



STUDY OF *SHUKRA DHATU SARATA-ASARATA* IN FEMALES WITH RESPECT TO OVULATION PERIOD

Ayurveda

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ABSTRACT

The basic principles of *Ayurveda* provide a foundation for the maintenance of health. Human body has seven *Dhatu* and is composed of microscopic cells. Though all these *Dhatu* have their specific location in the body, however seventh *Dhatu Shukra* are present in each and every cell. In *Ayurveda*, there is well described about *Shukradhatu Sarata* which is responsible for production of new generation.

Aims and objectives: To study of *Shukra Dhatu Sarata-Asarata* in females with respect to ovulation period and compare the ovulation period in *Shukra Dhatu Sara* and *Asara* females group.

Methods: ethical committee approval and subjects consent obtained. Random Selection of 60 individuals and categorized into 2 groups - *Shukradhatu Sarata* (30 individual), and *Shukradhatu Asarata* (30 individual) with the help of proforma as described in MUHS. Ovulation prediction kits are used for determination of ovulation period in every month upto 6 month.

Observation and results: Comparison between *Shukradhatu Sarata* and *Asarata* group in 1-5 month was statistically significant (p-value 0.038) and 1-6 month was statistically highly significant (p-value 0.006) that means *Shukradhatu Sarata* and *Asarata* group has strong relation with ovulation period.

Conclusion: If we improve the quality of *Shukradhatu* can improve the health and status of reproductive system.

KEYWORDS

Sarata-Asarata, ovulation period, sex hormone, Artava.

INTRODUCTION

Basically "*Shukradhatu*" is the seventh *Dhatu* of our body and the other six *Dhatu*s are responsible for creating the raw material for "*Shukradhatu*" by the chain of metabolic transformations.^[1] Therefore, all the previous *Dhatu*s should be of good quality and quantity for healthy formation of the "*Shukra dhatu*".^[2] The supreme quality of *Dhatu* and superb function aspect is *Sara*.^[3] *Dhatu* have same set of function in every individual, but quality and richness of function may vary from person to person which is decided by *Sarata* of individual *Dhatu*.^[4]

Type of *Sara* according to strength^[5]:-

a) Pravara Sara b) Madhyam Sara c) Avar Sara / Asara
Pravar Sara is the essence of all *Dhatu*, having great respect, positive attitude towards everything, capacity to with stand and longevity of life. *Madhyam Sara* such individuals having excellence of these *Dhatu* of moderate nature are possessed of respective qualities in moderate intensity. Individuals having less or minimum of above mentioned characteristic of different *Sara* are said to be *Asara*.

The importance of *Shukradhatu Sarata* for sustenance of life along with its earlier enumerated functions and presence in the both sexes, it seems to be description of entire endocrine orchestra specially Hypothalamic-Pituitary axis. It can also be equated with Prostaglandins, since these are also present in every cell and play important role in reproduction. In women the status of *Shukradhatu* is responsible for regulation of menstrual cycle and formation of ovum as part of the monthly cycle. The menstrual cycle is one of the main phenomenon's occurring in female. Each cycle takes about a month and involves both oogenesis and preparation of uterus to receive fertilized ovum.^[6] According to *Ayurveda Rituchakra* (menstrual cycle) is cyclical process spread over a period of thirty days.^[7] The period extending from the beginning of *Artava* (menses) to the beginning of the next one is called *Rituchakra*. *Rituchakra* is divided in 3 groups i.e. *Rajah-srava*, *Ritu-kala* and *Ritu-vyitakala*. *Ritu-kala* denotes proliferative phase including ovulation.^[8]

According to modern science, Ovulation is the process by which the Graafian follicle ruptures with consequent discharge of ovum into the abdominal cavity and it is influenced by luteinizing hormone. Ovulation occurs on 14th day of menstrual cycle in a normal cycle of 28 days.^[9] Ovulation period may not be the same in every woman. This period may be varying in person to person according to *Shukradhatu Sarata-Asarata*.

