AN OBSERVATIONAL STUDY OF SHUDDHA AARTAVA LAKSHANA

Vd. Khan Rohee Wadoodkhan
Assistant Professor, Kriya Shareer Dept., Yashwantrao Chavan Ayurved Medical College, Nipani-bhalgaon, Aurangabad, Maharashtra, India

ABSTRACT

Ancient authorities dealt with female physiology but their approach was different. As title of this research project indicates, it is an observational study for revalidation of shuddha aartava characteristics. It is a survey which has descriptive type of observational study design. Here, aartava is considered as menstrual discharge. How to understand that menstrual discharge is non vitiated by doshas/it is pure / normal? Answer is given by aacharyas as—shuddha aartava characteristics. They told it, when one has to differentiate between abnormal and normal menstrual discharge. Aim is to study shuddha aartava characteristics. Study design includes Literature study and Observational study. Study was done for shuddha aartava characteristics from available ayurvedic literature and modern science, if any. Data was collected with the help of questionnaire from 96 apparently healthy females of age group 18-35 years. Shuddhata is assessed by assessment criteria qualitatively. Physiological parameter for shuddha aartava quantity in total number of sanitary pads used in a menstrual cycle was evaluated by range and confidence interval is evaluated.

Keywords: shuddha, aartava, menstruation

INTRODUCTION

Type of research-
It is a survey which has descriptive type of observational study design.

Need and purpose of study-
1. Its objective is to evaluate the quantity of shuddha aartava in total number of sanitary pads used in a menstrual cycle, after assessment of shuddha aartava by assessment criteria.
2. Quantity of aartava is as important as interval between two menses, days of bleeding and other characteristics of shuddha aartava. Quantity of aartava mentioned by aacharyas is in anjali pramaan or mentioned as ‘neither in excess nor scanty’. To make it more convenient it can be counted in ‘total number of sanitary pads’ used in a menstrual cycle. This study is within the limits of physiology, to understand ‘what is normal’. It is easy to understand abnormality if one knows the normal. Qualities of shuddha aartav were studied as per ayurvedic parameter and quantity was not studied as per ayurvedic parameter.
3. Female is a root for the fetus. A healthy mother is a source for healthy progeny and thus healthy generation. Healthy body is a boon for day to day activities and not just for the purpose of reproduction. Monthly menstruation is like detoxification process for the body. Shuddha aartava is an indicator of good health of female body.
4. It had revalidated all possible characteristics of *shuddha aartava*, with the help of questionnaire, as it is a type of examination called as ‘Prashna Pariksha’. *Shuddha aartava* characteristics can be applicable and cost effective in comparison with costly investigations.

*Shuddha aartava* characteristics are-
Which discharges monthly, without sliminess, without burning sensation, without pain, discharges up to five nights, neither in excess nor scanty, whose color is like *gunjaphala*, red lotus, *aalakta*, *indragopa*, rabbit’s blood, liquid *lakh*, which does not stain cloth after washing with water.

Underlined words indicate quantity of *aartava*, which is neither in excess nor scanty. Except this quantity, remaining characteristics are considered as an assessment criteria for *shuddha aartava* qualitatively.

Answers of questions were collected, to evaluate the range and confidence interval for total number of sanitary pads used in a menstrual cycle.

**AIM**-
To study *shuddha aartava lakshana*.

**OBJECTIVES** -
1. To study *shuddha aartava* characteristics from available *ayurvedic* literature.
2. To study opinion of modern science related to menstrual cycle and characteristics of normal menstruation.
3. To collect data with the help of Questionnaire.
4. To decide *aartava* as *shuddha aartava* with assessment criteria.
5. To evaluate quantity of *shuddha aartava* in total number of sanitary pads used in a cycle.

