Retrospective Clinical Survey: A Study to Show the Effect of Nidra Viparyaya on Dhatu Sarata

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ABSTRACT

Acharya Charaka has designated *ahara* (food), *nidra* (sleep) and *brahmacharya* (abstinence) as the main three pillars of life termed as *trayaupastambhas*. These, when taken in adequate amount at the right time provide stability to the body and improve *bala* (stremgth), *varna* (complexion) and *upchaya* (metabolism) in the body. Among these, *nidra* plays a major role in one's life. Adequate sleep leads to *arogya* (health), *bala shukra vridhi* (increase in physical and reproductive strength) and *dhatusamyata* and healthy life which is the ultimate goal of Ayurveda. On the other hand, altered sleep leads to *bala hani* (loss of strength), *rugnavastha* (diseased state) or even death. So it can be said that abnormal or inadequate *nidra* can manifest in the form of *dhatuvikara*, making a person *atura* (diseased). For better economic gains, people are neglecting their daily needs of having proper *ahara, nidra* and other required *vihara* at proper time. Due to these reasons, people are becoming more prone towards diseased state. *Dashavidha-atura pariksha*, given by *Acharya Charak* is very unique and important concept of Ayurveda which is done to know *pramana* (magnitude) of *ayu* (life), *dosha* and *bala* (strength) of *rogi*. *Dhatusara pariksha* is one among these which literally means essence of *dhatu*, possessing all good qualities in excellent standard without any defects. The present study was done to study the relationship of *nidra* on *dhatusarata*, with the purpose that people should understand the importance of *nidra* as only a healthy individual can lead to the formation of a healthy society.

Keywords: *Nidra, Trayaupastambhas, Dhatusarata,*

INTRODUCTION
Ayurveda has mentioned the aims as, to maintain the healthy status of a human being and secondly to cure the diseased ones[1].Various concepts have been mentioned in Ayurvedic Classics to keep oneself healthy which are in the form of various preventive measures like *Yoga, Achara Rasayana* (well conducted behavior), *Dinacharya* (daily regimen), *Rutucharya* (seasonal regimen) etc. One among them is *Traupastambha* i.e. *ahara* (food), *nidra* (sleep) *and brahmacharya* (abstinence), which when taken in adequate amount at the accurate time provide stability to the body and improve *bala* (stength), *varna* (complexion) and *upchaya* (metabolism) in the body[2] which directly leads to *swasthya* (health) and that is

the ultimate goal of Ayurveda. Sidewise, cause *klaibyata* (impotence) *bala hani* (loss of strength), *aturavastha* (diseased state) or even death if taken inadequately.

Dashavidha-atura pariksha[3] is also considered as very unique and important concept of Ayurveda which has been mentioned by Acharya Charak in Charak *vimanasthana* Chapter 8. The purpose of *rogi pariksha* (patient examination) is to know the *pramana* (quantity) of *ayu* (age), *dosha* and *bala* (strength) of *rogi* which is very much essential for the selection of drug, dose adjustment and plan of treatment. *Dashavidha-atura pariksha* includes-

1) *Prakriti pariksha* (Examination of basic physical and psychological component)
2) *Vikriti pariksha* (Examination of morbid changes in the body)
3) *Sara pariksha* (Status of elemental tissues and mind)
4) *Samhanan pariksha* (Compactness of the body)
5) *Satva pariksha* (mental strength)
6) *Satmya pariksha* (compatibilities)
7) *Pramana pariksha* (measurement of body or body parts)
8) *Ahara shakti* (metabolism and digestion capacity)
9) *Vyayama shakti* (Exercise tolerance of the patient)
10) *Vaya* (age)

Among all these, *sara pariksha* plays an important role to know the *bala pramana* (magnitude of physical strength) of the patient[4]. *Sara* literally means essence of *dhatu*, possessing all good qualities in excellent standard without any defects. The *dhatus* which has such an excellence will have the capacity to resist diseases and do all its normal functions efficiently. On the basis of *sarata*, a physician can determine as well as diagnose the *bala* of the *rogi* which will help him in treating the disease in a better way. Patients are to be examined with reference to *sara* or the excellence of their *dhatus*. With a view to determine the specific measure of *bala*, they are classified into eight categories[5], depending upon the *sara* or excellence of their *dhatus*.

- *Tvak sara*
- *Rakta sara*
- *Mamsa sara*
- *Meda sara*
- *Asthi sara*
- *Majja sara*
- *Shukra sara*
- *Satva sara*

The person endowed with all the *sara* is sure to earn great respect, hopeful of success in all his activities, capable of withstanding troubles, will be wise and ready.

In today's era of industrialization, advanced techniques and research methods are applied for better economic gains. Due to this competition everyone is struggling to stay in the race which is automatically reducing one's attention of maintaining a good health. People are working day and night for their livelihood and neglecting the factors like *ahara, nidra* etc. in proper quantity and quality which have affected their life as well as health in the form of various lifestyle disorders now a days.

The present study was done to study the effect of nidra on *dhatusarata* which help in understanding the changes that occur on the *sarata* of the person when he gets altered or abnormal *nidra.*

AIMS AND OBJECTIVES
The study has been aimed to observe the effect of *atiyoga* (abnormally high), *mithyayoga* (improper) and *heenayoga* (abnormally low) of *nidra* on *dhatusarata* of willing volunteers selected for the study.

