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**PUBLISHED PAPER'S TITLE : A STUDY ON  
RELATIONSHIP BETWEEN DIFFERENT SEASONS  
AND PREVALENCE OF DISEASES**

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## Research Paper

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### A STUDY ON RELATIONSHIP BETWEEN DIFFERENT SEASONS AND PREVALENCE OF DISEASES

Rahul Jaiswal\*

#### Declaration

The Declaration of the author for publication of Research Paper in Asian Journal of Modern and Ayurvedic Medical Science (ISSN 2279-0772) Rahul Jaiswal\* the author of the research paper entitled a study on relationship between different seasons and prevalence of diseases declare that ,I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in ajmams , This research paper is my original work and no part of it or it's similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the publisher of ajmams to own the copyright of my research paper.

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#### ABSTRACT:

Seasons have direct impact on the accumulation, vitiation and pacification rhythms of the *Dosa*. To cope up this environmental stress *Ayurveda* gives the concept of *Ritusatmya*. If a person maintains seasonal homologation, the rhythmic movement of the *Dosa* will remain in its physiological limit and the individual never suffers from diseases. If a person does not follow *Ritucharya* will go to develop diseases according to vitiated *dosa* in a dominant condition Therefore this study was planned to assess the variations in the prevalence of *Jvara*(Viral Fever), *TamakaSvasa* (Bronchial Asthma), *Pratisyaya*(Rhinitis), *Amlapitta* (Acid Peptic Disorders), *Sirahsula*(*PittajaSirahsula* and *Ardhavabhedaka*- Migraine) and *SandhigataVatika Sula* (Joint pain esp. knee & back)with seasonal variation. Total 480cases of above mentioned six diseases between ages 20-60 were included in the study. To assess the relationship between different seasons and prevalence of diseases the cases were registered in six seasons. On evaluation of these survey studies, prevalence of *Jvara*(Viral Fever), *TamakaSvasa* (Bronchial Asthma), *Pratisyaya*(Rhinitis), *Amlapitta* (Acid Peptic Disorders) and *Sirahsula*(*PittajaSirahsula* and *Ardhavabhedaka*- Migraine) shows significant seasonal variation with the seasonal rhythms of *Dosa*. Prevalence of *SandhigataVatika Sula* (Joint pain esp. knee, back) shows insignificant seasonal variation. Non observance of *Ritucharya*provokes this seasonal variation of prevalence of diseases. *Jvara*(Viral Fever) shows peak in *Varsa* season followed by *Hemanta* and rare in *Grisma* seasons. *TamakaSvasa* (Bronchial Asthma) and *Pratisyaya*(Rhinitis) shows higher prevalence in *Hemanta*, *Vasanta* and *Varsa* seasons. *Amlapitta* (Acid Peptic Disorders) shows higher prevalence in *Varsa* and *Sarad* seasons. *Sirahsula*(*PittajaSirahsula* and *Ardhavabhedaka*- Migraine) shows higher prevalence in *Varsa* and *Sarad* seasons. *SandhigataVatika Sula* (Joint pain esp. knee & back) shows peak in *Hemanta* and *Varsa* season.

**KEY WORDS :** *Ritucharya, Jvara, TamakaSvasa, Pratisyaya, Amlapitta, Sirahsula, SandhigataVatika Sula*

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#### INTRODUCTION

Natural cycle of seasons affects the physical, chemical and biological nature

of the environment, which directly affects the physiology of human. Many of the exogenous and endogenous rhythms have specific phase relationship, which means that they