As per study design literature study was done and data was collected under following main headings-

**Literature study** -
1. Previous work done important findings in previous work done are discussed in discussion later on.
2. *Aayurvedic* literature review
3. Modern literature review

*Aayurvedic* literature review

Then, what is *Shuddha aartava*?
It includes two words 1. *Shuddha* 2. *Aartava*

*Shuddha* means-
1. Pure 2. Non vitiated by *vaat* adi *doshas* and in its natural place.

‘Vitiates and nonvitiated by *vaataadi doshas*’, is very important and broad concept of *aayurveda*, on which physiology and pathology of *aayurveda* is based. Vitiates means makes less good or less effective. Natural or normal homeostatic state is disturbed in process of vitiation. General view for vitiation and nonvitiation is explained below:

When *dhaatavah* are not in physiological condition, they are not in balanced state with each other and such condition gives rise to diseases. When they are in perfect balance with each other, it is health. When one feels comfortable, it is health. Any feeling of unwell being leads to diseases. *Doshaah* remain in two conditions in body- physiological and pathological.

Vitiating *doshaah* when circulate in whole body, unite with deficient entities of body and produce disease. All body entities necessarily are liable to originate only in *strotas* and become deficient in *strotas*. Diseases are principally due to vitiated *doshaah*. *Doshaah* in homeostatic condition keep an individual healthy.

*Doshaah* amongst all body constituents have the quality of vitiating each other as well as other body constituents. When *aartava* gets vitiated by *doshaah*, it will be unhealthy condition or pathology, called as *aartava dushti*. When *aartava* is non vitiated by *doshaah*, it is pure
and physiological condition where *dosaah* are in their homeostatic state i.e. *shuddha*.

**Phases of menstruation & influence of doshas**

Menstruation is a cyclical process spread over a period of month. The period can be divided into 3 phases according to physiological changes taking place in the body\(^\text{16}\).

The phases can be-
1. *Ritukaala*
2. *Rutaavateet kaala*
3. *Rajahkaala*

**Focusing on third phase:**

3. *Rajahkaala*\(^\text{16}\):

**Duration of phase:**

This phase is present for 3 or 5 or 7 days according to *Vagbhat*\(^\text{8}\), *Charak*\(^\text{4}\) and *Haarit*\(^\text{7}\) respectively.

**Menstrual Discharge:**

The discharge is similar to colour of *gunjaphala*, *padma*, *aalakta*, *indragopa*, liquid *lakh*, rabbit’s blood. Or slightly blackish red. It has typical odour and it does not stain the cloth after washing with water.

**Amount of menstrual fluid:**

Amount of *aartava* is 4 *anjali* or the amount is neither in excess nor scanty\(^\text{4}\).

**Main doshas working in this phase**-

This phase is mainly influenced by physiological/ non vitiated *vaata*, named *apaana*\(^\text{28}\).*Menstrual cycle is governed by 3 *doshas*, *kapha*, *pitta* and *vaata*. *Rasa*, *rakta* and *dhamani* plays the role of medium respectively. Normal condition of these entities causes normal menstrual cycle.

**What characteristics the shuddha aartava has:**

*Aartava* –

Which discharges monthly
Which is without sliminess
Without burning sensation
Without pain
Discharges upto five nights

Neither in excess nor scanty
Whose color is like *gunjaphala*, red lotus, *aalakta*, *indragopa*.

These are the main characteristics described under the heading of —*Shuddha Aartava*, in *Charaka Samhita*. It is the work of Redactor *Aacharya Drudhabala*. As *Charaka Chikitsa sthan* 30 is *sampurita* by *Drudhabala*. Related to these characteristics, opinion of other *aacharyas* is taken into consideration. These are: The *aartava* which is like rabbit’s blood or like liquid *lakh*, which does not stain cloth after washing with water or it leaves redness (*lauhityam*) when it's stain on cloth is washed with water. Again, the colour of normal *aartava* should be *ishat krushna lohit* or *ishat krushna raka* i.e. slightly blackish red. Smell of normal *aartava* should be *vigandha* i.e. *vishishta gandha*\(^\text{8}\).