Shukra Dhatu Sarata -

According to *Charaka*; gentleness, gentle look, milky white sclera,

good sexual capacity, unctuous round, firm, even and compact teeth and have pleasant and unctuous complexion and voice. These people are lustrous and have prominence of gluteus region should be known as *Shukra Sara*. They are liked by women for enjoyment and have strength happiness supremacy health wealth respect and good progeny.^[10] According to *Sushruta*; *Shukra Sara* person is known to possess unctuous compact and white bone teeth and nail and has excessive sexual desire and children.^[11]

AIMS AND OBJECTIVES

1. Study of *Shukra Dhatu Sarata-Asarata* in females with respect to Ovulation Period.
2. Comparative study of ovulation period in *Shukra Dhatu Sara* and *Shukra Dhatu Asara* females.

MATERIALS AND METHODS

Study Design: Observational study

Inclusion criteria

1. 60 females will be selected between the age group 20 to 30 year.
2. Only unmarried females.
3. Those who are not under any type of long medical treatment.

Exclusion criteria

1. Having congenital anomalies.
2. Using Oral Contraceptive Pills or any other hormonal treatment.
3. Addiction of alcohol, smoking etc.
4. Having local disease (eg. vaginitis, cervical erosion, leucorrhoea etc.).
5. *Madhyam Shukra Dhatu Sara* females.

METHODS

Selection of individuals was done according to inclusive and exclusive criteria. After the selection of 60 samples, *Shukra Dhatu Sarata-Asarata* assessed with the help of proforma as described in MUHS. It determined on the basis of obtained scores as in proforma i.e. for each correct feature given one mark.

Persons having greater than or equal to 65 % scoring for *Sarata-Asarta* considered as of *Pravara Sara* and having scoring 35% to 64 % considered as *Madhyam Sara* and having less than or equal to 34 % considered as *Avara Sara*.

On the basis of *Shukradhatu Sarata* were categorized into 2 groups-

- *Shukradhatu Sarata* (30 individual),
- *Shukradhatu Asarata* (30 individual).

Only those individuals were taken who has their normal and regular menstrual cycle for ovulation study. Ovulation prediction kits are used for determination of ovulation period in every month upto 6 month.^[12]

OBSERVATION AND RESULTS

Observations and results Summarized as follows:-

Table No. 1. Comparison of ovulation period in Shukradhatu Sarata and Asarata group at different time periods.

Follow up	Sarata		Asarata	
	Mean	SD	Mean	SD
1 st month	14.83	0.53	14.26	3.17
2 nd month	14.8	0.6	14.56	2.76
3 rd month	14.8	0.46	14.36	2.78
4 th month	14.7	0.46	14.83	2.86
5 th month	14.63	0.49	14.63	2.96
6 th month	14.56	0.57	15.26	2.72
F-value	1.620		2.3534	
p-value	0.158,NS		0.0435,S	

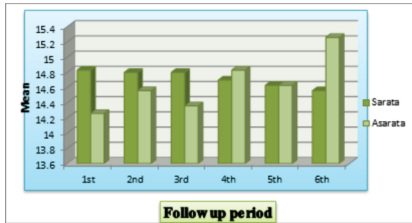


Figure no.1: comparison of ovulation period in Shukradhatu Sarata and Asarata group at different time periods.

Table No. 2. Multiple comparisons of changes in ovulation period in Shukradhatu Sarata and Asarata group -

Multiple comparison	Sarata		Asarata	
	Mean difference	p-value	Mean difference	p-value
1-2 month	0.03	0.402,NS	0.30	0.745,NS
1-3 month	0.03	0.735,NS	0.10	0.787,NS
1-4 month	0.133	0.176,NS	0.567	0.255,NS
1-5 month	0.200	0.170,NS	0.367	0.110,NS
1-6 month	0.267	0.030,S	1.000	0.009,HS

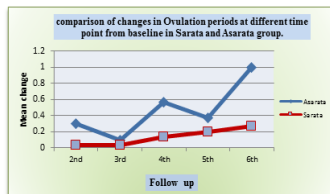


Figure no.2: multiple comparisons of changes in ovulation period in Shukradhatu Sarata and Asarata group.

