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Review Article

ROLE OF *ZINGIBER OFFICINALE* R. IN DYSMENORRHOEA: A SELECTIVE AYURVEDIC AND CONTEMPORARY MEDICINE DOCUMENTATION

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ABSTRACT

Shunthi i.e. *Zingiber officinale* R. is one of the popular herbs used since many centuries for various ailments as mentioned in Ayurveda literature. The herb is considered under the category of *Rasayana* (Rejuvenative) for having a broad spectrum activity. It is famous for most of the inflammatory conditions and associated diseases. The herb has unique quality to exert this activity under various pathogenesis. There are many pharmacological screening conducted so far to establish its effect on various animal / screening models. But yet, its Ayurvedic view in correlation with pharmacological screening with special reference to menstrual pain is not systematically presented. It is observed that understanding the mode of action of the herb in terms of Ayurvedic parameters is solely for Ayurvedic diseases and not for its understanding according to contemporary medical science. The theory of herb`s active components or extracts studied in in-vivo or in-vitro methods may be supportive to the actions describe in traditional texts. However, the understanding by both streams (Ayurveda and contemporary medicine) can help to appreciate other herbs with similar properties. It may give new vision to develop an interdisciplinary common protocol for other medicinal plants.

KEY WORDS: *Zingiber officinale, Shunthi,* Dysmenorrhoea, Menstrual Pain

INTRODUCTION

Ayurvedic system of medicine encompasses holistic treatment by its own established concepts and principles. Ayurveda considers the success of treatment is by means of contribution by "*Chikitsa Chatushpada*[1]" i.e. four basic pillars of treatment (doctor, patient, nurse and drug). Among these four basic aspects of treatment, *Dravya* (drug) has a major role in treating the diseases. It has a capacity to expand the knowledge through *Amshamsha Vikalpana*[2] (differential diagnosis and selection of a drug of choice according to it) which covers a broad range of pharmacological application. In Ayurvedic classics, there are many solitary and compound drugs / formulations documented which are conceptually recommended in several contexts of disease. It becomes the proficiency of a physician how he / she can plan these several tools to cure the disease. Understanding the Ayurvedic herbs through Ayurvedic concepts supported by current evidenced based knowledge can make easy understanding for the selection of a drug. In the current article various issues are discussed by selecting a specific diseased condition (Dysmenorrhoea) and a single herb (*Zingiber officinale*) applicable to it. Various parameters and differential selectivity procedures are discussed.

Dysmenorrhoea is one of the gynecological pathogenesis commonly observed in the society. It is observed by studying various prevalence studies that the dysmenorrhoeal condition is present throughout the world[3]. According to a survey, an average of 68% girls has dysmenorrhoea and alarming one in eight girls reported absenteeism because of menstrual symptoms[4].

Dysmenorrhoea *(Kashtartava)* Ayurvedic point of view

The condition of dysmenorrhoea is explained in Ayurvedic literature in terms of '*Kastartava / Kukshi Shoola, Vatala Yoni, Udavartini Yonivyapad* (Ayurvedic names of disease under *Striroga*-Gynecology)[5]. The causative factors, pathogenesis, symptoms and treatment is also described in Ayurveda. As per the patho-physiology the increased '*Vata'* type of humors in the body is responsible for disease creation[6]. Hence, the herb which possesses a quality to subside the increased *Vata* humor can be beneficial in this condition.

The various causative factors which manifest into dysmenorrhoea are *Mithya Ahara* (inappropriate food habits), *Mithya Vihara* (inappropriate lifestyle), *Artava Dushti* (infectious menstruation), *Shukra Dushti* (vitiated reproductive physiology), *Beeja Dushti* (vitiated ovulation), *Daiva* (non-etiological), *Vishama Sthana Shayana* (inappropriate sitting-sleeping habits), Use of *Aapa Dravyas* (excessive use of liquid foods), etc[7]. All these factors creates imbalance in humors (*Vata-Pitta-Kapha*) of a normal individual through specific mode of vitiations[8]. This vitiation may be happened by individual-increase of body-humors (*Vata-Pitta-Kapha*) or their combinations[9]. The mode of vitiations are called as *Samprapti* or *Dosh-Dushya Sammurchhana* (pathogenesis)[10]. This pathogenesis of *Kashtartava* can be summarized under six major patterns.

