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CRITICAL REVIEW OF RITU (SEASONS) WITH SPECIAL REFERENCE TO CURRENT RESEARCH

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ABSTRACT
The aim and objectives of Ayurveda is of two fold i.e. 1.Prevention of health in healthy individual 2.Cure of the disease in diseased person. To fulfill the first aim different Acharayas have described dincharya, ritucharya, sadvritta etc. In Brihatrayi there is separate description / chapters for ritucharya. Having second aim in mind Acharya's have mentioned relation of seasons and disease and different types of formulations are also advised according to season. To overcome effect of season ritucharya (seasonal regimen) is advocated in Ayuveda. So it is relevant to review the description available in the ayurvedic text books in relation to ritu (season).One should follow dietetic regimen and activities as ascribed in Ayurveda in respective seasons to maintain the normal health. Present article through some glimpses on season vis-à-vis ritu on health and disease.
Keywords: Ritu, Season, Dakshinayan, Uttarayan, Ritucharya, Adaptation, Disease

INTRODUCTION

Season has been defined as the natural periods in which the year is divided, which vary by weather conditions, daylight hours and temperature[1]. A season is a division of the year, marked by changes in weather, ecology and hours of day light. Seasons result from the yearly revolution of the earth around the sun and the tilt of earth axis relative to the plane of revolution[2]. Seasonal weather differences between hemispheres are further caused by the elliptical orbit of earth. Earth reaches closest to the sun in January and it reaches farthest point from the sun in July. Even though the effect this has on earth's seasons is minor, it does noticeably soften the northern hemisphere's winters and summers. In the southern hemisphere, the opposite effect is observed.

Each ritu (season) consists of two month, in this way year is divided into six seasons, out of them magha-falguna make shishira (late winter), chaitra-vaishakha make vasanta (spring), jyestha-ashadha make greeshma (summer), shravan-bhadrapada make varsha (rainy season), ashwina-kartika make sharad and margshirsha-pausha make hemanta (early-winter)[3,4].

Effect of Season

According to Ayurveda year is divided in to six seasons, in which three season shishira, vasanta and greeshma are known as aadana (uttarayan) when the sun takes north way course. Other three seasons varsha, sharad and hemanta is considered as visarga with the sun following its southern course[5,6].

Visarga is saumya due to predominance of soma (moon). On the other hand aadana is agneya due to predominance of agni. Thus the sun, the wind and the moon are responsible for appearance of time, season, rasa, dosha and bodily strength to the nature[7]. Sushruta has also described visarga (releasing) and aadana (receiving) karma of soma and sun respectively[8]. The human being experience debility in beginning of visarga and end of aadana kala, medium strength in mid of visarga and mid of aadana kala, maximum strength in end of visarga and beginning of aadana kala[9,10,11].

According to Ayurveda tridoshas plays important role in maintaining physiological state of an individuals. But chaya, prakopa and prasmana of doshas takes place naturally by seasonal changes.

Dosha	Chaya	Prakopa	Prasamana
vata	greeshma	varsha	sharad
pitta	varsha	sharad	hemanta
kapha	shishira	vasanta	greeshma

Blood plays important role in homeostasis of body. During sharad ritu (autumn) blood becomes naturally impure[12,13].

According to research the metabolic and temperature response to mild cold were investigated in summer and winter in a moderate oceanic climate. The average metabolic responses during cold exposure were significantly higher in winter as compared to summer[14]. Fast changes in temperature are probably may produce a number of physiological changes in the body. Rapid drops may affect blood pH, blood pressure, urination volume, and tissue permeability[15].

The eating habits of workers may vary according to the season of the year and corresponding work schedule[16]. The effects of biological variations of platelet counts were investigated in three cities of China. Platelet counts in healthy subjects were significantly higher in summer than in winter[17]. It was already reported that levels of physical activity vary with seasonality[18]. Hormone secretions are periodic variation release that may also be influenced by seasonal variation[19]. Few studies suggest annual or seasonal variations in hormone concentrations in man[20].

