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A COMPREHENSIVE REVIEW OF FUNCTIONAL CONSTIPATION (VIBANDHA) IN LIGHT OF AYURVEDIC AND MODERN CONCEPTS

Dr. Vanshika Dhama*[1], Dr. Laxmi[2]

[1]PG Scholar, Department of Kaumarbhritya, State Ayurvedic College and Hospital, Lucknow, U.P. 226001.
[2]Assistant Professor, Department of Kaumarbhritya, State Ayurvedic College and Hospital, Lucknow, U.P. 226001.

***Corresponding Author: Dr. Vanshika Dhama**

PG Scholar, Department of Kaumarbhritya, State Ayurvedic College and Hospital, Lucknow, U.P. 226001.

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ABSTRACT

Functional constipation is a common paediatric gastrointestinal disorder characterized by infrequent, difficult, or painful defecation without an identifiable organic cause. It significantly affects the quality of life, growth, and psychosocial well-being of children. From a modern medical perspective, factors such as inadequate dietary fibre, insufficient fluid intake, behavioural withholding, and psychosocial stress contribute to its pathogenesis. In Ayurveda, this condition closely correlates with **"Vibandha"**, a manifestation of *Apana Vata* dysfunction, where vitiation of *Vata dosha* leads to obstruction in the normal evacuation of stool. Ayurvedic texts describe *Vibandha* as both a symptom and a disease entity, arising due to improper dietary habits (*Ahara*), sedentary lifestyle (*Vihara*), and mental stress (*Manasika Nidana*). Management in Ayurveda emphasizes restoration of *Vata* balance through *Deepana-Pachana* (digestive stimulation), *Snehana* (oleation), *Swedana* (sudation), and *Mridu Virechana* (mild purgation), along with dietary regulation and behavioral modification. Integrative approaches combining modern evidence-based management—such as dietary fiber supplementation, toilet training, and pharmacological laxatives—with Ayurvedic principles may offer a comprehensive, safe, and sustainable therapeutic strategy. This review aims to explore the clinical understanding of functional constipation in children in the light of contemporary medicine and Ayurveda, highlighting the correlation and management of *Vibandha* for holistic paediatric care.

KEYWORDS: Functional constipation, Vibandha, Apana Vata, Ayurveda.

INTRODUCTION

Constipation is one of the most common gastrointestinal complaints in paediatric practice. It is often a source of discomfort for the child and concern for parents. Among the various types, *functional constipation* accounts for the majority of cases in children, characterized by infrequent, difficult, or painful defecation without any identifiable organic cause. A child's lifestyle, encompassing diet, physical activity, screen time, and sleep, significantly impacts their health and development, with unhealthy habits potentially leading to many diseases. Functional constipation refers to a condition characterized by hard, infrequent bowel movements that are often difficult or painful to pass. It is diagnosed when no identifiable anatomical abnormality or underlying disease is found, making it a diagnosis of exclusion. It is one of the lifestyle diseases. During the age group of the 5 – 10 years it is the prime time when the child undergoes understanding for likes and dislikes in each sphere of the life which includes their food eating habits also, as because of numerous types of food recipes available in the market children may shift the concentration towards the unhealthy unhygienic food habits which in turn lead to number of abdominal diseases. The chronic nature of FC can lead to emotional distress, behavioural disturbances, and a reduced quality of life, particularly when left untreated. In severe cases, complications such as faecal impaction, anal fissures, and encopresis (involuntary stool leakage) can develop, further exacerbating the condition. FC (functional constipation) is characterized by infrequent bowel movements, hard and/or large stools, painful defecation, and faecal incontinence, and is often accompanied by abdominal pain.[1] It is a common paediatric healthcare problem worldwide, with reported prevalence between geographic region.[2] In North and South America, the prevalence (including infants-adolescents) ranges between 10-23 %, in Europe (only including children)

