*Panchkarma* is a therapeutic process of Ayurveda wherein the vitiated *Doshas* are expelled out of the patient's body, leading to detoxification of the body. It is also useful in diseases of children like cerebral palsy, muscular dystrophy, autism, attention deficit hyperactivity disorder, rhinitis, etc. **Materials:** Available research literature in PubMed, Scopus, Google Scholar, DHARA and Ayush Research Portal was searched extensively for the *Panchkarma* in children. Journals published online in last 20 years were considered. Ayurveda classical texts were also referred. **Observations:** *Panchkarma* therapies like *Abhyanga*, *Shashti shali pinda sweda* and *Basti* have significant results in Spastic Cerebral Palsy. Bell's palsy can be treated with *Shiro-abhyang*, *Nasya* and *Pata sveda*. Disorders like DMD, AS, ADHD and constipation are shown to be managed well with *Panchkarma* procedures. **Conclusion:** *Panchkarma* procedures are very effective in diseases of children like cerebral palsy, Bells's palsy, muscular dystrophy, autism, attention deficit hyperactivity disorder and constipation. Thus, it needs to be widely publicized for use in children along with oral medications for maximum benefits.

INTRODUCTION

*Panchkarma* is an integrative part of Ayurveda which includes five major therapeutic procedures of purification of the body which are beneficial in the elimination of vitiated *Doshas* of the body, accumulated due to the improper diet and regimens or seasonal and environmental changes. *Panchakarma* is a part of *Shodhana chikitsa* (evacuation therapy) and is essentially an *Apatarpana* therapy. *Shodhan* treatment is considered superior to *shaman* treatment wherein vitiated *Doshas* are not expelled out but subsided within the body.<sup>[1]</sup> *Panchakarma* leads to detoxification of the body and strengthening of the immune system, thus, restoring balance and well-being with resultant rejuvenation.

*Panchkarma* includes *Purva karma* (procedures and medicines given prior to *Panchkarma*), *Pradhan karma* (five main procedures) and *Paschat karma*

(procedures, medicines and diet prescribed after *Panchkarma*). *Purva karma* involves administration of oral drugs which improve digestive fire, *Agni (Deepan)* and removal of *Ama dosha* from body (*Pachana*), followed by oleation therapy (*Snehan*) and fomentation therapy (*Swedan*). *Pradhan karma* are the five main procedures which include therapeutic emesis (*Vaman*), therapeutic purgation (*Virechan*), medicated enemas (*Basti*), nasal drug administration (*Nasya*) and bloodletting (*Raktamokshan*). These procedures are followed by post-*Panchkarma* procedures (*Pashchat Karma*) which includes specific diet regimens (*Sanasarjana karma*). *Panchkarma* which is mostly believed to be useful in treatment of diseases of adults, can also be used in *Kaumarbhritya*, the study of health and diseases of children. It is used for preventive as well as therapeutic purpose. In today's scientific era, acceptance of any therapeutic intervention in medical community and general public is largely based on scientific evidences. Thus, there is a need to have a detailed look at the research and clinical evidences regarding efficacy of *Panchkarma* procedures in various medical conditions of children.

Before starting any *Pradhan karma* of *Panchkarma* procedure, digestive fire should be improved by administering *Deepan* drugs and *Doshas* of body need to be made in *Niraam* condition by

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*Pachana* drugs. Warm decoction of *Shunthi* (*Zingiber officinalis*) and *Dhanyak* (*Coriandrum sativum*) is often used for this purpose. *Chitrakadi vati*, *Ajmodadi churna* and *Panchkol phant* are also suitable for this purpose. Thereafter oleation (*Snehan*) is done by a suitable method amongst various types of *Snehan* methods. Suitable drug is chosen amongst ghee (*Sarpi*), bone marrow (*Majja*), animal fat (*Vasa*) obtained from animal sources or oils (*Taila*) obtained from plant sources.<sup>[2]</sup> Amongst all types of oleation medicines, Ghee is considered the best for children as it increases *Varna* (skin complexion and luster), *Bala* (strength), *Ayu* (longevity) and *Medha* (intellect). Oleation can be done internally or externally. After oleation, sudation is given by choosing a suitable method amongst various types of *Swedan* methods.<sup>[3]</sup> *Swedana* is a procedure where sweating is induced artificially. It relieves the rigidity, heaviness, coldness and brings about sweating.<sup>[4]</sup>