- Various pathways of Ayurvedic pathogenesis of *Kashtartava* by specific mode of vitiation (Images 1-6)[11]
- The *Vyadhi Ghataka*[12] (factors responsible for pathogenesis) are enumerated (Table 1)
- Ayurvedic *Samprapti Ghataka* involved in *Kastartava* by *Amshamsha Vikalpana* (Table 2)

Ayurveda Pathogenesis -1

VATA VRIDDHI FACTORS

↓

Vata Prakopa

↓

Dhatukshaya

↓

Rasa Kshaya *Rakta Kshaya*

↓

Upadhatu- Artava Kshaya

↓

Vata Prakopa

↓

Stodanam Sa Vedanam Artava Pravritti
(Dysrhythmia of uterine muscles)

↓

KASHTARTAVA

Ayurveda Pathogenesis -2

***VATA VRIDDHI* FACTORS**

↓

Vata Prakopa

↓

Rasavaha, Raktavaha and
Artavavaha Srotodushti

↓

Vitiation of Vyana and *Apana Vayu*

↓

Disturbance in *Akunchana* and
Prasarana Kriya of *Garbhashaya*

↓

Stodanam Sa Vedanam Artava Pravritti
(Dysrhythmia of uterine muscles)

↓

KASHTARTAVA

Ayurveda Pathogenesis -3

***PITTA VRIDDHI* FACTORS**

↓

Vitiation in *Sara, Drava, Ushna,*
Tikshna properties of *Rakta*

↓

Sthanika Rakta Vriddhi Vitiates
functioning of *Vyana* &*Apana Vayu*

↓

Associated *Vata Prakopa*

↓

Combine *Vata-Pitta Prakopa*

↓

Stoda, Vedana, Daha, Artava Pravritti

↓

KASHTARTAVA

Ayurveda Pathogenesis-4

***KAPHA VRIDDHI* FACTORS**

↓

Snigdha, Guru, Pichchhila and *Abhishyandi*
Gunas will impair the Agni

↓

Jatharagni and *Dhatvagnimandya*

↓

Condition similar to *Ama*

↓

A sort of *Upalepa* is produced
over the *Artavavaha Srotasa*

↓

Artava Pravritti Avarodha
(painful flow of Artava
due to obstruction)

↓

KASHTARTAVA

Ayurveda Pathogenesis-5

VITIATION OF ANY DOSHA

↓

Causing *Avarana* to the other *Dosha*

↓

Disturbance in normal functioning

↓

Depends on type of *Avarana*
Symptoms are produced

↓

KASHTARTAVA

Ayurveda Pathogenesis-6

Indulge in Factors like *Bhaya, Shoka,*
Chinta, Krodha, Tanava, etc

↓

Vitiation in Manasika Bhava

↓

Vata Prakopa

↓

KASHTARTAVA

Table 1: The *Samprapti Ghataka* (factors responsible for pathogenesis)

Conceptual head of Factors	Type of vitiation under the head
Dosha (Body humors)	*VataPradhanaTridosha*
Dushya (tissues / cells involved)	*Rasa, Rakta, Artava*
Agni (digestive capacity)	*Jatharagni, DhatvagniMandya*
Srotasa (systems involved)	*Rasa, Rakta and ArtavavahaSrotasa*
Srotodushti (mode of system involvement)	*Sanga and Vimargagamana*
Udbhavasthana (root cause of origin of pathology)	*Amapakvashaya*
SthanaSamshraya (place where the disease expressed)	*Garbhashaya*
VyaktiSthana (labeling of the disease)	*Triyavarta Yoni*

Table 2: Ayurvedic *Vyadhi Ghataka* involved in *Kastartava* by *Amshamsha Vikalpana*

