ABSTRACT

The women health is greatly dependent on normal cyclic menstrual pattern (Rutusrava). The proper Artava utpatti (formation)& its Nishkramana (expulsion) is necessary to regulate the women health. But this is influenced by many factors like Prakruti, Kala, etc. The Doshas which have impact on Prakruti, varies the pattern of Rutusrava according to Prakruti. Due to influence of Rutu (seasonal variation), the Doshas attain variations which have impact on Rutusrava. Thus the present study enlightens the relationship between Rutu, Prakruti & Rutusrava.

Keywords: Rutu (seasonal variation), Prakruti, Rutusrava (Menstrual discharge).
INTRODUCTION:

Kala (season) has its influence from the time of conception until death\(^1\). Human body is greatly influenced by external environment. Many of the exogenous rhythm and endogenous rhythm have specific phase relationship with each other; which means that they interact and synchronize with each other. Any change in the external environment causes change in one’s body. Physiological effects could be stimulated by seasonally-influenced parameters such as day length, which influences hormone secretions.

Rajapravritti is a normal physiological process in women as sleep, bowel activity etc. As the nature and pattern of all the physiological and psychological processes are dependent on the inherent constitution of Doshas i.e. the Prakruthi, the pattern and nature of Rajapravritti should also show some relation to the Prakruthi of the individual. Women of Particular Doshaja Prakruti are prone to diseases of their respective Doshaja Vyadhis. Doshas are influenced & undergo physiological changes according to seasons. Each Dosha attains the state of Chaya, Prakopa, Prashama in particular season which is inevitable\(^2\). The nature of menstrual pattern varies according to season predominant Doshas in the respective Doshaja Prakruti. So by understanding the menstrual pattern, the women health can be maintained by administering diet and regimens accordingly.

Relation of Agni & season in respect to females: Agni bala depends upon Rutu (season), Vaya (age), Ahara (food) etc. Proper quantity of intake of food results in Bala (strength), Varna (complexion) Upachaya (nourishment) etc in Shareera (body)\(^3\). As Shareera Agni directly influenced by Rutu, the Bala (strength) of individual also varies accordingly. Hence to get knowledge about variations in strength of an individual, Rutus classified as Adanakala & Visargakala. So strength acquired in according to season is considered as Kalaja Bala. This suggests that Agni & Shareera Bala are directly proportional. How this Agni changes according to season is explained with example of three seasons\(^4\).

- Hemanta for Prabalagni.
- Vasanta for Madhmagni
- Varsa for Mandagni.

Females by nature are unsteady, sensitive, having weak strength\(^5\). Hence females should be examined with proper care before administering therapies\(^6\). By Vyakhyana Tantrayukti, this reference suggests that Agni & Bala have intimate relation to act on physiological changes occurring in females.

Effect of season on females in respect to Prakruti: Artava considered as upadhatu of rasa\(^7\). Various references are found in many of Samhitas regarding the formation of artava where there is wide description about this giving the knowledge about importance of its formation & expulsion. On compiling each and
every description clears the concept of Artava Utpatti, & its expulsion.

Various factors like Prakruti, Rutucharya, Dinacharya & even Sadvrutta plays important role in Artava formation since from menarche up to menopause. This is evident from a woman’s menstrual pattern which is an important indicator of her health. The disorders of Artava are responsible for cause of each & every diseases in females [8]. Hence, the disorders of Artava has been mentioned as major Lakshanas (subjective criteria) in every Samhitas under Yoniyapad. Characteristics of menstrual cycle are known by its length, duration, amount, and regularity. Many environmental factors may affect characteristics of menstrual cycle including occupation, physical activity, diet, age, weight and lifestyle factors, immunity etc. Any variations in these factors make women susceptible to diseases. As seasonal variation, one of common factor for variation of immunity in all women influences the menstrual cycle characteristics. The Artava Utpatti (formation) is influenced from Rakta due to similar Agneya Guna (quality) [9]. In cloudy, cold weather Rakta becomes thick. Thus Rakta does not come out or comes in small quantity on Siravedha [10]. Blood plays an important role in homeostasis of body. During Sharad ritu, it becomes impure naturally due to Teekshna, Ushna Guna [11]. In Gangadhara Tika of charaka samhitha, it is mentioned that defect of blood means abnormality in its composition, diminution or aggravation [12]. Thus it is evident from above references that Artava which is influenced by Agneya Guna of Rakta is also affected due to seasonal effect. This clears the aspect of influence of season on Artava, which decides the pattern of menstrual bleeding & thus the regulation of menstrual cycle is influenced by seasons.