*Vaman* therapy is indicated in *Kapha* predominant disorders while *Virechan* therapy is indicated in *Pitta* predominant diseases. *Basti* is given in *Vataj* disorders.<sup>[5]</sup> *Nasya karma* is useful in *Kapha* and *Vata* predominance diseases occurring above clavicle.<sup>[6]</sup>

It includes *Sansarjan Karma* (specific dietary regime), *Rasayan* drugs (rejuvenation therapy) and *Shaman* drugs (palliative therapy). As there is marked reduction of digestive power after *Panchkarma* therapy, specific dietary regime is given to rectify reduced digestive power with sequential intake of light diet. It begins with thin gruel and ends in normal food. Acharya Charak says, though children have *Doshas*, *Dushyas* and diseases similar to those of adults, it is essential to reschedule the dosage, drugs, mode of administration, time and frequency according to respective conditions and age. The dose and duration of therapy should be smaller and shorter in pediatric group because of tender body, small size and lesser diet as compared to adults. *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* (*Dhatus* development under

progression), *Aklesha Sahatva* (cannot tolerate stress) *Asampoorna Balam* (poor strength), medicines for children should be *Mridu* (potency should be controlled), *Madhura* and *Surabhi* (sweet and good odour for better palatability), *Laghu* (easy to absorb and assimilate), *Hridya* (palatable) and *Adaahi* (not causing burning sensation in body).<sup>[8]</sup>

*Snehana* is optional in *Ksheerada* (children upto one year age) and *Ksheerannada* (children between 1-2 years) as they always remain *Snigdha* (oleated) by constant use of *Ghrita* (ghee) and *Ksheera* (milk).<sup>[9]</sup> Acharya Kashyap has described various types of *Swedan* for children like *Hasta sweda*, *Naadi sweda*, *Upnah sweda*, *Parishek sweda*, *Pradeh sweda*, *Prastar sweda*, *Awagah sweda* and *Sankar sweda*.<sup>[10]</sup> In children, *Swedana* should be of lesser duration. *Shashtishali pinda sweda* is a type of fomentation done with bolus of drugs prepared with boiled rice. Childhood is *Kapha* predominant stage of life, so children are more prone to *Kaphaj* diseases. Thus *Vaman* helps to expel out the vitiated *Kapha dosha* as in *Swasa roga*. Generally, *Vaman* is indicated only after six years of age.<sup>[11]</sup>

But, immediately after birth, for removal of *Garbhodaka*, *Vamana* is performed using a mixture of ghee and *Saindhava*. As children are of tender nature, too much *Sanshodhan* (purification procedures) is not advised in them.<sup>[12]</sup> *Virechana* should be performed in children as a last resort as according to Acharya Vagbhatta, the diseases curable by *Virechana* therapy can be controlled by administering *Basti* in children. *Virechan* should be administered with extreme caution as there lay a potent danger of dehydration which the children are highly prone too. However, *Mrudu-virechan aushadha* like *Trivritta* and *Sukha-virechaka aushadha* like *Chaturangula* is used. Eg. In *Krimi*, *Pratimarsha nasya* is used in place of *Marsha nasya*. *Nasya* is not recommended in child below 7yrs of age by *Susruta* and *Vagbhatt*. *Sharangdhar* has mentioned that it can be prescribed even in breast feed babies.<sup>[13]</sup> Administration of *Basti* can be done in children after 1 year of age.<sup>[14]</sup>

**Scientific evidences:** The following evidences were found regarding *Balpanchkarma* in diseases of children (Table No. 1).

**Table 1: Scientific evidences regarding *Balpanchkarma***

S.no.	Author	Year of publication	Methodology	Result
<b>Cerebral palsy</b>				
1.	Aniket Palande and Nisha Kumari Ojha <sup>[15]</sup>	2017	RCT* conducted on 30 patients of CP**, aged 1-12 years. Patients were divided into three groups (n=10 per group). Treatment given: Group A. <i>Shishu Kalyan Ghrita</i> , <i>Abhyang</i> , <i>SSPS</i> . Group B. <i>Kala Basti-Anuvasana Basti</i> by <i>Dhanvantar taila</i> and <i>Asthapana Basti</i> by <i>Dashmool Kwath</i> . Group C. Physiotherapy (Control group). Interventions given for 30	Very significant results were seen in group A while intergroup comparison shows statistically significant gain of Group A over Group C.