Type of pathogenesis	Desired actions / site of actions of a herb in different pathogenesis conditions								
	Dosha	***Dushya***	***Agni***	***Sroto-Gamitva***	***Eradication of Srotodushti***	**Acting place of *Udbhavasthana***	***Sthana Samshraya* (Broad area)**	***Vyaktasthana* (Specific area)**	***Lakshana*** (Symptom)
Ayurveda Pathogenesis 1	*Vata Shamaka*	*Rasa-Rakta Balance*	*Agni Vardhaka*	*Anna, Rasa, Rakta Artava*	*Vimarga Gamana*	*Mahasrotasa, Rasa-Rakta Dhatu*	*Sampurna Shareera*	*Garbhashaya*	*Vedana, Shoola,*
Ayurveda Pathogenesis 2	*Vata Shamaka*	*Rasa-Rakta Balance*	*Agni Samikara*	*Rasavaha, Raktavaha Artvavaha*	*Sanga or Vimarga Gamana*	*Rasa-Rakta*	*Prajanana Avayava*	*Garbhashaya*	*Vedana, Shoola,*
Ayurveda Pathogenesis 3	*Pitta-Vata Shamaka*	*Rakta Balance*	*Dhatvagni Vardhaka*	*Raktavaha Artavavaha*	*Vimarga Gamana or Atipravrutti*	*Mahasrotasa*	*Sampurna Shareera*	*Garbhashaya*	*Vedana, Daha, Shoola*
Ayurveda Pathogenesis 4	*Kapha-Vata Shamaka*	*Rasa Balance*	*Agni Vardhaka*	*Annavaha, Rasavaha, Artavavaha*	*Sanga*	*Mahasrotasa*	*Sampurna Shareera*	*Garbhashaya*	*Vedana, Shoola*
Ayurveda Pathogenesis 5	*Sansarga or Sannipata*	*Rasa-Rakta Balance*	*Agni Vardhaka*	*Rasavaha, Raktavaha Artvavaha, Shukravaha*	*Avarana*	*Mahasrotasa*	*Prajanana Avayava*	*Garbhashaya*	*Vedana, Shoola,*
Ayurveda Pathogenesis 6	*Vata Shamaka*	*Rasa Balance*	*Agni Vardhaka*	*Manovaha, Rasavaha, Artavavaha*	*Vimarga Gamana*	*Mana*	*Sampurna Shareera*	*Garbhashaya*	*Vedana, Shoola*

In Ayurvedic classics, though *Kashtartava* is found as a symptom in *Yonivyapadas* (gynecological diseases) but may also manifest as a separate disease named *Udavartini Yonivyapad*[13]. The Ayurvedic management of *Kashtartava* can be studied under the disease heading of *Vataja Artava Dushti, Vatala Yonivyapad, Udavartini Yonivyapad*[14]. The aim of management should be by equilibrating vitiated *Doshas,* especially *Vata* (as it is main causative factor of all *Yonivyapadas*[15]) or managing *Avrita Apana Vayu* (pathology of one of the type of *Vata* humor) through *Agnideepaka* (Improving appetite), *Grahi* (controlling of excessive outflow), *Vata*, *Anulomana* (normalizing any type of abnormal flow) and *Pakvashaya Shuddhikara* (purification of large intestine) [16] methods.

Dysmenorrhoea: Contemporary Medicine point of view

The various causes of Dysmenorrhoea described under contemporary system of medicine are like environmental factors causing nervous tension, general ill health, faulty outlook, hormonal imbalance, psychogenic cause, imbalance of autonomic nervous system, intrauterine contraceptive device, stenosis at internal Os, unequal development of mullerian ducts, inappropriate low of polarity, retroverted uterus, uterine hypoplasia, vasopressin and prostaglandins[17].

- Based on this there are many theories are summarized by establishing dysmenorrhea pathogenesis are in (Table 3)[18]
- Conventional pharmacodynamics[19] needed for treatment / control the painful menstruation (Table 4)

Table 3: Conventional medicinal pathogenesis theories for dysmenorrhea

Category	Pathogenesis
Hormonal Imbalance	Progesterone stimulates myometrial contraction of the smooth muscle of the cervix and causes narrowing of the cervical canal. Progesterone further stimulates the production of prostaglandin F2 alpha which in turn bring out pain
Myometrial Activity Theory	The moment, painful contraction is produced, the pain can be increased by giving such a drug which increases the strength of the contraction of myometrium and can be relieved by such a drug which reduces the same as progesterone
MyometrialIschaemic Theory	Rapid distention of the uterus due to any cause, increases muscular activity and metabolism and decreases blood circulation to it. Lack of blood supply causes myometrial ischemia thus producing painful stimuli.
Psychogenic Causes	Psychogenic causes influences especially to the primary dysmenorrhea. A dysmenorrhoic mother or sister or friend will misdirect her by telling menstruation is a period of being unwell, that she must be very careful, avoid all sorts of physical activities, must rest, keep herself excessively clean, etc. All these will produce fear. Fear lead to anxiety and depression which may be manifested as pain.