interact and synchronize each other. On the basis of this law, Darwin had framed the concept of "survival of the fittest" which means that "better adapted for immediate, local environment". Our ancient sears had also framed the concept of "Loka-PurusaSamya" by treating human being as a unit of the universe.<sup>1</sup>The annual change of season's leads to disturbance in the equilibrium of "Tridosas".<sup>2</sup>To balance these *dosa* a person has to follow *Ritucarya* (seasonal regimen). *Ritucharya* acts as the director for framing the *Dinacarya* and *Ratricarya* of each season. Observance of *Ritucarya* brings about strength, complexion, happiness and longevity without disturbing the equilibrium of *Dhatu* and *Dosa* of the body and the individual never suffers from diseases.<sup>3</sup>There is variation in prevalence of many diseases on the basis of variation in seasons. In the seasons like *Vasanta* (spring), *Sarad* (autumn) and *Pravat* (prior to rainy season), the *dosaKapha*, *Pitta* and *Vata* vitiate respectively.<sup>4</sup> In this condition, if a person does not follow *Ritucarya* will go to develop diseases according to vitiated *dosa* in a dominant condition.

Many diseases described in *Ayurveda* has its own peculiar features to develop in particular season some often are stated here such as *Jvara*, *Atisara*, *TamakaSvasa*, *Amlapitta*, *Pratisyaya*, *Sirahsula*, *Kustha*, *Seetapitta*, *Sandhi-sula* etc.

## MATERIAL AND METHODS:

The study was conducted in *Svasthyarakshana* Clinic and in the OPD of *Kayachikitsa* of SirSundarLal Hospital, IMS, BHU, Varanasi. Diseases chosen for the study were *Jvara*(Viral Fever), *TamakaSvasa* (Bronchial Asthma), *Pratisyaya*(Rhinitis), *Amlapitta* (Acid Peptic Disorders), *Sirahsula*(*PittajaSirahsula* and *Ardhavabhedaka*- Migraine) and

*SandhigataVatika Sula* (Joint pain esp. knee & back).

**Selection of sample:** Patients of different age group, gender and socio-economic status was registered on the basis of following criteria. Cases of above mentioned six diseases based on clinical sign and symptoms of age group between 20-60 years were selected for study. Age below 20 years and above 60 years, cases with associated other diseases and complications and accidental cases were excluded in the sampling process.

**Plan of study:** The case suffering from above mentioned six diseases were registered and survey was done on the basis of a specific *Ritucharya* based proforma. To assess the relationship between different seasons and prevalence of diseases the cases were registered in six seasons. To assess the existence of different *Agni* status during whole year in parlance of ancient science of *Ayurveda* a question is asked to the cases about experience of up and down of hunger sensation throughout year

## Statistical method of assessment:

The collected data was tabulated in the master chart. For finding the results the data was analyzed on the basis of percentage. Relation between seasonal variation and prevalence of migraine disease was tested on the basis of Chi-square test.

## RESULT:

Registration of 500 cases had been put out as a target for the study, out of 500 only 480 cases had been registered. Out of these 107 cases were of Viral Fever; 87 cases of Joint pain; 82 cases of Rhinitis, 76 cases of Bronchial Asthma; 74 cases of Acid peptic Diseases and 54 cases were of Migraine.

**Table- 1: Showing the prevalence of diseases in different seasons.<sup>5</sup>**

Disease	Fever (107)		Asthma (76)		Rhinitis (82)		APD (74)		Migraine (54)		Joint pain (87)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<i>Hemanta</i>	18	16.82	19	25	18	21.95	09	12.16	05	9.25	19	21.83

(88)												
Sisira (52)	06	5.60	14	18.42	08	9.75	04	05.40	06	11.11	14	16.09
Vasanta (82)	16	14.95	15	19.73	21	25.60	07	09.45	10	18.51	13	14.94
Grisma (37)	0	0	03	3.94	8	9.75	11	14.86	03	05.55	12	13.79
Varsa (147)	59	55.14	17	22.36	16	19.51	22	29.73	16	29.63	17	19.54
Sarad (74)	08	7.47	08	10.52	11	13.41	21	28.37	14	25.92	12	13.79
$\chi^2$ test	$\chi^2=126.56$		$\chi^2=14.32$		$\chi^2=10.93$		$\chi^2=22.655$		$\chi^2=15.11$		$\chi^2=2.862$	
p value	p < .001		p < .01		p < 0.05		p < .001		p < .01		p > .505	