MATERIALS AND METHODS

Type of study   Retrospective type of study

Clinical survey

Place of study   Bharati Vidyapeeth University College of Ayurveda and Bharati Vidyapeeth Medical Foundation's Ayurveda Hospital, Pune - 43.

Research Design   Special case paper proforma was prepared. A total of 127 volunteers were studied on the basis of *darshan* (inspection) *, sparshan* (palpation and percussion) and *prashna* (questioning) *pareeksha*. Written consent was taken from the volunteers prior to the study.

Source of Data   The data was collected by examinations of volunteers from various sectors like IT professionals, doctors, staff nurses, security guards, drivers (taxi and truck), students, housewives, etc. with the help of a specially designed questionnaire and case paper. It was found that the *nidra* patterns of these groups were remarkably altered and hence they were included in the study.

Inclusion Criteria

➢ Volunteers having *heena, mithya* and *atiyoga* of *nidra* for minimum 1 year

➢ Volunteers irrespective of sex, marital status and socio-economic class

Exclusion Criteria

➢ Volunteers suffering from prior ailments of *nidra*

➢ Volunteers below age 16 and above 70 years

Statement of Limitation

This study was done in the *rogavigyana* (pathology) department and was only associated with the diagnostic aspect of the problem and hence was not directly dealt with the remedial measures.

Gradation Criteria

The volunteers included in the study were classified on the basis of following factors:

➢ Age

➢ Sex

➢ Socio-economic status

➢ Occupation

➢ Prakruti

➢ *Sarata*

➢ *Nidra*

o Quantity of *nidra (nidra pramana)*

▪ Less than 7 hours (*heena yoga*)

▪ More than 7 hours (*ati yoga*)

o Quality of *nidra* i.e. *khanditha nidra* (Disturbed *nidra*)

o *Diwasvapna* (Day time *nidra*)

o *Jagarana* (Awakening at night)

Study Design

• Initially the *sarata* of the individual was analyzed according to the *lakshanas* (symptoms) mentioned in the *samhitas*. The *lakshanas* have been graded as 0 (Aa=Absence), 1 (*alpa*=Mild), 2 (*madhyam*=Moderate), 3 (*ati*=Severe). Lakshanas of each *sara* were added separately and then from that score, percentage of each *sara* predominance was calculated. In this way, the percentage of all the 9 *saras* present in all 127 volunteers was obtained.

• Gradation of volunteers according to the *hetus* (etiology) like *jagarana*, *diwasvapna*, *khandita nidra*, less than 7 hours *nidra*, more than 7 hours *nidra* was done.

• Volunteers were separated according to the gradation criteria of each *hetu* related to *nidra.*

- The average of percentage of *sarata* in each separated group of *hetus* related to *nidra* has been calculated.

OBSERVATIONS AND RESULTS

Table No.1. Classification of volunteers on following factors

Age	No.of volunteers(n)	Percentage
5-15 yrs.	1	0.787
15-25yrs.	30	23.622
25-35yrs.	49	38.583
35-45yrs.	24	18.898
45-55yrs.	14	11.024
55-65yrs.	7	5.512
65-75yrs.	2	1.575
Sex		
Males	88	69.291
Females	39	30.709
Occupation		
Security Guard	14	11.024
Staff Nurse	09	7.087
Drivers	21	16.535
Doctors	07	5.512
IT Professionals	45	35.433
Students	13	10.236
Housewives	07	5.512
Retired	01	0.787
Others	10	7.874
Prakriti		
Vata Pittaja	22	17.232
Vata Kaphaja	12	9.449
Pitta vataj	25	19.685
Pitta kaphaja	24	18.898
Kapha vataj	16	12.598
Kapha pittaja	28	22.047
Socio economic status		
Lower	49	38.583
Middle	65	51.181
Upper	13	10.236

Table No.2. Classification of volunteers on following factors

Sarata (Acc. *To lakshanas* mentioned in Charak samhita)		
1 (*Asara*)	07	5.512
2 (*Twakasara*)	14	11.024
3 (*Raktasara*)	20	15.748
4 (*Mansasara*)	34	26.772

5 (*Medasara*)	28	22.047
6 (*Asthisara*)	17	13.386
7 (*Majjasara*)	03	2.362
8 (*Shukrasara*)	03	2.362
9 (*Satvasara*)	01	0.787
Nidra		
Quantity of nidra		
• *Less than 7 hrs.*		
Grade I (5-7 hrs.per day)	30	14.173
Grade 2 (3-5 hrs.per day)	47	37.008
Grade 3 (less than 3 hrs. per day)	18	23.622
• *More than 7 hrs.*		
Grade 1 (8-10 hrs.per day)	06	6.299
Grade 2 (10-12 hrs.per day)	18	14.173
Grade 3 (more than 12 hrs. per day)	08	4.724
Quality of nidra		
Mild *khandita nidra*	61	48.031
Moderate *khandita nidra*	36	28.346
Excessive *khandita nidra*	30	23.622
Diwasvapna (day hrs. sleep)		
Up to 1 hr.	41	32.283
2 to 3 hrs.	64	50.394
More than 3 hrs.	22	17.323
Jagarana (Awakening at night)		
From 10.00 PM to 12.00 AM	15	11.811
From 12.00 AM to 2.00 AM	92	72.441
Above 2.00 AM	20	15.478