Prostaglandins (PGs):	The dysmenorrhea is associated with an excess of prostaglandins specially (PG F2 uterus. It has been demonstrated that secretory endometrium contain more PGs than proliferative. PGs are known to increase myometrial contractions and constrict small endometrial blood vessels to produce ischemia and breakdown of the endometrium, bleeding and pain.
Muscular In-coordination	It may be due to muscular in-coordination of the uterus as a whole. If so, it could be explained by an imbalance in the autonomic nervous control of muscle, one in which an overactive sympathetic system leads to hypertonus of the circular fibers of the isthmus and internal Os.
Vasopressin	This increases PG synthesis and also increases myometrial activity directly. This further causes uterine hyperactivity and dysrhythmic contractions to produce ischemia and pain
Systemic Disease	Severe malnutrition, acute and chronic illness may be associated with dysmenorrhea. As pain threshold is decreased by ill health of any kind.
Poor Posture	Due to poor posture, the normal body mechanism also suffers, like the loss of tone of nerves supplying blood vessels and muscle tissues
Abnormal Anatomical and Functional Aspects of Uterus	1. **Unequal development of mullerian ducts:** Such as separate or bicornuate uterus. Pain is produced due to unequal muscular contraction. 2. **Hypoplastic uterus:** In hypoplastic uterus myometrium contains an excessive amount of fibrous tissues less muscle in myometrium it disturbs the normal contraction pattern inadequate expulsive force pain. 3. **Cervical obstruction:** Pinhole Os and conical cervix are comparatively rare conditions, which partially obstruct the menstrual passage. Frequently cramping like pain is found along with menses. 4. **Deficient polarity:** When the body of the uterus contracts the cervix normally dilates, this is normal phenomenon. The polarity denotes its co-ordination. When this polarity is disturbed, painful or difficult menstrual discharge through the Os occurs

Table 4: Conventional pharmacodynamics needed to treat / control the painful menstruation

Pathogenesis factor	Stimulator	Depressor	Irritator	Replacement	Cytotoxic	Other
Hormonal Imbalance	Muscle relaxant	Progesterone Prostaglandin, F2 alpha	-----	-----	-----	--------
Myometrial Activity Theory	Muscle relaxant	Prostaglandin, F2 alpha	-----	------	Underlying infection if any	----------
MyometrialIschaemic Theory	Vasodialator, Muscle relaxant	Anti flatulent	Local application-vasodilation	-----	Underlying infection if any	----
Psychogenic Causes	-----	Anti anxiety Anti depressant	---------	-------	--------	------
Prostaglandins (PGs)	-------	Prostaglandin, F2 alpha	----	------	----------	--------
Muscular In-coordination	------	Sympathetic hypertoning	------	Nutritional supplement	----	----------
Vasopressin	----	Sympathetic hypertoning, Prostaglandin	-------	----------	------	----
Systemic Disease and General Ill Health	----	------	----------	Nutritional supplement	Underlying infection if any	------
Poor Posture	----	------	----------	------	----------	Counselling
Abnormal Anatomical And Functional Aspects of Uterus	----	------	----------	------	----------	Surgical

Ayurvedic action based documentation of *Zingiber officinale*

There are more than 60 single herbs which are directly or indirectly considered to be indicated for painful menstrual conditions[20]. Among those indicated herbs, *Shunthi* (*Zingiber officinale*) possesses the most selective option for dysmenorrhoea. All the main texts of Ayurveda described *Shunthi* extensively and one of the commonly used herbs in Ayurveda[21]. It is specifically used for digestive disorders and inflammatory conditions. The herb was incorporated into top ten drugs for different pharmacological categories (*Dasheymani*-Group of 10 drugs) classified by *Charaka*[22]. These are *Triptighna* (overcoming depressed hunger feeling), *Arsoghna* (anti-haemorrhoidal), *Dipaniya* (appetizer), *Sulaprasamana* (pain reliever) and *Trsna Nigrahana* (thirst pacifier). This incorporation indicates the broad spectrum action of herb. Apart from these, the drug have many actions which are documented by various *Nighantus* like *Shoola* (pain), *Amavata* (Rhumatoid arthritis), *Adhmana* (fullness of abdomen), *Atisara* (diarrhoea), *Slipada* (elephantasis), *Kasa* (bhronchitis), *Hrdroga* (heart disease), *Sopha* (swelling), *Arsas* (piles), *Hikka* (Hiccough), *Vibandha* (constipation), *Pandu* (anaemia), *Vrana* (wounds), *Jvara* (fever), *Kustha* (skin disease), *Agnimandya* (low appetite), *Pravahika* (dysentery), *Grahani* (amoebiasis), *Chardi* (emesis), *Gulma* (abdominal pain), *Prameha* (diabetes), *Kamla* (jaundice), *Sandhisotha* (joint swelling), *Trusha* (thirst), *Urustambh* (heaviness in thigh), *Vishamajvara* (recurrent fever), etc[23].