Relation of season with diseases in respect to Prakruti: Even if a person is healthy otherwise, but if by nature dominated by Vata, will be susceptible to Vataja diseases like cracking of different parts of body (like Pada Sphutana) especially in Varsha Rutu due to Vata Prakopa. This happens because the very normal condition of health of such individuals is dominated by one or other Doshas [13]. When a Dosha is joined with homologous seasons, Dhatu, & Prakruti it becomes too powerful to cause diseases [14]. There is description of different diseases raised in respect to seasons. For ex: Vataja diseases, in Varsha rutu etc. Sadhya & Asadhyata of Vyadhi depends upon season due to Tulya (homologous) Rutu & Dosha [15]. This suggests that there is influence of season on diseases. Individuals are more prone to Diseases of their respective Doshaja Prakruti [16]. When Prakruti is cited then Vikruti related to it must be revealed. As it is stated Vataja constitution body, has dominance of getting Vataja type of diseases etc. Hence Chaya, Prakopa, Prashamana of Doshas in season have
influence on particular type of predominant Doshaja Prakruti manifesting Kalakruta Vyapanna Vyadhis( diseases influenced by season ).

Most of the discomforts during menstruation are because of the imbalance of Doshas. Present generation females are facing many problems related to their menstruation like painful menstruation, irregular cycles, and irregularity in bleeding patterns etc. in their adolescent age without any specific pathology in their reproductive system. As long as the Doshas function in their normal state and are not affected or overshadowed by another Dosha, the menstrual cycle happens optimally. In a specific Prakruthi person there will be predominance of that particular Dosha which may interfere with the normal or optimal functions of the other Doshas. So according to the Prakruthi there are chances that there will be variations in the characteristics of Rajapravruthi.

DISCUSSION:
Climate–health relationships pose increasing health risk where the action of immunity plays very important role. To regulate or balance the body temperature with variation in climate, Thermoregulatory system plays major role[17].

Human are homeotherms as well as endotherms. In hot or cold regions thermoregulation is an evident in the form of sweating and shivering. Females differ from males in thermal responses to exogenous heat load. The changing rate of sex hormone release during the menstrual cycle and ovulation periods modifies thermo-regulation in females. The complex regulation of temperature is modulated further in women by hormone status. So variations in hormone level to maintain body temperature on exposure to cold or heat influences the physiological processes of overall health of women immune response, Menstrual cycle, vaginal discharge etc. Thus, the change in physiological aspect of women is evident from hormonal variations during the menstrual cycle due to seasonal variation influenced by thermoregulation mechanism.

Keeping in mind about variations taking in body, Ayurvedic classics, explained the proper mode & regimen to be followed in specific seasons in way to maintain thermoregulatory changes. Variations at the level of Doshas, from seasonal changes have both physiological & pathological aspect on human body If proper mode of regimen is not followed during season it leads to pathological condition.

Physiological variation in Doshas is observed for regulation & process of menstruation. Hence imbalance in Doshas at particular season have impact on Rutuchakra (menstrual cycle) & Rutusrava( menstrual bleeding pattern) in following ways: in Hemanta & shishishira rutu, due to Prabala Agni, increases the Ushnata of body[18]. This is because at low temperature the blood vessels constrict, which
in turn decrease heat carried by the blood to the surface, causing increase the metabolic heat effect to keep the body core temperature constant. As this is season of Vata Chaya (accumulation), its Sheeta (cold) and Khara (roughness) qualities causes the blood vessels to constrict, decreased nourishment to the endometrial lining of uterus the overall flow and menstrual discharge will be less. Even kapha Chaya during this season, Sheeta, Manda (slow movement) Guna in environment also hinders the flow of Artava. Hence in this season females of Vataja Prakriti have chances of suffering from scanty menstrual bleeding. As this type of constitution are dominant with Vishamagni, this may influence the formation of Artava & are prone to suffering from oligomenorrhea, associated with dysmenorrhea. The Sheeta Guna of both Vata & Kapha Doshas influences the Artava, results in irregular menstruation, prolonged secretory phase. 

The similar physiology may be observed in Varsha Ritu (Rainy season) due to Vata Prakopa (aggravation). Vataja Prakriti females should be aware of Prakopa of Vata as this may lead to Vataja Yonivyapad due to consumption of Raksha Ahara Vihara. The Chala Guna is main during the Rajah Srava Kala. This is evident from analyzing the Samprapti of Pradara i.e. due to Vata Prakopa results in increase in amount of Rakta in Garbhashaya Gata Siras \(^{19}\). So regulation of dilation & constriction of Siras (blood vessels) depends on Vata status. So increased movement of Artava makes it Tanu (thin), Ruksha (rough) due to excessive movement. But due to Pitta Chaya in this season, results in easy flow of Artava due to Ushna Guna. Hence there would be lesser experience of dysmenorrhea in Vataja Prakriti females. But in Pittaja Prakriti, the menstruation associated with Daha, increased basal body temperature as premenstrual symptom. 

Vasanta Ritu: So in Vasanta ritu, Kapha Prakopa is prominent causing various Kaphaja diseases. 

As there would be increased Agnimandya in this Ritu, & due to predominance of Snighdha (unctuousness) Guna causes Kapha Prakopa resulting in increased thickness of Artava manifesting various clot like formations due to accumulation of Artava without proper expulsion. So Kaphaja Prakriti persons are more prone towards menstruation associated with clots, irregular menstruation due to delay in ovulation, Anovulatory cycles.