			days. Assessment was done by Ashworth scale for spasticity	
2.	Shailaja U, Prasanna N Rao, Parikshit Debnath, Anjan Adhikari <sup>[16]</sup>	2014	163 patients of CP* of age 2-10 years were first subjected to <i>Abhyanga</i> (massage) with <i>Moorchita Tila Taila</i> (processed sesame oil) and <i>Svedana</i> (fomentation) with SSPS and then, were divided in two groups. Group A received <i>Mustadi Rajayapana Basti</i> (enema with herbal decoction) and <i>Baladi Yoga</i> (a poly-herbo-mineral formulation), while Group B (placebo group) received <i>Godhuma Vati</i> (tablet prepared with wheat powder) and saline water as enema.	Treatment with <i>Mustadi Rajayapana Basti</i> and <i>Baladi Yoga</i> improved the activities of daily life by 8.79%, gross motor functions by 19.76%, and fine motor functions 15.05%, and mental functions like memory retention got improved by 15.43%. The placebo group showed an improvement of 0.21% in daily life activities, 2.8% in gross motor, and 2.4% in fine motor functions. <i>Mustadi Rajayapana Basti</i> and <i>Baladi Yoga</i> proved to be more effective.
3.	Renu Rathi, Bharat Rathi, Pandey VB, Jitesh Verma, Sumod Khedekar <sup>[17]</sup>	2023	20 patients of CP* aged 2-8 years were randomly distributed into two Groups (n=10). Treatment given was Group A: <i>Brimhan</i> procedures ( <i>Talapothishil/Shiropichu, Annalepan, Pindswed, Tailadhara and Matra Basti</i> ) for 3 days followed by <i>Rukshan</i> procedures ( <i>Talapothishil/Shirolepan, Udgharshan, Kwathdhara, Patrapottali and Niruh Basti</i> ) for next 3 days, alternate 5 cycles starting and ending with <i>Brimhan</i> for 3 consecutive months. Group B: <i>Brimhan</i> procedures for the same pattern and duration. Physiotherapy and occupational therapy was given to both groups.	Group A showed more improvement (21%) than Group B (19%) in all parameters like gross motor, fine motor, language/ speech, and personal social (Barthel index). Spasticity, convulsions were reduced and quality of life was increased in both the groups.
4.	Sagar M Bhinde, Kalpana S Patel, Virendra Kumar Kori, Rajagopala S <sup>[18]</sup>	2014	8 patients of CP* were treated with 5 days of <i>Udvardana</i> , 5 days of <i>Abhyanga</i> followed by <i>Sarvanga Swedana</i> and then 8 days of <i>Yoga Basti</i> . This treatment was repeated 3 times with an interval of 14 days. <i>Ashtanga Ghrita</i> was given orally. Results were assessed with anthropometrical measurement, developmental milestone, Modified Ashworth Scale, spasm scale, reflex scale, and muscle power grading.	This Ayurvedic management shows good result in CP patients, especially by improving growth (height, weight, chest circumference) and development (head holding and sitting), reducing spasticity of left upper limb and muscle spasm.
5.	S.Sohini, Chand Parvathi <sup>[19]</sup>	2023	8-year boy with post-meningeal hydrocephalus and CP was treated with <i>Vatashaman</i> and <i>Brimhan</i> oral medicine along with <i>Vatahara</i> external treatment ( <i>Utsadan, Abhyanga, Shiropichu, spine Pichu, Upanaha, Patra potali sweda, Shirolepa and Dwipanchmooladi yogabasti</i> ).	Significant improvement noted in spasticity (using Modified Ashworth Scale), Deep Tendon Reflexes and daily activities (using Barthel Index).
6.	Shailaja U. and Mangala Jyothsna <sup>[20]</sup>	2020	A 1.5 year-old male baby of spastic diplegic CP* was given <i>Udvardan, Nadi sweda, Abhyanga, Shirodhara, Matra basti, Yoga</i>	Patient showed improvement in gross motor functions, power,