Table 5: Ppin-Point Action of *Shunthi* Based on Ayurvedic Documentation with Special Reference to *Kashtartava* Pathogenesi)

Conceptual Pathological Factors	Direct-Indirect references of *Shunthi* to decide its action/behavior[24]	Ayurvedic Pathological Conditions in Painful Menstruation for desired action
Dosha	*Vata-Kapha*	*Shunthi* is strongly *Vatakaphahara* and hence applicable in all conditions of pathogenesis of the *Kashtartava* especially in pathogenesis 4 & 5
Dushya	*Pandu*, *Hruroga*, *Vrushya*	These references are enough to express that *Shunthi* is acting on the *Rasavaha*, *Raktavaha* and *ShukravahaSrotasa*. All these *Srotasa* are involved in *Kashtartava*. It also shows the affected organs/tissues of the disease.
Agni	*Ruchi, Deepana, Pachana*	It is also one of the issues where *Shunthi* is helpful to breakdown the pathological condition. This point may not be applicable to Ayurvedic pathogenesis no. 2
Srotasa	*Rasavaha (Pandu), Raktavaha (Hrudroga, Pandu, AgneyagunaBhuyishtha), Annavaha (Deepana, Pachana, Sangrahi &Vibandhabheda), Shukravaha (Vrushya)*	All properties, all indications of *Shunthi*, are indicating their action directly or indirectly on these *Srotasas*.
Srotodushti	*Saam*	*Sanga*, *Vimargagamana*, *Avarana* but not *Atipravrutti*
Udbhavasthana	*Uadara*, *Pandu*[1]*Vibandhanuta*, *Sangrahi*, *Deepana*, *Pachana*, *Arsha*, *Anaha*, *Na Malapatana*, *Shwasha*, *Kasa*, *Hridroga*	All these references indicate the action on *Mahasrotasa* which is one of the major *Udbhavasthana* of the *Kashtartava*. By eradicating the pathological condition in these *Srotasas,* a root cause treatment can be planned.
SthanaSamshraya &VyaktiSthana	*Shopha*, *NihantiShoola*	This indication is showing signs and symptoms of *Kashtartava*.
Other	*Rasa -Katu*	These properties are responsible to overcome the pathogenesis happened in the disease
	Veerya-UshnaAgneyagunaBhuyishtha	
	Vipaka-Madhura	
	Guna -Snigdha, *Laghu*, *Tikshna*	

Though, Ayurvedic documentation is available to prove the action of *Zingiber officinale* in dysmenorrhoea but establishing the same effect through various evidences of pharmacological screening is highly desired. The comparative correlations with pin pointed Ayurvedic comments are expressed to exhibit the same theory of different disciplines on pathological condition.

Table 6: Pharmacological Screening Verses Pin-Pointed Ayurvedic Action of *Zingiber officinale in* Dysmenorrhea)