Table no.3. Percentage of each Sara in all 127 volunteers

	1	2	3	4	5	6	7	8	9	10
Rasa	51.852	44.444	48.148	44.444	18.519	48.148	48.148	33.333	44.444	48.148
Rakta	49.020	68.627	66.667	37.255	15.686	31.373	25.490	45.098	50.980	49.020
Mansa	66.667	74.074	51.852	68.519	3.704	14.815	33.333	70.370	87.037	94.444
Meda	81.250	70.833	27.083	79.167	2.083	43.750	45.833	50.000	52.083	62.500
Asthi	65.000	86.667	48.333	53.333	10.000	23.333	25.000	78.333	43.333	66.667
Majja	58.333	70.833	41.667	66.667	0.000	33.333	50.000	58.333	50.000	70.833
Shukra	64.286	69.048	52.381	23.810	0.000	21.429	30.952	57.143	64.286	66.667
Sattva	66.667	61.111	69.444	52.778	61.111	19.444	52.778	41.667	47.222	66.667
Sarva	61.111	66.667	50.000	50.000	38.889	11.111	66.667	44.444	61.111	72.222

	11	12	13	14	15	16	17	18	19	20
Rasa	44.444	59.259	14.815	59.259	40.741	44.444	40.741	51.852	51.852	25.926
Rakta	60.784	41.176	15.686	60.784	54.902	64.706	72.549	49.020	78.431	41.176
Mansa	66.667	38.889	53.704	98.148	87.037	88.889	50.000	66.667	64.815	42.593

Meda	85.417	33.333	18.750	81.250	64.583	72.917	52.083	85.417	66.667	68.750
Asthi	53.333	81.667	35.000	71.667	66.667	66.667	46.667	65.000	61.667	43.333
Majja	45.833	20.833	8.333	79.167	70.833	79.167	58.333	70.833	62.500	54.167
Shukra	66.667	33.333	11.905	66.667	71.429	66.667	66.667	59.524	66.667	66.667
Sattva	38.889	55.556	13.889	66.667	77.778	91.667	66.667	77.778	50.000	55.556
Sarva	33.333	50.000	22.222	77.778	55.556	61.111	55.556	61.111	50.000	61.111

	21	22	23	24	25	26	27	28	29	30
Rasa	44.444	37.037	55.556	55.556	11.111	22.222	37.037	48.148	3.704	51.852
Rakta	66.667	68.627	17.647	9.804	43.137	66.667	45.098	45.098	37.255	41.176
Mansa	68.519	77.778	42.593	7.407	16.667	83.333	66.667	46.296	61.111	77.778
Meda	33.333	97.917	52.083	12.500	10.417	68.750	66.667	25.000	33.333	45.833
Asthi	95.000	43.333	23.333	13.333	41.667	66.667	66.667	18.333	61.667	43.333
Majja	66.667	62.500	33.333	8.333	4.167	62.500	33.333	25.000	33.333	45.833
Shukra	61.905	66.667	38.095	4.762	16.667	66.667	66.667	33.333	35.714	57.143
Sattva	52.778	91.667	33.333	8.333	8.333	69.444	66.667	47.222	77.778	72.222
Sarva	44.444	61.111	33.333	22.222	5.556	61.111	61.111	50.000	44.444	38.889

	31	32	33	34	35	36	37	38	39	40
Rasa	55.556	55.556	29.630	25.926	62.963	25.926	44.444	62.963	48.148	44.444
Rakta	80.392	54.902	33.333	47.059	62.745	33.333	66.667	100.000	66.667	56.863
Mansa	72.222	48.148	66.667	55.556	100.000	33.333	66.667	66.667	100.000	38.889
Meda	58.333	60.417	33.333	39.583	52.083	62.500	100.000	43.750	66.667	33.333
Asthi	51.667	66.667	88.333	66.667	40.000	33.333	66.667	66.667	66.667	100.000
Majja	33.333	75.000	33.333	45.833	33.333	12.500	33.333	33.333	33.333	33.333
Shukra	66.667	66.667	66.667	66.667	66.667	66.667	66.667	66.667	66.667	66.667
Sattva	66.667	55.556	66.667	66.667	66.667	33.333	66.667	66.667	66.667	66.667
Sarva	55.556	66.667	55.556	72.222	50.000	22.222	61.111	61.111	61.111	66.667
	41	42	43	44	45	46	47	48	49	50
Rasa	33.333	55.556	44.444	48.148	18.519	48.148	29.630	55.556	55.556	70.370
Rakta	66.667	100.000	88.235	66.667	33.333	54.902	66.667	66.667	100.000	66.667
Mansa	74.074	66.667	66.667	100.000	94.444	62.963	66.667	66.667	77.778	66.667
Meda	93.750	66.667	66.667	33.333	60.417	83.333	66.667	100.000	66.667	100.000
Asthi	55.000	33.333	40.000	66.667	46.667	46.667	100.000	66.667	35.000	66.667
Majja	33.333	33.333	33.333	33.333	66.667	33.333	66.667	41.667	66.667	33.333
Shukra	66.667	66.667	66.667	66.667	66.667	66.667	66.667	66.667	66.667	66.667
Sattva	66.667	66.667	66.667	66.667	66.667	66.667	66.667	66.667	52.778	66.667
Sarva	61.111	66.667	50.000	61.111	50.000	50.000	66.667	50.000	55.556	61.111

	51	52	53	54	55	56	57	58	59	60
Rasa	37.037	48.148	44.444	33.333	33.333	22.222	11.111	14.815	11.111	11.111
Rakta	33.333	54.902	33.333	39.216	52.941	11.765	23.529	17.647	19.608	15.686
Mansa	66.667	42.593	61.111	18.519	66.667	14.815	29.630	24.074	16.667	11.111