			<i>basti, Pratimarsha nasya</i> in 12 sittings.	personal, social and language milestones and reduction of spasticity and scissoring.
7.	Chitra Devi Sharma and 2Dr. Aniruddha Singh Yadav <sup>[21]</sup>	2018	A 7-year male case of CP* was given: <b>A) 1<sup>st</sup> sitting (for 1month):</b> 10 days of <i>Pachana</i> and <i>Deepan chikitsa</i> , followed by 7 days of <i>Udawartana</i> , followed by 15 days <i>Snehana</i> by <i>Bala-Aswagandha taila</i> with SSPS. <b>B) 2<sup>nd</sup> sitting (for 2 months):</b> 10 days of <i>Majja siddha Anuvasan basti</i> . Two such courses were done with the interval of 1 month. After that 10 days gap. And again <i>Nasya</i> for 10 days and after that <i>Shirodhara</i> for 10 days simultaneously <i>Snehana</i> by <i>Bala-Aswagandha taila</i> with SSPS and oral medicine.	This treatment modality proved effective in improving Anthropometric measurements, developmental milestone, and reducing the disability in children with diplegic Spastic Cerebral Palsy as assessed by Modified Ashworth Scale (MAS), Manual ability classification system (MACS) and Reflex scale.
8.	Prasad Mamidi, Kshama Gupta <sup>[22]</sup>	2015	Two cases of spastic CP* were given <i>Udwardan, Sarvanga Abhyanga, Brahmi ghritam, Pinda sweda and Matra basti</i> for 1 month. Evaluation was done using GMFM-88 total score.	Improvement was seen in both the cases.
9.	Srivastava Kumar Niraj and Saxena Varsha <sup>[23]</sup>	2019	A case of Spastic CP* was treated with multiple Ayurvedic treatment modalities for 93 days: 5 days of <i>Abhyanga</i> (massage) with <i>Nadi swedana</i> (steam kettle sudation), 5 days of <i>Abhyanga</i> (massage) with SSPS** and 7 days of <i>Matra Vasti</i> (enema by medicated oil in small dose) by <i>Ksheera Bala Taila</i> ; this schedule of treatment was given three times with a gap of 14 days. <i>Vacha mula</i> (root of <i>Acorus calamus</i> ) and <i>Samvardhana Ghrita</i> was given. Results were assessed by progress in delayed milestone, anthropometrical measurement, modified Ashworth scale, muscle power grading and Manual Ability Classification System (MACS) scale.	Treatment protocol delivered good result in CP patient, especially improving anthropometric data, milestones, reduced spasticity and improved Quality of Life (QOL).
<b>Bells palsy</b>				
10.	Radhika Injamuri and Suryanaraya Mudadla <sup>[24]</sup>	2021	A 4 years child of Bell's palsy with deviation of mouth on left side since one day while attempt to speak and smile and partially opening right eye while sleeping and excessive lacrimation of right eye was given <i>Shiro abhyanga</i> and <i>Pichu dharana</i> with <i>Ksheerabala taila, Pata sweda</i> and <i>Navana Nasya</i> with <i>Anu taila</i> for 7 days. Patient was also given <i>Brihat Vata Chintamani</i> and <i>Dashmoolarishta</i> for 2 weeks.	Tremendous recovery was observed in the first one week with minimal residual weakness. Full recovery was observed after 2 weeks. (House-Brackmann scale scoring system was used to document the outcome)
11.	Batwe Amruta, Kulkarni Savita <sup>[25]</sup>	2023	3 children of facial palsy were given <i>Kukkutang pinda sweda</i> for 7 days.	Patients got relief in symptoms of facial palsy as measured in House brackmann scale.
12.	Om sai Srujana, N Gouthami,	2019	5-year old patient of facial palsy was given <i>Rasaraj Rasa, Nasya</i> and <i>Mukha abhyanga</i>	Complete relief in symptoms of facial palsy