It was evident from the above table that prevalence of *Jvara* (Viral Fever) and *Amlapitta* (Acid Peptic Disorders) shows highly significant (p < .001) relation with the seasonal variation. Prevalence of *TamakaSvasa* (Bronchial Asthma, p < .01), *Pratisyaya* (Rhinitis, p < .05), *Sirahsula* (*PittajaSirahsula* and *Ardhavabhedaka* - Migraine, p < .01) shows significant relation with the seasonal variation. Prevalence of *SandhigataVatika Sula* (Joint pain esp. knee and back) shows non-significant (p > .505) relation with the seasonal variation. Maximum prevalence of Viral Fever was observed in *VarsaRitu* (55%) whereas minimum prevalence in *SisiraRitu* (5%). Maximum and minimum

prevalence of Bronchial Asthma was seen in *HemantaRitu* (25%) and *GrismaRitu* (3%) respectively. Maximum prevalence of Rhinitis was observed in *VasantaRitu* (25%) whereas and minimum in *GrismaRitu* (9%). Maximum prevalence of Acid Peptic Diseases was observed in *VarsaRitu* (29%) and minimum in *SisiraRitu* (5%). Maximum prevalence of Migraine was observed in *VarsaRitu* (29%) whereas minimum percentage of prevalence in *GrismaRitu* (5%). Maximum prevalence of Joint pain was observed in *Hemanta* season (21%). however minimum percentage in *Grisma* and *SaradRitu* (13%).

**Table -2: Showing the status of Agni of cases.<sup>6</sup>**

Agni Status	Cases	%
<i>Grisma&amp;Varsa</i> - As (Alpa)		
<i>Vasanta&amp;Sarad</i> - As+ (Madhyama)		
<i>Hemanta&amp;Sisira</i> - As++ (Prabala)		
Accepted	353	73.54
Confused	105	21.87
No comment/idea	22	04.58

It is evident from the above table that maximum percentage of cases (73%) had accepted the concept about status of *Agni* as mentioned in *Ayurvedic* texts.

## DISCUSSION

In this study we observed a relationship between seasonal variation and diseases in parlance of ancient science of *Ayurveda*.

In case of Viral Fever it was observed that prevalence of *Jvara* (Viral Fever) showed highly significant (p

<.001) relation with the seasonal variation. During the period of *Varsa*, the percentage of its prevalence was highest 55%, According to *Ayurveda*, in *Varsa* season *Vatadosa* get vitiated. Hence, *Vatika* disorders like *Vatikajvara*, pain, stiffness are likely to show more prevalence. In this period the *Bala* of living beings is *Alpaso* they become more prone to diseases.<sup>7</sup> These *Ayurvedic* facts support the finding of highest prevalence of viral fever in *Varsa*.

In case of Asthma and Rhinitis, it was observed that prevalence of *TamakaSvasa* (Bronchial Asthma, p value <.01) and *Pratisyaya*(Rhinitis, p value <.05) showed significant relation with the seasonal variation. During the period of *Hemanta*, *Vasanta* and *Varsa* the percentage of their prevalence was highest, in cases of Asthma 25%, 19% and 22% respectively and in cases of Rhinitis 21%, 25% and 19% respectively. According to *Ayurveda*, *Hemanta* is the period in which *Kaphadosa* get accumulated and *Vata* get vitiated due to non-observance of *Hemantachara*, this accumulated *Kaphadosa* get vitiated in the *Vasanta* period.<sup>8</sup>*Varsa* is the period in which *Vatadosa* get vitiated.<sup>9</sup>higher percentage of Asthma and Rhinitis (*Vata-kapha* disorders)<sup>10</sup> during this period supports the above belief.