Meda	33.333	62.500	37.500	12.500	75.000	18.750	20.833	12.500	14.583	12.500
Asthi	66.667	66.667	53.333	20.000	66.667	16.667	20.000	26.667	15.000	45.000
Majja	33.333	33.333	33.333	16.667	33.333	16.667	8.333	25.000	12.500	16.667
Shukra	66.667	66.667	66.667	21.429	54.762	21.429	40.476	19.048	14.286	21.429
Sattva	33.333	36.111	33.333	27.778	55.556	19.444	25.000	25.000	13.889	16.667
Sarva	38.889	44.444	44.444	22.222	33.333	16.667	5.556	11.111	27.778	5.556

	61	62	63	64	65	66	67	68	69	70
Rasa	33.333	33.333	55.556	22.222	81.481	25.926	74.074	44.444	40.741	66.667
Rakta	45.098	54.902	58.824	25.490	15.686	43.137	15.686	7.843	58.824	25.490
Mansa	57.407	42.593	55.556	48.148	50.000	18.519	24.074	14.815	51.852	44.444
Meda	54.167	54.167	54.167	52.083	12.500	27.083	45.833	10.417	43.750	43.750
Asthi	50.000	60.000	40.000	20.000	18.333	61.667	20.000	53.333	31.667	63.333
Majja	33.333	33.333	33.333	8.333	16.667	16.667	8.333	20.833	16.667	29.167
Shukra	66.667	33.333	66.667	14.286	16.667	23.810	9.524	16.667	42.857	61.905
Sattva	44.444	50.000	50.000	16.667	13.889	19.444	13.889	22.222	25.000	33.333
Sarva	33.333	66.667	61.111	22.222	5.556	16.667	5.556	16.667	33.333	61.111

	71	72	73	74	75	76	77	78	79	80
Rasa	44.444	37.037	48.148	66.667	37.037	25.926	55.556	44.444	62.963	62.963
Rakta	33.333	43.137	54.902	66.667	54.902	66.667	54.902	39.216	62.745	66.667
Mansa	42.593	66.667	61.111	94.444	77.778	33.333	66.667	62.963	66.667	66.667
Meda	37.500	81.250	58.333	56.250	79.167	0.000	66.667	66.667	66.667	47.917
Asthi	46.667	48.333	66.667	55.000	73.333	33.333	41.667	66.667	66.667	66.667
Majja	33.333	33.333	33.333	33.333	33.333	0.000	33.333	33.333	33.333	37.500
Shukra	40.476	66.667	66.667	66.667	33.333	33.333	66.667	33.333	33.333	33.333
Sattva	27.778	52.778	50.000	50.000	66.667	55.556	50.000	33.333	66.667	91.667
Sarva	38.889	55.556	55.556	66.667	72.222	33.333	66.667	33.333	66.667	44.444

	81	82	83	84	85	86	87	88	89	90
Rasa	14.815	55.556	51.852	55.556	55.556	33.333	37.037	37.037	37.037	51.852
Rakta	17.647	54.902	49.020	43.137	45.098	31.373	49.020	41.176	45.098	45.098
Mansa	14.815	57.407	68.519	68.519	50.000	25.926	59.259	51.852	59.259	62.963
Meda	45.833	47.917	50.000	50.000	43.750	20.833	43.750	33.333	62.500	50.000
Asthi	40.000	51.667	41.667	51.667	55.000	60.000	50.000	46.667	48.333	55.000
Majja	45.833	33.333	33.333	20.833	54.167	37.500	33.333	33.333	33.333	37.500
Shukra	42.857	33.333	66.667	52.381	69.048	33.333	66.667	66.667	59.524	66.667
Sattva	27.778	63.889	86.111	58.333	50.000	61.111	61.111	52.778	50.000	50.000
Sarva	38.889	44.444	61.111	44.444	50.000	55.556	38.889	38.889	33.333	44.444

	91	92	93	94	95	96	97	98	99	100
Rasa	37.037	51.852	48.148	48.148	44.444	59.259	33.333	25.926	25.926	29.630
Rakta	45.098	39.216	54.902	33.333	58.824	88.235	33.333	49.020	33.333	7.843
Mansa	48.148	48.148	68.519	33.333	66.667	66.667	55.556	37.037	33.333	12.963
Meda	20.833	39.583	60.417	33.333	66.667	66.667	62.500	16.667	0.000	22.917

Asthi	45.000	70.000	66.667	33.333	66.667	90.000	33.333	33.333	33.333	33.333
Majja	20.833	29.167	58.333	33.333	33.333	66.667	33.333	25.000	0.000	0.000
Shukra	50.000	66.667	66.667	33.333	33.333	66.667	33.333	33.333	33.333	0.000
Sattva	47.222	44.444	52.778	50.000	66.667	66.667	33.333	44.444	11.111	55.556
Sarva	50.000	50.000	55.556	38.889	61.111	66.667	55.556	44.444	16.667	16.667

	101	102	103	104	105	106	107	108	109	110
Rasa	37.037	29.630	29.630	37.037	44.444	66.667	44.444	55.556	40.741	59.259
Rakta	39.216	33.333	74.510	56.863	64.706	45.098	39.216	60.784	47.059	33.333
Mansa	53.704	53.704	53.704	79.630	64.815	55.556	66.667	72.222	72.222	31.481
Meda	62.500	68.750	45.833	77.083	66.667	79.167	72.917	77.083	35.417	31.250
Asthi	60.000	66.667	66.667	66.667	53.333	26.667	33.333	58.333	65.000	41.667
Majja	33.333	25.000	33.333	16.667	33.333	33.333	16.667	62.500	37.500	33.333
Shukra	33.333	42.857	66.667	66.667	100.000	23.810	42.857	66.667	66.667	33.333
Sattva	77.778	61.111	88.889	44.444	77.778	38.889	63.889	61.111	58.333	47.222
Sarva	55.556	44.444	38.889	5.556	61.111	16.667	38.889	55.556	66.667	22.222