**Terminology**

1) **What is *maasa***?\(^\text{16}\)

*Maasa* means *chandra*/moon. *Maasa* is lunar month or *chandramaasa*. It can be of 28-30 days.

2) **What is mean by *Nishpiccha***?

1. Slimy /
2. Viscid/
3. Adhesive.

*Paichhilya* means sliminess, in this context. It is included in *aatmarupa* of *kaphadosha*.\(^\text{31}\) This is used for secretion of a creature Snail or for describing plant’s gum, like shalmali-silk cotton tree gum. *Nishpiccha* lacks sliminess.

3) **What is *daaha***?

It can have following meanings-
1. Burning conflagration
2. Glowing redness
3. Sensation of burning / internal heat
4. Feverish/morbid heat

…..Sanskrit-English Dictionary
According to Chakrapani, Daaha means burning sensation in the whole body. It is an indication of pittvikaar. It is included in forty naanaatmaj pittavikaaras. Vitiated pitta only can cause daaha. Shudhha aartava discharge lacks daaha.

4) What is aarti?
It can have following meanings-
1. Pain
2. Sorrow ...sanskrit-english dictionary
Shool is included in aatmarup of vaatadosha. Shudhha aartava discharge lacks pain.

5) What is mean by panchraatraanubandhi?
Pancha means Five. Raatra means night and day. As in lunaar counting, night comes first. Anubandhi means related to / connected with. So, panchraatraanubandhi means connected with five days.

6) What is mean by gunjaphala?
It is a seed of Abrus precotorius. Out of its types blakish red gunjaa is considered here.

7) What is mean by padm?
Padma means red lotus flower. (See picture a and b)
Picture a is collected from: flora of kolharur district.
Picture b is collected from: internet as’red lotus’

8) What is mean by aalakta and lakshaarasa?
Aalakta is laksha or shellac, which is derived from an insect named Laccifera lacca. Colour derived from shellac is called aalakta or mahavar. Lakshaarasa is a solution/juice of shellac.

9) What is mean by Indragopa? (See picture a and b)
It is name of an insect called Cochineal. Its latin name is dactylopius coccus. Carmin dye is prepared from this insect. Female cochineal changes her color continuously after fertilization. Two pictures are collected as a and b. shades of red are related with female insect.
10) What is mean by Shashasruka\(^3\)?
It means rabbit’s blood.

Details of Shuddha Aartava Characteristics-
It can be studied under following heads-
A. Time duration-
1. Interval between two menses
2. Days of bleeding
B. Symptoms-
1. Pain
2. Burning sensation
3. Sliminess
C. Colour of aartava
D. Unstaining property of aartava
E. Gandha /Smell of aartava
F. Quantity of aartava.

A. Time duration-
1. Interval between two menses
2. Days of menstrual flow

1. Interval between two menses-
Ancient aacharyas have no debate on normal interval between two menses. It is considered of one lunar month i.e. of 28-30 days.

1. Days of menstrual flow-
Aacharyas have different opinions on duration of menstrual flow. If opinion of these aacharyas considered together, it can be 3 Or 5 or can be of 7 days. Maximum aacharyas considered it of 3days\(^{16,30}\).

B. Symptoms\(^4\)-
1. Pain
2. Burning sensation
3. Sliminess
Menstruation is a normal physiological condition in females, like micturation and defecation. Shuddha aartava lacks pain, burning sensation in whole body while expulsion and sliminess. These Symptoms are considered abnormal, if associated with menstrual flow. These symptoms indicate vitiated condition of doshas.

C. Colour of aartava\(^8\)-
Gunjaphala, padma, aalakta, indragopa, shasaasruk, are drushtantas or examples to understand the color of aartava. But exact colour and reasoning behind it, is told is ishat krushna\(^8\) i.e. slightly blackish colour of aartava is due to its contact with prakrutishta preraka pavana i.e. normal vaata dosha working at site of garbhashaya.