figures between 0.7% and 12 % are reported.[2-6] Children with functional constipation pass large or hard stools and display stool withholding behaviour, characterized by stiffening of whole body and screaming in infants, to walking on tiptoes or tightening of buttocks in older children. This is often misunderstood by parents as if the child is trying to defecate. Often an acute illness, change in diet, coercive toilet training or no availability of clean toilet leads to no passage of stools. The stools become hard and cause pain on passage which leads to association of defecation with pain and withholding. This further increases stool size and hardness with more pain on defecation and a vicious cycle of constipation is initiated. Children with functional constipation often have abdominal pain (10-70%) anorexia (10-25%), enuresis or urinary tract infections (30% and psychological problems (20%). The majority of children with constipation does not have a medical disease or disorder causing the constipation.[1] Many things can contribute to constipation. The most common cause in a child older than 18 months is their wilful avoidance of the toilet (for various reasons). For example, toddlers are often so involved in their play that they lack time or patience for toilet breaks. They may have previously experienced pain or fear during bowel movements, which now leads them to avoid using the bathroom. Over time, their brain learns to ignore repeated urges by the colon to visit the bathroom. As stool remains in the colon, the colon will absorb water out of the stool, making it hard and dry. This hard stool is even more difficult or painful to pass, which causes the child to continue "holding it" Changes in diet or a different diet affect bowel habits. high-fibre diets have been shown to improve bowel function.

Pathophysiology and Etiology of Functional Constipation in Children

Functional constipation is common in the paediatric population. The pathophysiology is unclear, but there are multifactorial reasons for functional constipation in children depending on their age. It is a condition involving disrupted communication between the gut and the brain, influenced by several underlying physiological mechanisms. Painful defecation, stressful life events, and emotional and behavioural challenges have been implicated in the development of functional constipation in the paediatric age group.[7]

In a small number of cases in children, constipation has an organic cause, for example, a metabolic or endocrine disorder, anorectal anomalies, neuromuscular diseases, or Hirschsprung's disease.[8] Constipation present at birth or in the neonatal period is most often indicative of an underlying organic disorder.

There are various etiological factors of functional constipation in the paediatric group which are, **Painful Bowel Movement and Withholding Behaviour-** Functional constipation, which is 95% of the cases in children, occurs when a child holds faces to prevent painful defecation. This is a common issue in preschool children when parents initiate toilet training in their child and a frightening and negative episode of painful defecation is the usual trigger for developing functional constipation.

Toilet Training- Toilet training is the second most often reported event leading to functional constipation[9]. It can be a challenge for some parents to toilet train their children**.,** Parental pressure.

Diet - functional constipation is associated with poor water intake, poor diet with a lack of fruits and vegetables, and low physical activity.

Motility Disorder - The interstitial cell of Canal, which is the pacemaker in gut peristalsis, is found to be low in children with all forms of constipation. The slow movement of stool through the colon absorbs too much water resulting in dry large faces and constipation.[2]

Motility Disorder - The interstitial cell of Canal, which is the pacemaker in gut peristalsis, is found to be low in children with all forms of constipation. The slow movement of stool through the colon absorbs too much water resulting in dry large faces and constipation.[10]

Diagnosis

Rome criteria are especially relevant to select patients with a comparable degree of FC for clinical trials and might be less useful for the diagnosis in clinical practice. Further research is required to assess how effectively the Rome IV criteria diagnose functional constipation in routine clinical practice.

Most include 2 or more following occurring at least once a week. For a minimum 1 month with insufficient criteria to diagnose irritable bowel syndrome.

1. Two or fewer defecations in the toilets per week in a child of developmental age of at least 4 year
2. At least one of faecal incontinence per week.
3. History of retentive posturing or excessive volitional stool retention.
4. History of painful or hard bowel movement.
5. Presence of a large faecal mass in the rectum.
6. History of large diameter stool that can obstruct the toilets after appropriate evaluation, the symptoms cannot be fully explained by another medical condition.

MANAGEMENT

Management of FC in children involves **three broad phases**: disimpaction, maintenance, and eventually weaning/relapse prevention — but with modern refinements.

A. Disimpaction

- For many children with impacted stool/overflow, initial "clean-out" is needed. This may include

high- dose osmotic laxatives (e.g., Polyethylene glycol/PEG) or enemas in some settings.[11-12]

- Modern guidelines place PEG as first-line for disimpaction/maintenance.[13]

B. Maintenance therapy & behavioral modifications

- **Pharmacologic**: After disimpaction, maintenance with PEG (osmotic laxative) is first choice in many cases.
- There are newer medication under study or approved in children e.g. prosecretory or prokinetic agents (in older children).[14]
- **Diet & fluids**: Adequate fibre intake, sufficient fluids, decreasing constipating foods, promoting fruits/vegetables. Although the evidence base is limited, this remains foundational.
- **Toileting habits/behavioural therapy**: Regular toileting times (e.g., after meals), appropriate posture, rewarding behaviour, avoiding withholding. Modern management recognises that behavioural interventions add benefit.[15]
- **Pelvic-floor physical therapy / biofeedback**: For children with documented dyssynergia or pelvic floor dysfunction, physical therapy (including exercises, training) is increasingly used.
- **Parental education / psychosocial aspects**: Understanding of withholding, toilet stress, parent–child interaction; behaviour modification around toileting; this is now emphasised.