	Hiremath Sangamesh <sup>[26]</sup>		with <i>Ksheerbala taila</i> for 10 days.	was observed.
13.	Ashwini Kumbar, Suraj Kumbar <sup>[27]</sup>	2020	A 10-year old child of <i>Ardita</i> (Bell's palsy with Grade 6) was given <i>Nasya</i> with <i>Ksherabala</i> , <i>Panasa patra sweda</i> , <i>Akshitarpana</i> with <i>Vidaryadi Ghrita</i> , <i>Gandusha</i> with <i>Tila taila</i> and physiotherapy for 7 days.	There was significant relief in symptoms of Bell's palsy.
<b>Muscular dystrophy</b>				
14.	Pathak VK, Mahapatra AK, Gupta PK, Rajagopala S <sup>[28]</sup>	2023	A 6 and half year-old child with Congenital Muscular Dystrophy was given internal medications with <i>Panchkarma</i> therapy. <i>Bilwadi gutika</i> , <i>Ashwagandha churna</i> , <i>Pippali churna</i> , <i>Pravala bhasma</i> , and <i>Shirisharishta</i> were prescribed along with <i>Panchakarma</i> procedures (five therapeutic procedures) including <i>Udwartana</i> (therapeutic massage using powders), <i>Sarvanga abhyanga</i> (whole body oil massage), <i>Swedana</i> (sudation therapy), <i>Niruha basti</i> (therapeutic decoction enema), and <i>Anuvasana basti</i> (therapeutic unctuous enema).	After treatment, improvement in muscle power was seen. The total score of the Barthel index before the study was 70 and after the study was 95, which shows improvement in activity of daily life. Serum creatine phosphokinase and serum creatine kinase- MB values were insignificantly improved before and after treatment.
15.	Gunjan Magar, Punam Sawarkar, Gaurav Sawarkar <sup>[29]</sup>	2021	2-years-old boy having Duchhene Muscular Dystrophy was managed with <i>Panchakarma</i> ( <i>Snehana</i> with <i>Dashmultaila Swedana</i> , <i>Shiroabhyanga</i> with <i>Bramhitaila</i> , <i>Matra Vasti</i> with <i>Dashamultaila</i> ) and <i>Shaman Chikitsa</i> (Tablet <i>Ashwagandha</i> , <i>Laghmalini Vasanta</i> , <i>Shankha Vati</i> )	The significant changes were observed in the form of remarkable recovery, and associated symptoms also got resolved up to a greater extent.
16.	Jyoti Kaushik, Rakesh Sharma <sup>[30]</sup>	2019.	A 4 year-child of Duchenne Muscular Dystrophy was given three sittings of <i>Panchakarma</i> procedures at 20 days interval: <i>Aama Pachana</i> with <i>Panchkola Choorna</i> for 3 days, <i>Udvaratana</i> with <i>Yavkulatha Choorna</i> for 7 days, <i>Abhyanga</i> with <i>Ksheerbala Taila</i> for 7 days, <i>Swedan</i> with <i>Shastishali Shali</i> rice with cow milk for 7 days and <i>Mamsa rasa basti</i> for 7 days.	The therapy resulted in decrease in serum CPK level, decrease in frequency of falls and decrease in pseudohypertrophy of calf muscles. Power increased in both upper and lower limbs.
<b>Juvenile rheumatoid arthritis</b>				
17.	Jitesh Verma, Bharat Bhoyar <sup>[31]</sup>	2021	A 15 years boy with juvenile spondyloarthropathy was given <i>Ajamodadi churnam</i> and <i>Mishreya ark</i> as <i>Deepana-pachana</i> drugs followed by <i>Simhnad Guggulu</i> and <i>Lakshadi Guggulu</i> with <i>Maharasnadi kashayam</i> and <i>Dashmoolaristam</i> for 3 months. <i>Baluka Swedana</i> and <i>Kshara basti</i> was administered for 2 weeks after one month of oral medication.	The treatment resulted in complete remission of all the signs and symptoms including pain and swelling of joints.
18.	Devendra Kumar and Pinky Chauhan <sup>[32]</sup>	2018	16 year male case of JIA since 4 years was given <i>Baluka sweda</i> and <i>Vaitaran basti</i> along with <i>Panchkol churna</i> , <i>Yograj guggulu</i> , <i>Shallaki</i> for 30 days.	The therapy provided moderate relief particularly for pain in joints, morning stiffness, range of movement and swelling in joints