Table No. 3. Comparison of changes of ovulation period at different follow up period from 1 month between Shukradhatu Sarata and Asarata :-

Multiple comparison	Sarata (mean± SD)	Asarata (mean± SD)	Z-value	p-value
1-2 month	0.03± 0.55	0.30± 1.93	1.587	0.1126,NS
1-3 month	0.03 ± 0.67	0.10± 1.60	0.086	0.9316,NS
1-4 month	0.13± 0.62	0.56± 2.23	1.610	0.1074,NS
1-5 month	0.20± 0.66	0.36 ± 1.42	2.147	0.038,S
1-6 month	0.26± 0.52	1.00±2.39	3.426	0.006,HS

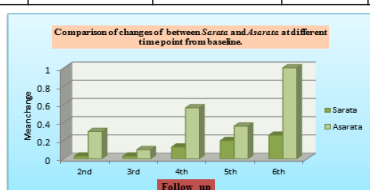


Figure no.3: comparison of changes of ovulation period at different follow up period from 1 month between Shukradhatu Sarata and Asarata.

STATISTICAL ANALYSIS

- In table no. 1, on comparing mean of ovulation period at different time period on applying repeated measures one way ANOVA test. Mean ovulation period found statistically non-significant (F-value 1.620, p-value 0.158) between 1st month to 6th month in *Shukradhatu Sarata* group and mean ovulation period found statistically significant (F-value 2.3534, p-value 0.0435) between 1st month to 6th month in *Shukradhatu Asarata* group.
- In table no. 2, multiple comparisons of changes in ovulation period with the help of Wilcoxon sign rank test. Multiple comparisons between 1-2, 1-3, 1-4, 1-5 month was statistically non significant but 1-6 month was statistically significant (p-value 0.030) in *Shukradhatu Sarata* group and multiple comparisons between 1-2, 1-3, 1-4, 1-5 month was statistically non significant but 1-6 month was statistically highly significant (p-value 0.009) in *Shukradhatu Asarata* group.
- In table no. 3, on comparison of changes of ovulation period at different follow up period from 1 month between *Shukradhatu Sarata* and *Asarata* with the help of Mann Whitney U test (Wilcoxon rank sum test). Comparison between *Shukradhatu Sarata* and *Asarata* group in 1-2, 1-3, 1-4 month was statistically non significant, 1-5 month was statistically significant (p-value 0.038) and 1-6 month was statistically highly significant (p-value 0.006) that means *Shukradhatu Sarata* and *Asarata* group has strong relation with ovulation period.

DISCUSSION

From observations and statistical analysis we found that *Shukradhatu Asarata* group has more variation in ovulation period in comparison to *Shukradhatu Sarata* group. We found *Shukradhatu Sarata* group has more regular menstrual cycle and ovulation period in comparison to *Shukradhatu Asarata* group. It may be because of in *Shukradhatu Sarata* group, *Shukradhatu* having supreme quality and superb function.^[6] The individuals having the excellence of *Shukradhatu* enjoy with all qualities described in characteristics of *Shukrasara*.^[11,12] They never face the problem of *Shukradusti*. *Shukraasara* (not having excellence of *Shukradhatu*) persons are prone to develop the infertility. Deficiency or vitiation of *Shukradhatu* directly affect on the reproduction hence vitiation of *Shukradhatu* should be avoided. So it is important entity for the sustenance, nourishment & especially for reproduction.

CONCLUSIONS

One of the major function of *Shukra Dhatu* as described in *Ayurveda* is reproduction. The quality of *Shukra Dhatu* that means *Shukradhatu Sarata - Asarata* has strong relation with Ovulation period which prove that the health of reproductive system has strong relation with *Shukradhatu Sarata- Asarata*. If we improve the quality of *Shukradhatu* can improve the health and status of reproductive system. It stabilizes the principle of *Dhatu Sarata-Asarata* described in *Ayurveda*.

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