Study suggested that the liver function tests show seasonal variations. Another study shows that uric acid and Triglycerides shows seasonal changes[21,22]. Some study suggests that systolic and diastolic blood pressure values differed significantly across the four seasons and

according to the distribution of outdoor temperature[23]. Recent study showed the seasonal variations in serum cholesterol[24].

Charaka has described that various types of diet leads to promotion of strength and complexion if one knows the wholesomeness according to different season depend on behavior and diet regimens[25]. To overcome this effect of seasonal changes Ayuvedic acharya's have given the concept of rituchaya (seasonal regimen; mode of living in different season). Person who follows this regimen in each season never suffers from severe disorder caused by seasonal factors[26].

Season and Diseases

Weather has a profound effect on human health and wellbeing. Medical disorders such as bronchitis, peptic ulcer, adrenal ulcer, glaucoma, goiter, eczema and herpes zoster are related to seasonal variations in temperature[27]. Humidity has also a considerable influence on morbidity in the winter because cold, dry air leads to excessive dehydration of nasal passages and the upper respiratory tract and increased chance of viral and microbial infection[28]. Even birth rates and sperm counts appear to be affected by meteorological phenomena[29,30]. Flouris AD et.al (2009) examined the effect of birth season on fetal development and longevity and found that significantly increased birth weight, gestational age and longevity in individuals born during the autumn and winter seasons of the year. These individuals also established statistically significant lower prevalence rates for fetal growth restriction and premature birth. Also they observed increased temperature at the time of birth linked with adverse effects on fetal development and longevity[31]. Heart failure and cerebrovascular accidents have been correlated many times with ambient monthly temperatures[32]. Humidity has also a significant influence on morbidity in the winter because cold, dry air leads to excessive dehydration of nasal passages and the upper respiratory tract and increased chance of viral and microbial infection[33]. Seasonal change in skin disease was reported in Nepal[34].

In different samhitas there is description of disease which is influenced by season[35,36]. From treatment point of view Acharya's have mentioned evacuation therapy, snehapan[37,38], agni karma[39], rakta vishravan[40] etc. should be performed according to season. Collections of medicines according to season[41] and different types of kalpa (formulations) according to seasonis also clearly mentioned in Ayurveda[42,43].

Adaptation

Study showed that men who had bathed in 15 degree centigrade water for one-half hour over nine consecutive days before a trip to the Arctic showed less signs of cold-induced stress than non-treated men. This indicates that cold-adaptive mechanism influencing mortality as well[44].

To adapt the changes between two seasons ritusandhi is mentioned. Time of seven days at the end and commencement season is known as ritusandhi. During this period regimen of previous season should be discontinued gradually and that of subsequent season should be adopted gradually[45,46].

In Ayurveda it is mentioned that the season having common character (sadharana ritu) is important because evacuation therapy such as emesis etc. should be applied in these seasons, due to moderate cold, heat and rain the season having common character are most convenient and unharmful to body and drugs. While due to excessive cold, heat and rain other seasons are inconvenient and harmful to body and drug. Therefore the evacuation therapy like emesis etc. are stopped in season ending with early winter, summer and rainy season except in case of emergency, in emergency therapy should administer carefully after modifying the seasonal effects by artificial means[47,48]. It is also mentioned in Ayuyeda that physician should manage evacuating remedy taking into account of season in case of healthy person and in disease according to morbidity[49].

CONCLUSION

Recent researches showed the effect of season on healthy as well as diseased person. But there is lack of knowledge about preventive aspect. Ayurveda not only mentioned the preventive aspect but also mentioned how treatment should be given considering seasonal effect. This indicates that our Acharya's were aware about the variations in physiological parameters in various seasons. There are variations in physiological parameters like lipid profile, liver function tests etc has been scientifically evaluated by various researchers including authors of this article. Further researches should be done on seasonal variations and their preventive aspect on the basis of Ayurvedic principles.

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