19.	Apexa G. Vyas <sup>[33]</sup>	2015	13 year old male child of Juvenile idiopathic arthritis was given oral medicines along with <i>Sarvanga Snehana</i> (oleation - whole body massage) with <i>Vishagarbha Taila</i> , <i>Sarvanga Swedana</i> (sudation - whole body steam) <i>Nadi Sweda</i> method and <i>Vaitarana Basti</i> (type of medicated anema) for 10 days after <i>Deepan</i> and <i>Pachan</i> .	Improvement was seen in severity of pain, tenderness, swelling, grip strength (Lt & Rt hand) and functional score.
<b>Behavioural disorders</b>				
20.	Sudheer Sharma, Ayush Verma, Riya Jasrotia <sup>[34]</sup>	2023	Five-year-old male child with the complaints of hyperactivity, no communication skill, less eye contact and decreased speech was diagnosed with autism and treated with oleation therapy with <i>Kshirabala Tailam</i> for 10 days, <i>Shashtika Shali Pinda Sweda</i> for 10 days, <i>Nasya</i> with <i>Kshirabala Tailam</i> , for 10 days, medicated enema with <i>Bhramighrita</i> , 30 days along with <i>Brahmi vati</i> and <i>Brihatvatachintamani rasa</i> .	Child became calm, hyperactivity subsided. Improved eye contact started to communicate with mother and brother using few sentences.
21.	Renu Rathi, Bharat Rathi, Rakesh Khatana, Suraj Sankh <sup>[35]</sup>	2020	A 2.3 year old girl with Rett Syndrome was treated with <i>Nasya</i> and <i>Shirodhara</i> with <i>Brahmi taila</i> , <i>Udvartan</i> with <i>Triphala churna</i> , <i>Shastik shali pinda sweda</i> and <i>Matra basti</i> with <i>Dhanwantar taila</i> along with oral nootropic medicines.	Patient showed improvement in DSM-IV score post-treatment.
22.	Sawarkar, P, Yerme, S, Mohan, M, Sawarkar, G <sup>[36]</sup>	2022	A nine year old male child of ADHD was given <i>Utsaadana Triphala Churna</i> , <i>Dashmoola taila</i> for two days, <i>Sarwanga Abhyanga</i> by <i>Dhanwantara taila</i> for 7 days, <i>Nadi Swedana</i> by <i>Dashmoola Kwatha</i> for seven days, <i>Nasya</i> by <i>Brahmi Ghrita</i> 4 drops for seven days, <i>Matra Basti Brahmi Ghrita</i> (50ml) for seven days.	Improvements were seen in the patient's behaviour, concentration towards studies, eye contact and speech.
<b>Allergic rhinitis</b>				
23.	Sharma Ankit, Soni R. K. <sup>[37]</sup>	2017	A 14 year old female patient of <i>Vataj Pratishyaya</i> (allergic rhinitis) was given <i>Anu Taila nasya</i> and <i>Vyaghri Haritaki rasayan</i> for 2 months.	Symptoms like excessive nasal discharge, nasal obstruction and congestion, excessive sneezing, watering of eyes, foreign body sensation in nose, hoarseness of voice and headache subsided. Nasal mucosa became normal, TLC and AEC became normal.
<b>Constipation</b>				
24.	Sarvesh Kumar Singh, Kshipra Rajoria <sup>[38]</sup>	2018	A four year old boy of chronic constipation due to Hirschprung disease was given SSPS and <i>Matra basti</i> with <i>Ashwagandha taila</i> for 15 days. Thereafter, it was repeated 6 times with a gap of 15 days.	Therapy was found effective as assessed by eight scales based Medical outcome study (MOS) e 36 item short form.

\*RCT-Randomised Controlled Trial, \*\*CP-Cerebral Palsy \*\*\*SSPS-*Shashtishali pinda sweda*

## DISCUSSION

*Panchkarma* procedures are very useful in common pediatric disorder like cerebral palsy, Bells's palsy, muscular dystrophy, autism, attention deficit hyperactivity disorder, sinusitis, rhinitis, etc. Sudation (*Swedan karma*) removes obstruction of body channels (*Srotas*). So it relieves spasticity of muscles and range of motion of joints. *Shashtika Shali Pinda Sweda* is done with cooked grains of *Oryza Sativa* and *Dashamula* decoction and milk. It has *Tridosha* pacifying properties. It increases muscle bulk and strength of muscles due to its *Brihnhana karma*. So, it is useful in malnutrition cases as well as cerebral palsy. While *Vaman* and *Virechan* karma are less frequently used in children, the review suggests frequent use of *Basti* in them. Medicated oil enema pacifies *Vata dosha* and thus gives significant relief in diseases with *Vata* predominance like CP, ADHD, Bells palsy. It is opined that medicated oil has short chain fatty acids which diffuses directly to blood capillaries from epithelial cells of colon and rectum. *Basti* oils like *Ksheer bala taila* nourishes the body and improves fine and gross motor functions of children. *Basti* also relieves constipation in children.

#### CONCLUSION

*Panchkarma* procedures are very effective in diseases of children like cerebral palsy, bells's palsy, muscular dystrophy, autism, attention deficit hyperactivity disorder and constipation. Thus, it needs to be widely publicized for use in children along with oral medications for maximum benefits.

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