	111	112	113	114	115	116	117	118	119	120
Rasa	55.556	33.333	51.852	51.852	25.926	55.556	59.259	70.370	70.370	62.963
Rakta	47.059	33.333	56.863	60.784	9.804	74.510	84.314	66.667	54.902	45.098
Mansa	42.593	24.074	38.889	81.481	12.963	61.111	75.926	70.370	75.926	48.148
Meda	39.583	33.333	33.333	66.667	18.750	66.667	95.833	54.167	81.250	50.000
Asthi	60.000	35.000	43.333	73.333	11.667	73.333	71.667	80.000	56.667	33.333
Majja	33.333	16.667	4.167	41.667	12.500	66.667	25.000	33.333	33.333	33.333
Shukra	54.762	45.238	40.476	66.667	19.048	61.905	66.667	66.667	54.762	45.238
Sattva	61.111	33.333	55.556	83.333	30.556	66.667	52.778	86.111	44.444	86.111
Sarva	44.444	16.667	50.000	72.222	11.111	77.778	66.667	72.222	38.889	61.111

	121	122	123	124	125	126	127
Rasa	66.667	59.259	51.852	77.778	48.148	40.741	59.259
Rakta	76.471	49.020	47.059	62.745	64.706	33.333	45.098
Mansa	70.370	66.667	38.889	48.148	64.815	27.778	66.667
Meda	75.000	50.000	33.333	33.333	70.833	66.667	33.333
Asthi	85.000	60.000	53.333	73.333	41.667	40.000	50.000
Majja	33.333	20.833	16.667	29.167	25.000	33.333	33.333
Shukra	66.667	66.667	33.333	61.905	78.571	50.000	47.619
Sattva	88.889	61.111	44.444	66.667	75.000	63.889	88.889
Sarva	61.111	50.000	44.444	61.111	61.111	44.444	55.556

The above tables represent the Percentage of each Sara in all the 127 volunteers.

Effect of different parameters of nidra on dhatusarata

➢ Less than 7 hours of nidra

Graph no.1

*Dhatusarata* in Individuals with less than 7 hrs. *nidra* (Grade 1,2,3)
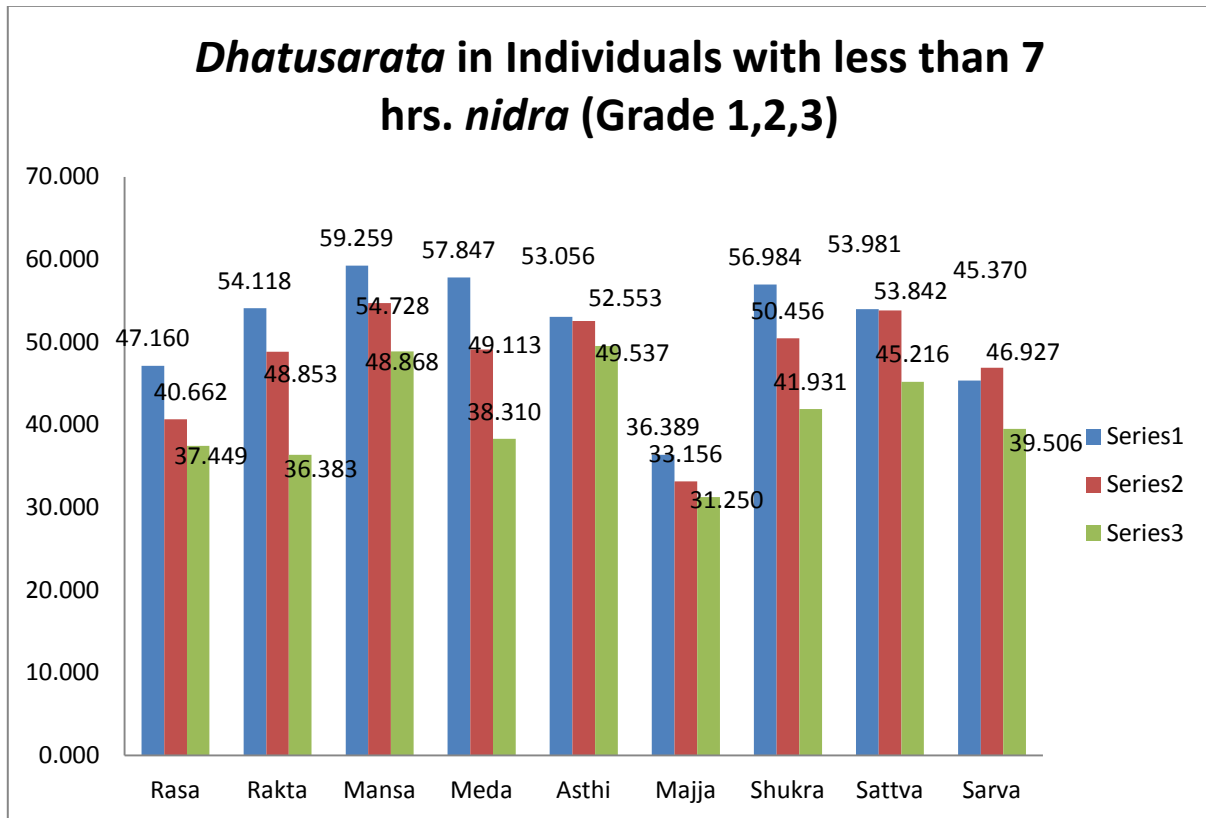
The above graph reveals that as the number of hours of *nidra* was reduced (*heena yoga* of *nidra*), average of each *sara* also got affected. The impact was drastically noted on *mamsasara*, followed by *medasara* and then by *shukrasara* through the first gradation criteria i.e *nidra* for 5-7 hours. The same *sara* was involved in second gradation criteria (3-5 hours *nidra*). But in case of third gradation criteria (<3 hours), it was observed that *majjasara* was affected the most followed by *rakta* and then by *rasasara.*