C. Monitoring, relapse prevention & advanced treatments

- Relapse is common: Children often require long-term maintenance and follow-up.
- If conventional therapy fails (“refractory” FC), advanced options include transanal or ante grade enemas, neuromodulation (e.g., sacral nerve stimulation), surgical approaches in very selected cases.

VIBANDHA

In the different classics the term Vibandha is found as Nidana, Purvaroopa, Roopa, Upadrva of various diseases, as well as the Vyapath of Panchakarma procedures. Scattered reference regarding various Ahara Dravyas causing and relieving Vibandha is also available in different contexts.

Nirukti

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Vibandha is that in which a child does not pass stool, or retain them. The meaning of vibandha according to Ayurvedeeya Amar Kosha 14 is – Badhana, Bandhana.

Vibandha is derived from two words, 'vi' and ‘bandha,' which means Bind of stools. Other contextual references of Vibandha refer to 'To bind' or 'to encircle. Vibandha is the Ayurvedic term for Apravrutti, according to Shabdakosh To accomplish the goals of Ayurveda, good health is a vital necessity. Maintaining health requires samadhatumalakriya, which is the correct creation of Dhatu and evacuation of Mala.

In the 49th Karika of Sankhya, 11 types of Indriya Vada are described. In the ‘Sankhya Tatva Kaumudi’, Aacharya Vachaspati commenting on Sankhya Kaumudi says that the disability of Payu causes Udavarta.

Nidana

In classics specific diet or dietary habit as Nidana like excessive use of katu, tikta Kashaya rasa (spicy and fast foods) and vegavidharana (faulty toilet training) is mentioned.

SUSHRUTA SAMHITA

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Ingestion of food which is very dry, astringent, pungent and bitter (spicy and fast foods) might cause sudden increase of Vata in the abdomen and produce Malabaddhata instantly.[17]

Aacharya Dalhana

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In Sushruta Samhita, Udavarta chapter is given just after the chapter of Krimi. Commentator Dalhana says that Krimi roga is treated with Katu, Tikta, Kashaya Rasa and Katu, Tikta, Kashaya are the Nidana of Udavarta.[18]

Aacharya Vaghbhat

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Aacharya Vagabhata mentioned the specific diet as Nidana of Malabaddhata.Mudga, Kodrava, Jurnahva, Karira, Chanaka and others which are dry and cause constipation, Vayu (Vaata) increases and causes obstruction of the downward channels.[19]

Aacharya Kashyapa

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A child whose primary diet is milk may develop Udavarta when carried on the waist for prolonged periods, as this position can exert pressure on the bladder and anal region, over crying, awakening and consumption of (breast) milk having absence of unctuousness or else taking the milk of wet-nurse having vitiation of Vayu (caused) due to suppression of natural urges, fasting, inadequate diet, abnormal diet, prolonged awakening, envy and daily exercise (the child) sucking this, suffers from Udavarta.[20]

Aachaya Yogaratnakar

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Suppression of the urges of flatus, faeces, urine, yawning, tears, sneezing, belching, vomiting, semen, hunger, thirst, respiration and sleep is the cause for the disease Malabaddhata.[21]

Acharaya charaka has also mentioned in chikitsa sthana chapter of tri-marmaiyadhaya that excessive use of katu tikta Kashaya rasa and rukshaaahara (spicy, fast food) and due to vegavidharana faulty toilet training) causes udavart.

Poorvaroopa

The symptoms, which appear during Sthanasamshraya Kala, are designated as 'PURVARUPA' or pro-dromal symptoms. Unless Dosha Dushya Sammurchhana is fully complete the final characteristic features of a disease doesn't fully manifest.

Only Aacharya Kashyapa has mentioned Purvarupa of Udavarta29. After Kashyapa mentioning Lakshanas of Udavarta, in the end he says that first five are the Purvarupa of Udavarta includes Anaha, Murchchha, Daha, Shoola (abdominal pain), Adhamana.

In younger children, the Vibandha-related prodromal symptoms are Agnimandya, Aruchi, Bhaktadwesha, Klama, Adhmana, Antrakoojana, and Arati.