Screened Activity	Ayurvedic Correlation
Effect on gastrointestinal tract (GIT)[24-25]	Ayurvedic pathogenesis (except Pathogenesis 2 & 6) the *Udbhavasthana* (origin of disease) is observed to be *Mahasrotasa* i.e. Gastro-intestinal track. It means, curing the underline Patho-Physiological factor at GIT will be the root cause line of treatment for menstrual pain. With these references, *Shunthi* is found to acting at GIT level and shows evidentiary information helpful for drug of choice. The Ayurvedic references like *Deepana, Pachana*, *Sangrahi&Vibandhabheda, Arsha*, *Anaha, Saam, Ruchi,* etc. are conceptually indicating the same pharmacological evidences which are proved under screening.
Gastro-Protective effec[26]	
Anti-Emetic effect[27-28]	
Anti-inflammatory activity[24,29,30,31,32,34,35]	*Shunthi* is proven herb for inflammatory condition, which is one of the reason behind the menstrual pain. Moreover, the references like, *Shopha, Pandu*and other inflammatory diseases like *Arsha*, *Hruroga, Udara*are becomes justification for selection of drug for Menstrual pain.
Analgesic effect[24,37,38]	To reduce the pain of menstruation is one of the major task needs to be the part of treatment. The analgesics activity along with neuro-protection performance of *Shunthi* can become favorable drug selection for the physician. The reference "*NihantiShoola*" is documented in Ayurveda which becomes evidence for drug selection in the disease.
Neuro-protective activity[26,39,40]	
cardiovascular system[25,31,40]	The various Ayurvedic pathogenesis states the role of *Raktavahasrotasa* (Channels related to blood) has major role in menstrual pain. Moreover *Yakrita* (Liver) is one of the *MoolaSthana* (resource station) for *Raktadhatu*. Ultimately, the herb which is responsible for balancing the issues related with blood will be helpful for menstrual pain. The proved pharmacological activity shows the best selection of *Shunthi* for Menstrual pain.
Blood Pressure[24,25,38,40,41]	
Effects on Blood Clotting[24,25,40,42]	
Hepato-protective activity[26,40,43]	
Anti-microbial effect[44,45,46]	The Ayurvedic documentation of *Shunthi* for the symptoms / disease like *Shwash, Kasa, Pandu*, etc. may shows infective pathology.
Antifungal Activity[47]	
Anti-oxidant actions[24,26,40,48,49,50]	An anti-oxidant activity is one of the components of any herb to fulfill an Ayurvedic action as '*Vrushya'*. *Shunthi* possesses this action which takes care of entire reproductive as well as sexual health of a female.
Colon cancer[31,40,51]	These screening evidence not only exhibits the broad spectrum action of *Shunthi* but also indicates that the herb can be best option as a preventive choice for futuristic problem raised due to various cancer pathology. It is observed that recurrent problems related with menstruation can lead to grave diseases like cancer or infertility.
Anti-proliferative activity[40,52]	
Tissue & radio-protective effect[24]	
Breast cancer[31]	
Ovarian Cancer[31]	
Anti-tumour[26,53,54,55,56,57,58]	
Anti-diabetic activity[26]	*Shunthi* influences in *Rasavaha*, *Medovaha*, etc. *Srotasa* and their balances. Though indirectly, like Ayrvedic pathogenesis 1,3,4& 5 the vitiation in these *Srotasas* may lead to complications in menstruation. As *Shunthi* possess action on these factor may be helpful for underline disease
Lipid & glucose concentration[24,40,59]	
Hypoglycemic activity[31]	
Nephrotoxicity[40,60]	These activities can be considered as supporting action if required by any associated pathology for the menstrual suffering.
Osteoarthritis[26,40,61]	
Effect on migraine[26]	
Anti-tussive Effects[62,63,64,65]	

DISCUSSION

The above compiled and summarized data regarding disease (*Kashtartava*) both by Ayurveda and contemporary medicine have nearly common platform of disease formation and expression of symptoms. Ayurveda expresses the disease through vitiation of specific *Dosha* (humor) and its amalgamation with Underlying *Dhatu* (tissues / cells). However, in nut shell, contemporary medicine stress on the inflammatory concept of the uterine tissues which expressed in the form of dysmenorrhoea. Ayurevda manages the abnormality by maintaining the equilibrium among the *Doshas* with the help of holistic properties of the herbs compatible to it. The contemporary medicine manages the diseased condition either by suppression of the inflammation or replacement of hormone required to maintain the normal physiological condition. While using the 'drug as whole' its compatibility needs to be checked subject to the Ayurvedic pathogenesis. Hence, *Shunthi* is conceptually controlling the *Kashtartava* which is born due to *Vata-Kapha* vitiation, lack in digestive fire and based on obstructive (*Sanga*) / vitiated (*Vimargagaman*) systemic pathology. It is not conceptually recommended in *Pitta* dominated and tissue irritated / over secretion associated (*Atipravrutti*) systemic pathology. On the other hand, in contemporary medicine the extract/s of any herb which have capacity to reduce inflammation, supports nutrition and relaxes the muscles by acting on prostaglandings are selected. All types of pathogenesis (of both the pathy) are discussed in detail above. The outcome of the treatment is observed that a permanent solution can be executed through the 'drug as a whole' therapy as it pacifies nearly all the sections of pathogenesis including inflammation, quality of tissues/cells, nutrition, underlying disease, etc. Ultimately, a herb which is full of many chemical compositions targets at various level of pathogenesis including systemic disease can be a single solution for complex issue of a single disease. On the other hand, in contemporary medicine, many designed extracts needs to be used to target various pathological issues of a single disease. Various designed extracts of *Zingiber officinale* are required to treat the various pathological issues of dysmenorrhoea as per contemporary medicine. The time has come, where the supremacy-area of both the pathy (Ayurveda and contemporary medicine) required to be integrated and design a common solution which is cost effective, palatable, user friendly, quick and highly effective towards cure of the disease instead of not only subsiding the symptoms. It will be most beneficial for the society, especially dysmenorrhoea as it is not only a disease but a primary platform for healthy progeny for any woman.

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