➢ More than 7 hours of *nidra*
   Graph no.2

Dhatusarata in Individuals with more than 7 hrs. *nidra* (Grade 1,2,3)
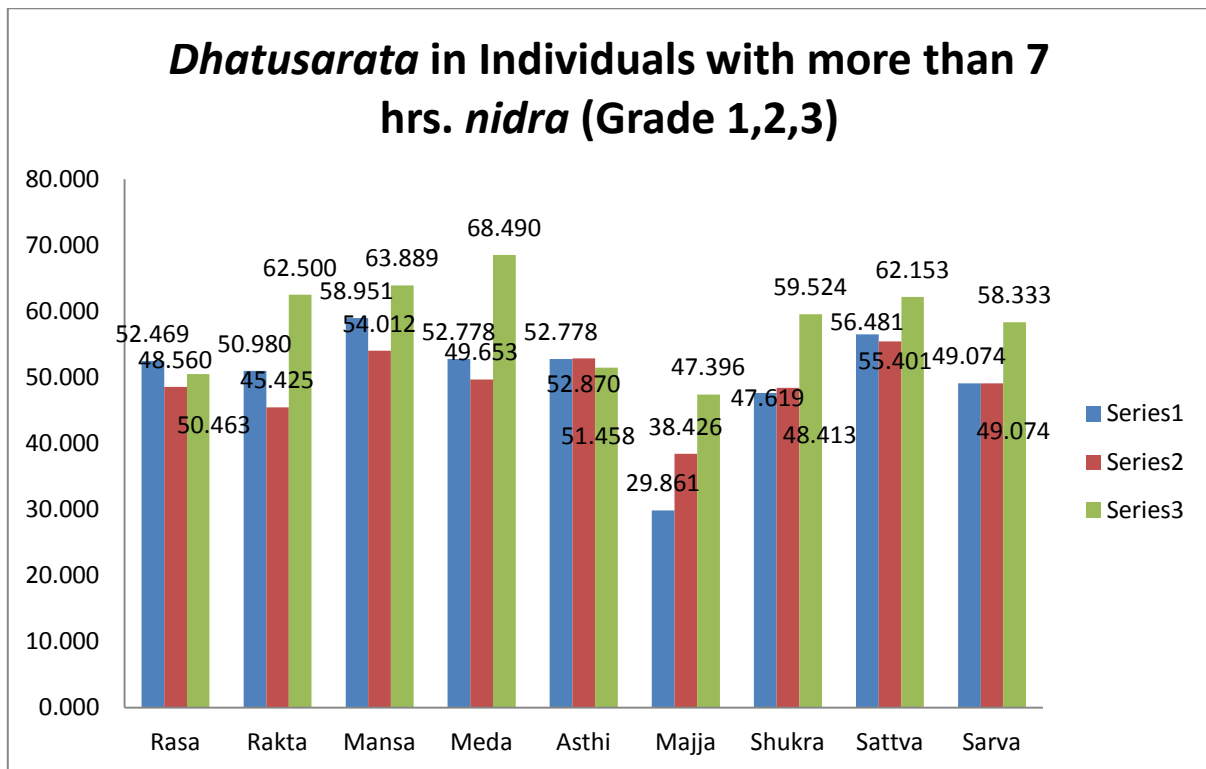
The above chart reveals that as the number of hours of *nidra* was increased (*ati yoga* of *nidra*), average of each *sara* also got increased. As the number of hours of *nidra* were increased, *medasara* was affected the most followed by *satvasara* and by *mamsasara.*
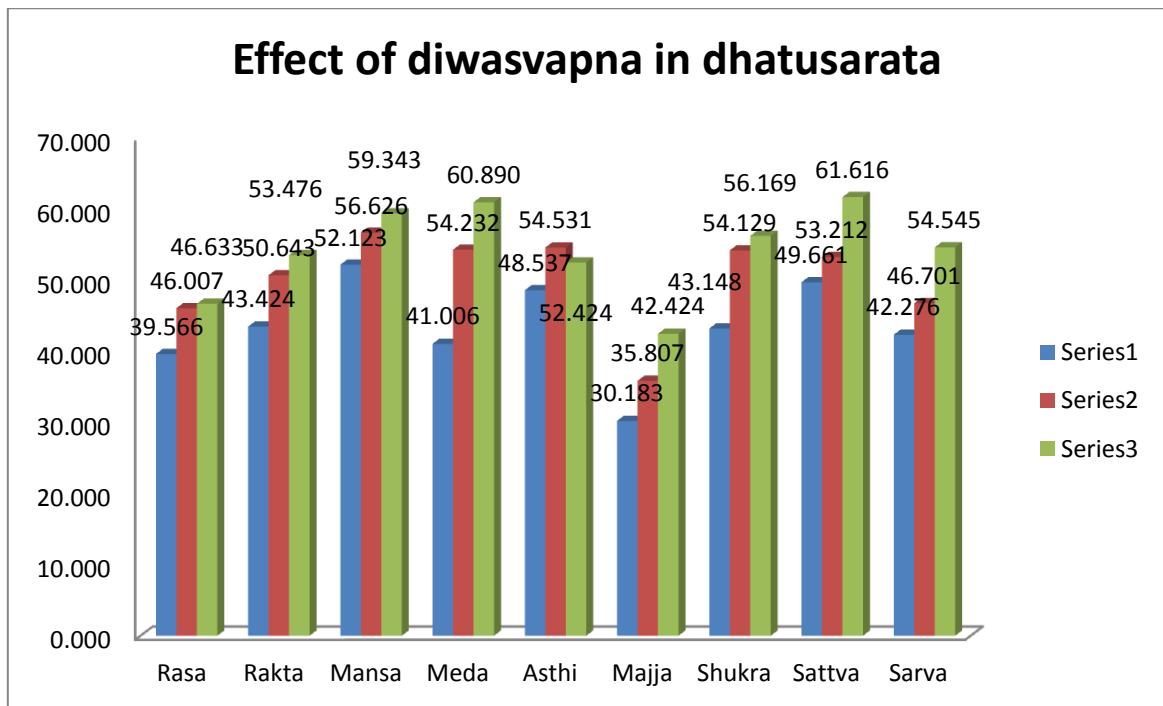
➢ *Khandita nidra*