Samprapti Ghataka[16]

Dosha	Vata especially Apana Vata Pradhana Tridosha
Dushya	Rasa, Pureesha
Agni	Jataragni
Ama	Jataragnimandya Janya Ama
Srotasa	Annavaha, Pureeshavaha
Srotodushti	Sanga
Udbhava stana	Amashaya, Pakvashaya
Vyaktasthana	Koshta
Adhisthana	Pakvashaya
Rogamarga	Abhyantara

Samprapti Chakra

The changes which take place in the body starting from initiation of the etiological factors to the manifestation of symptoms are called Samprapti. As long as the Dosha, Dhatu and Mala in the state of normalcy there is no disease. When Nidana disturbs this balanced state then there will be disease manifestation.

Aacharya Charaka while describing Udavarta. (Ch.Chi. 26)

NidanaSevana
↓
Aggravation of Apana Vayu
↓
Obstructs Adhovahi Srotasa
↓
Obstructs movement of stool, urine & flatus
↓
Upward movement of Vata
↓
MALABADDHATA/UDAVARTA

Sadhya asadhyata

According to Aacharya Charaka the perfect knowledge of Sadhya and Asadhya Vyadhi offers all time success to the physician. Aacharya Charaka warns that the patients of Asadhya Vyadhi should not be treated, because it will hamper the economic and social status of Vaidya.

These Asadhya Lakshanas are as follows: Severe thirst, Restlessness or severe distress, Emaciation, Continuous obstinate abdominal pain and Vomiting with fecal matter.

Aacharya Vagabhata also says that all such persons who are in the habit of suppressing the urges of the body, should be refused treatment, especially those who are having fecal vomiting, who have become emaciated and those having severe thirst and pain in the abdomen.

Upadrava

Upadrava of vibandha can be described as that of Udavarta, such as Nishwasita (expires excessively) or faints, Trushyati (thirsty excessively) and Hikka, Parikarthika (anal fissure), Arshas (haemorrhoids), and other characteristics such as Guda Bhramsha, Gulma, Hridaya uparodha.

General Management

Nidana Parivarjana: Mithya Aahara and Vihara can be considered as the main cause of Vibandha so avoidance of Nidana should be the main line of treatment. Nidanas of Vibandha mainly include Vegavarodha, excessive use of Katu, Tikta, Kashaya, etc. Nidana Parivarjana is related to a patient's discipline and attitude, so Vaidya must instruct the patients about the diet. The diet regimen includes the following of Ashtavidha Ahara Ayatana and Dwadasha Asana Pravichara.

Shamana Chikitsa: When there is an imbalanced Dosha resulting in mild condition Shamana Chikistais used. To correct the imbalance of Dosha both internal and external medications are used. This is based on the concept of Guna. Mainly the drugs possessing Madhura Kashaya amla rasa, Ushna, Tikshna, Sukshma, Vyavayi, Vikasi Guna, Madhura Vipaka will be beneficial.

Deepan drugs- drugs which enhance or stimulate jatharagni. E.g. mishi.

Pachana drugs- the drug which digest aam and not stimulates agni. Pachak drugs enhance digestion, these drugs are agni mahabhuta predominant. E.g. nagkeshar.

Bhedan drug- the drugs have actions in which baddha and abadhha mala are expels out is bhedan E.g., katuki, shyamadi gana as vebhedi.

Rechana drugs- the drugs have actions in which liquified pakwa or apakwa mala and dosha expels out is rechana. These drugs have tikshana, ushan, suksham, vyavayi guna predominance E.g., trivita.

Chedana drugs- the drugs have an action in which dosha and malas are punctured and destroys known as chedana. E.g., maricha.

Anulomana drugs – the action in which a drug will do malapak and remove bandha to expel mala from their certain path is anulomana. The medication anulomana (aperients) aids in the normal formation of excreta, as well as removing obstructions and bringing them lower. According to acharya susruta anulomana is done by the sara guna in which vata and mala are expelled out.

Sramsana and Basti: The drug eliminates either pitta or kapha or both of them from the pitta ashaya (lower portion of the stomach and small intestine), kritamala (Cassia fistula) is the example for this. Basti eliminates all the three doshas present in the pakvashaya (colon). Administration of anuvasana basti when there is dryness and adhesion in the feces.

MATERIAL AND METHODS

The present study is a **review and analytical study** undertaken to correlate *Functional Constipation* in children as described in modern pediatrics with *Vibandha* explained in Ayurvedic literature. The study focuses on understanding the etiopathogenesis, clinical features, and management principles from both perspectives and aims to propose an integrative approach for effective pediatric care.