Greeshma Ritu: This is the hottest season, as the Sun is nearer to the Prithvi, and so the rays are short and sharp, giving more heat. There is tremendous loss of sweat, as well as energy and power. The person gets easily exhausted after a light work also. The Kapha Dosha decreases and the Vata Dosha gets Sanchaya. The Pitta Prakriti persons are more affected with excessive bleeding as due to similar nature of Agneyatva of Artava due to
Ushna, Tikshna, Ruksha Guna of Pitta. The Artava attains more liquefaction due to Teekshanata. So due to increased Sara Guna of Pitta does individual more prone to menorrhagia, intermenstrual spotting.

The kaphaja Prakruti women are relieved from bleeding with clots as due to liquefaction or reduced thickness of Artava making easy flow. In Sarad Ritu due to Agneya Guna influences excess flow of Artava, in Pittaja Prakruti persons.

The following table showing the relation of season, Prakruti, menstrual disorders:

Table no.: showing the relation of season, Prakruti, menstrual disorders

<table>
<thead>
<tr>
<th>Season</th>
<th>Prakruti</th>
<th>Menstrual disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemanta, shishira rutu</td>
<td>Vataja prakruti</td>
<td>Scanty menstrual bleeding, Oligomennorhea, Dysmenorrhea as associated symptom</td>
</tr>
<tr>
<td>Varsha rutu</td>
<td>Pittaja prakruti</td>
<td>Increased basal body temperature as premenstrual symptom.</td>
</tr>
<tr>
<td>Vasanta rutu</td>
<td>Kaphaja prakruti</td>
<td>Bleeding with increased clots, irregular menstruation, Delay in ovulation process.</td>
</tr>
<tr>
<td>Greeshma rutu</td>
<td>Pittaja prakruthi</td>
<td>Menorrhagia with ovulatory or anovulatory cycles, intermenstrual spotting</td>
</tr>
<tr>
<td>Sarad ritu</td>
<td>Pittaja prakruti</td>
<td>Increased flow with regular cycles.</td>
</tr>
</tbody>
</table>

Ritu chakra (menstrual cycle) is under the control of three doshas. Physiological changes in doshas due to influence of particular season & prakruti also influences the phases of menstruation. Hormones which regulates the menstruation also controls the mechanism of thermoregulatory changes in body. Hence Variation in hormonal level on exposure to climatic variations influences the menstrual pattern. However there is lacuna in substantiating the effect of prakruti on menstrual cycle as per contemporary science, where the subject gives scope for further study. But it is proved evidence in classics that Prakruti has its effect on menstruation when the chapter of Yonivyapad is analyzed.

With the help of classical Tantrayuktis, the relation between Kala, Prakruti, Rutuchakra
can be established. As Tantrayuktis are keys to provide better understanding of classics & are the basic principles in understanding the Samhitas. Thus the entire impact of Prakruti,Kala on Rutusrava can be understood by applying Yoga Tantrayuki

Components of Yoga Tantrayuki:

- **Pratignya**(proposition ) – to establish the relationship between Rutu,Prakruti&Rutusrava
- **Upanaya**- On applying the Atidesha Tantrayuki, it can be inferred that seasonal variation which influences the Doshas, also have impact on Rutuchakra, RutuSrava which is regulated by Tridoshas.
- **Hetu** (logical reasoning) –As Prakruti has influence on Rutusrava, the Doshas influencing Prakruti have impact on Rutusrava due to Kala.
- **Udaharana** – to understand the concept in better way, the examples related to contemporary view as in changes taking place in menstrual cycle process due to hormonal variation influenced by thermoregulation, immune system.
- **Nigamana** – Thus there is relation between Rutu,Prakruti,Rutusrava& hence impact of Kala (season )on Rutusrava (menstrual pattern of bleeding) is evident.

**CONCLUSION:**

Seasonal variations and its effect on Dosha are well evident. The menstrual cycle is regulated by the variations in Doshas. Prakruti also has influence on the pattern on bleeding by virtue of Dosha dominance. Hence both Kala and Prakriti have effect on Menstruation and Menstrual cycle. Further clinical research needed to study the effect of Prakriti and seasonal variations on menstrual cycle for substantiating the classical concepts.

**REFERENCES:**

5. Shivprasad Sharma (editor),Astanga sangraha of vruddha vagbhata,shareerasthana,chapter 2,verse 14,Varanasi: Choukamba Sanskrit Series .


17. LOU A. STEPHENSON. Ph.D. MARGARET A. KOLKA, Ph.D. Thermoregulation in Women, 1993


Cite this article as: Soumya G.K, Shreevatha M. Prakrti, Kala- modifying factors of Rutuchakra (menstrual cycle), J of Ayurveda and Hol Med (JAHM). 2016;4(5):27-34

Source of support: Nil

Conflict of interest: None Declared.