Graph no.3

Effect of *khandita nidra* in *dhatusarata*
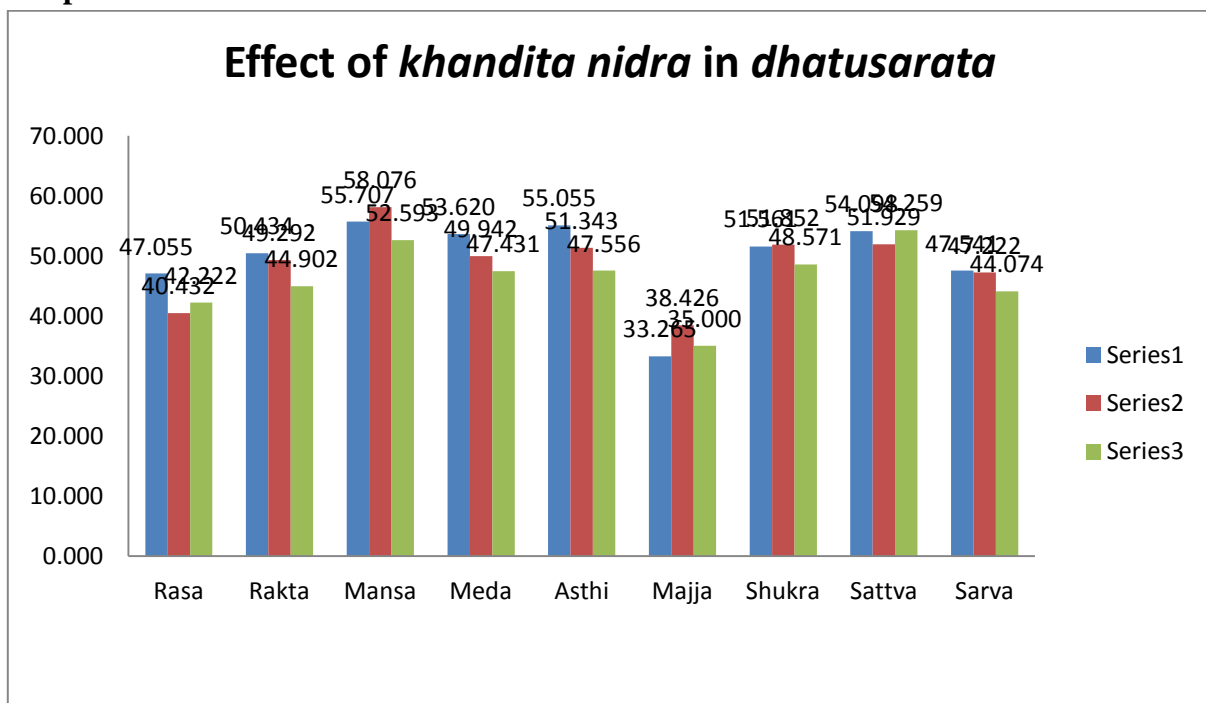
As the *nidra* quality i.e *khandita nidra* increases, *sarata* gets affected. This can be properly understood by seeing the graphs of *rasa, meda, asthi, shukra* and *sarvasara.*

➢ *Diwasvapna*

Graph no.4

Effect of diwasvapna in dhatusarata

In this graph, as the *nidra* increased in day hours, *sarata* got affected. Significant change was seen in *satvasara* followed by *medasara* followed by *mamsasara* which went along with the principles mentioned in the *samhitas* that *nidra* in daytime affected the *satva* of a person and increased the *meda dhatu*.