Source of Data

The data for this study were collected from both **Ayurvedic classical texts** and **modern medical literature**.

1. Ayurvedic Sources

Primary Ayurvedic texts such as *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Kashyapa Samhita*, *Bhavaprakasha*, and their commentaries were reviewed to extract references related to *Vibandha*, *Apana Vata*, *Nidana*, *Samprapti*, *Lakshana*, and *Chikitsa*.

2. Modern Medical Sources

Literature related to *Functional Constipation in Children* was collected from scientific databases such as **PubMed, Scopus, Google Scholar, AYUSH Research Portal, ScienceDirect, and ResearchGate**. Articles published between **2010 and 2025** were included using keywords: "Functional constipation", "pediatric constipation", "Vibandha", "Apana Vata", "Ayurvedic management", "Rome IV criteria", and "children".

DISCUSSION

Functional constipation is one of the most prevalent gastrointestinal disorders in childhood, often resulting from a combination of **dietary, behavioral, and psychosocial factors** rather than any identifiable organic pathology. In the modern context, inadequate fiber intake, insufficient hydration, delayed toilet training, and voluntary stool withholding are the predominant etiological contributors. Chronic retention of feces leads to rectal distension, decreased sensitivity, and painful defecation, further aggravating the condition through a vicious cycle of withholding behavior.

In **Ayurvedic parlance**, *Vibandha* is closely comparable to functional constipation. It arises primarily due to **vitiation of Vata Dosha**, particularly *Apana Vata*, which governs the normal downward movement of feces. The aggravation of *Vata* results from factors such as irregular dietary habits (*Ahara*), sedentary behavior (*Vihara*), psychological disturbances (*Manasika Nidana*), and suppression of natural urges (*Vegadharana*). This disturbance obstructs the normal evacuation process, manifesting as *Vibandha* (hard stools, irregular defecation, pain, and discomfort).

The **pathophysiological correlation** between modern and Ayurvedic views is evident. Modern science explains the condition as colonic dysmotility and rectal dysfunction due to neuromuscular imbalance, while Ayurveda attributes it to *Apana Vata Vaigunya* (functional derangement of Apana Vata). Both perspectives recognize improper diet, inadequate physical activity, and emotional factors as causative agents, establishing a common ground for integrative understanding.

Management approaches also show significant parallels. Modern management emphasizes lifestyle and dietary modification—adequate fluid intake, fiber supplementation, toilet training, and use of mild laxatives such as lactulose or polyethylene glycol. Ayurveda prescribes a similar regimen with an emphasis on **restoring Vata balance** through *Deepana-Pachana* (enhancing digestion and metabolism), *Snehana* (internal

and external oleation), *Swedana* (mild sudation), and *Mridu Virechana* (gentle purgation). Dietary regulation with inclusion of easily digestible, unctuous, and fiber-rich foods along with behavioral correction is advised.

Integrating both systems could provide a **comprehensive and sustainable therapeutic approach**. Modern medicine offers prompt symptomatic relief and standardized treatment protocols, whereas Ayurveda focuses on long-term correction of the underlying *Dosha imbalance* and improvement of digestive strength (*Agni*). Such integrative management not only alleviates symptoms but also helps prevent recurrence and improves the overall quality of life of affected children.

CONCLUSION

Functional constipation (*Vibandha*) in children is a multifactorial disorder affecting physical and psychosocial well-being. Both **modern medical science** and **Ayurveda** describe similar etiological factors and pathophysiological mechanisms, although in different terminologies. The vitiation of *Apana Vata* described in Ayurveda can be correlated with impaired colonic motility and dysregulated defecation reflex recognized in modern physiology.

Ayurvedic management—through *Deepana-Pachana*, *Snehana*, *Swedana*, *Mridu Virechana*, dietary regulation, and behavioral correction—offers a holistic means to restore normal bowel function and prevent recurrence. When integrated with modern therapeutic measures such as fiber supplementation, adequate hydration, toilet training, and pharmacological support, it may provide a more effective, safe, and sustainable approach.

Hence, a **comprehensive integrative model** combining Ayurvedic and modern pediatric principles holds significant potential for the management of functional constipation in children. Further **clinical and experimental studies** are recommended to scientifically validate Ayurvedic interventions and establish standardized integrative protocols for holistic pediatric gastrointestinal care.

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