In case of Acid Peptic Disorders, it was observed that the prevalence of *Amlapitta* (Acid Peptic Disorders) showed highly significant (p value <.001) relation with the seasonal variation and during the period of *Varsa* and *Sarad* the percentage of its prevalence was highest 29% and 28%. In case of *Sirahsula*(*PittajaSirahsula* and *Ardhavabhedaka*- Migraine), prevalence of it showed significant (p value <.01) relation with the seasonal variation and during the period of *Varsa* and *Sarad* the percentage of its prevalence was highest 29% and 25% respectively. According to *Ayurveda*, vitiation of *Agni* occurs naturally in *Varsa* season and due to minimum *Bala* of the person, accumulation of *Pitta* (*Samapitta*) occur. This accumulated *Pitta* gets vitiated in the *Sarad* season.<sup>11</sup> Hence disorders of vitiated *Agni* and *Pitta* like *Amlapitta*, *Raktapitta*, *Jvara*,*PittajaSirahsula* and other *AamasayotthaVyadhi* are likely to show more prevalence in *Varsa* and *Sarad* seasons. Migraine (*Ardhavabhedakatype*) also showed higher percentage of its prevalence in *Vasant* (18%) support the involvement of *Kaphadosa* in Migraine.

In case of Joint pain, it was observed that prevalence of *SandhigataVatika Sula* (Joint pain esp. kneeandback) showed non-significant (p

> .505) relation with the seasonal variation yet during the period of *Hemanta* and *Varsa* the percentage of its prevalence was highest 21% and 19% respectively. According to *Ayurveda*, vitiation of *Vatadosa* occurs naturally in *Varsa* and also due to non-observance of *Hemantacharya*. Hence *Vatika* disorders like pain, stiffness and other musculoskeletal problems are likely to show more prevalence in these two seasons. Higher percentage of joint pain during these periods supports the above. Majority of cases had visited OPD in chronic stage of disease, may be due to this fact above data shows no significant relation in prevalence of Joint pain in different seasons.

In this study we observed that 73% of all cases had accepted the existence of different *Agni* status during whole year as mentioned in the *Ayurvedic* texts. This finding supports the *Ayurvedic* fact that *Agni* depends on the *Bala* of a person in different seasons. There are three states of *Agni* as *AlpabalaAgni* in *Grisma* and *Varsa*, *MadhyambalaAgni* in *Vasant* and *Sarad*, and *PravarabalaAgni* in *Hemanta* and *Sisira*.<sup>12</sup>

## CONCLUSION

*Ritucharyashould* be observed by every individual. *Dosa*, *Bala* and *Agni* show rhythmic seasonal variation. These should be balanced by making variation in *Aahara* and *Vihara*. Prevalence of *Jvara*(Viral Fever), *TamakaSvasa* (Bronchial Asthma), *Pratisyaya*(Rhinitis), *Amlapitta* (Acid Peptic Disorders) and *Sirahsula*(*PittajaSirahsula* and *Ardhavabhedaka*- Migraine) shows significant seasonal variation with the seasonal rhythms of *Dosa*. Prevalence of *SandhigataVatika Sula* (Joint pain esp. knee, back) shows insignificant seasonal variation. Non observance of *Ritucharya*provokes this seasonal variation of prevalence of diseases. *Jvara*(Viral Fever) shows peak in *Varsa* season followed by *Hemanta* and rare in *Grisma* seasons. *TamakaSvasa* (Bronchial Asthma) and *Pratisyaya*(Rhinitis) shows higher prevalence in *Hemanta*, *Vasanta* and *Varsa* seasons. *Amlapitta* (Acid Peptic

Disorders) shows higher prevalence in *Varsa* and *Sarad* seasons. *Sirahsula*(*PittajaSirahsula* and *Ardhavabhedaka*- Migraine) shows higher prevalence in *Varsa* and *Sarad* seasons. *SandhigataVatika Sula* (Joint pain esp. knee & back) shows peak in *Hemanta* and *Varsa* seasons.

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