➤ *Jagrana*

Graph no.5

Effect of *jagrana* in *dhatusarata*
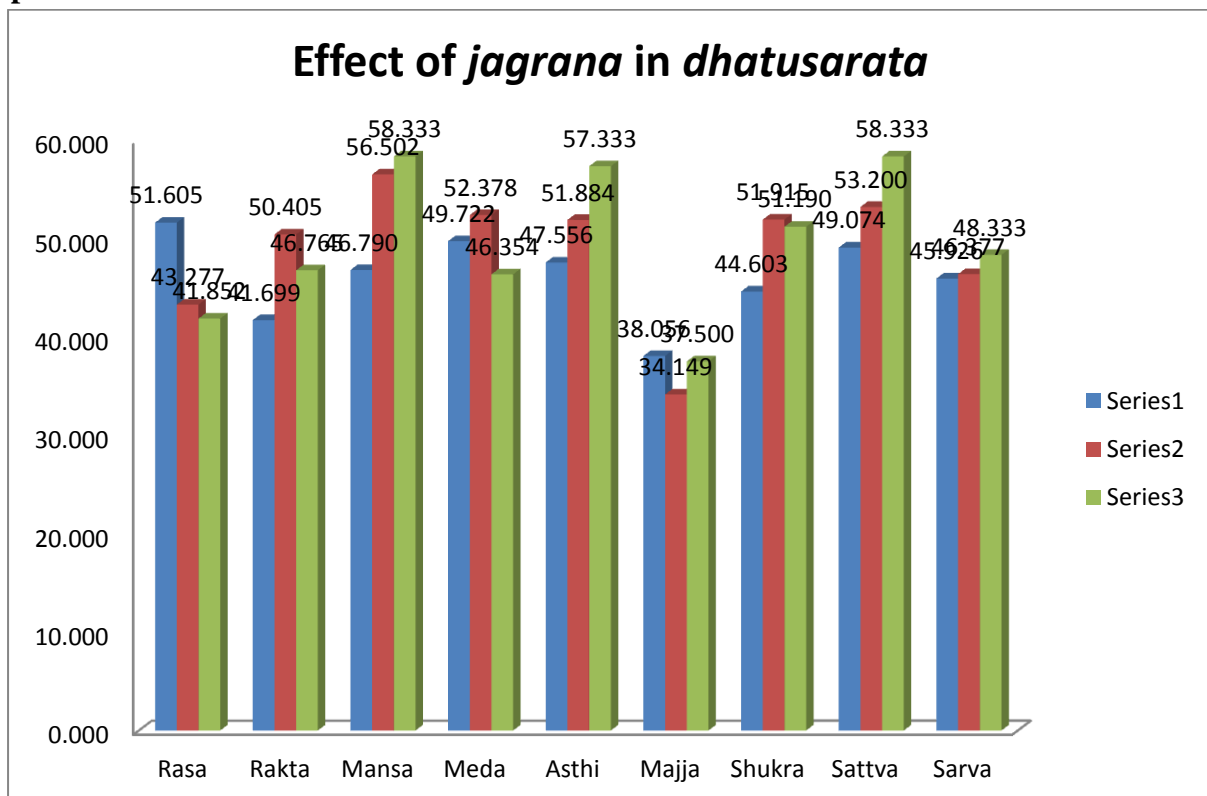
It was seen that as *jagrana* was increased, *sarata* was getting affected. Though a specific conclusion could not be made out from this graph but *rasasara*, *medasara* and *majja sara* were showing the results in our favour. It was found that in all these three *saras*, average of the first grade was much better than the average of the third grade which proves that as the number of hours of awakening increase, *sarata* gets affected.

CONCLUSION

It was concluded from the study that-

- *Nidra* and *dhatusarata* are closely associated.
- Every form of *nidra viparyaya* affects *sarata* of one *dhatu* or the other, thus making it one of the major *hetus* for *vyadhis*.
- *Rasadhatu sarata* is affected in every form of *nidra viparyaya*. This is highly significant as it is likely to affect other *dhatus* as well.
- In every form, as the severity *of nidra viparyaya* increases, the severity of disturbance in *dhatusarata* also increases.
- *Heena yoga* of *nidra* affects *rasa, asthi* and *satvasarata* more than other *dhatus*.
- *Ati yoga* of *nidra* leads to nourishment of *snigdha dhatus*, especially *mamsa, meda*, *rakta* and *rasa*. The trend of increasing *dhatus* would continue into *dhatu vruddhi* as the severity of *ati-nidra* increase.
- In *mithya yoga*
    - *Khandita nidra* leads to variation in *asthi, rasa, rakta* and *majjasara*.
    - *Diwasvapna* is a known cause of *kapha* and *pitta prakopa* which leads to *meda, majja, shukra* and *satvasara* vitiation.

Jagarana has been found to be affecting the *rasa, majja, asthi* and *satvasarata* significantly. It also leads to *sarva dhatu kshaya*.

This paper is an attempt to show the correlation between *dhatusarata* and *hetus* related to *nidra* but there are some other factors, apart from hetus related to *nidra* which affects *dhatusarata* like *ahara vidhi* i.e.*samashana, adhyashana, vishamashana* etc.; *guna sevana* i.e. *ruksha, snigdha, laghu* etc; *rasa sevana* i.e.*madhura, amla, lavana* etc., type of diet i.e.vegetarian and non vegetarian diet; *vihara* i.e. *vyayama* or *chankramana*; *vyasana* i.e.coffee, tea, smoking etc; *manasika hetu* i.e. *krodha, shoka, chinta* etc. So further study is required to show the effect of *sharirika* and *manasika bhavas* on *dhatusarata.*.

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