According to site of vaata, type of vaata working at garbhakoshtha is named apaan vaata. This aartava is not in a motion like blood; it accumulates in garbhakoshtha and then flows out, so it comes in contact with unvitiated vaata, so it gets a blakish shed. It is a slight shed and not completely dark, as due to vitiated vaata.

D. Unstaining property of aartava\(^3\)
The normal healthy aartava has a property that, when its stain, is washed with water, does not leaves redness or it removes with water. It means aartava gets dissolved in water.

E. Gandha /Smell of aartava\(^8\)
Gandha /Smell of aartava is an unusual, typical smell which is due to normal pittadosha and not due to vitiated pittadosha. Its characteristic smell and colour indicates domination of teja as well as prithvi mahabhutas, among the five mahabhutas.

F. Quantity of aartava
Quantity of menstrual fluid should not be in excess or scanty\(^4\), as per individual female is considered. Another opinion is, aartava has four anjali pramana\(^29\).

**What is mean by anjali pramana?**

It is a parameter for measurement of liquid or fluid. Anjali is the quantity of liquid hold in the hollow when both palms are hold together. It is indicative of slight variation in quantity of the fluid from one person to another. So these quantities are not very accurate.

**METHODOLOGY**

Plan of work- Volunteers- 96 sample size.

Exclusion criteria:
- Anartavata
- Under any type of medications e.g. contraceptive pills
- With known H/O any major illness related to aartav vaha strotas
- H/O operative procedure related to aartav vaha strotas.
- Non co-operative females

Inclusion criteria: Females of age group 18-35 years

**Assessment criteria:**

A) Time duration-
   1) Interval between two menses- 28+2days
   2) Days of bleeding- 3 to 7days

B) Symptoms-
   1) Pain- no
   2) Burning sensation-no,
   3) Sliminess-no

C) Colour of aartava-R2/R5/R6/R7
   - R\(_1\) - red, R\(_2\) - slightly blakish red, R\(_3\) - blackish red, R\(_4\) - black, R\(_5\) - gunjaphala, R\(_6\) - padm, R\(_7\) - indragops

D) Unstaining property of aartava- present
   Shuddha aartava- present / absent

E) Total number of sanitary pads-…. +spotting

**Flow chart**

- Literature study was done
- Volunteers were screened as per inclusion and exclusion criteria
- Two menstrual cycles were observed and answers were recorded in third cycle
- Assessment of shuddha aartava was done by assessment criteria
- Collected data was analyzed statistically
- Quantity of shuddha aartava was measured in number of sanitary pads used in a menstrual cycle
- Conclusion was drawn.
Statistical analysis:
1. It has been done by calculating range for quantity of *shuddha aartava* in number of sanitary pads used in a menstrual cycle
2. It has been done by calculating confidence interval.
   - For days of bleeding
   - For total number of sanitary pads used in a cycle

Observations:
Table 1: Frequency distribution of volunteers according to Interval between two menses:

<table>
<thead>
<tr>
<th>Interval</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>02</td>
<td>2.1</td>
</tr>
<tr>
<td>29</td>
<td>79</td>
<td>82.3</td>
</tr>
<tr>
<td>30</td>
<td>15</td>
<td>15.6</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2: Frequency distribution of volunteers according to days of bleeding:

<table>
<thead>
<tr>
<th>Days</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>35</td>
<td>36.5</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
<td>29.2</td>
</tr>
<tr>
<td>5</td>
<td>33</td>
<td>34.2</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3: Frequency distribution of volunteers according to colour of *shuddha aartava*:

<table>
<thead>
<tr>
<th>Colour</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>R2</td>
<td>96</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4: Cross tabulation of volunteers according to Days & Number of pads

<table>
<thead>
<tr>
<th>Days</th>
<th>Number of Pads</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 Pads</td>
<td>4 Pads</td>
</tr>
<tr>
<td>3 Days</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>4 Days</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>5 Days</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>68</td>
</tr>
</tbody>
</table>

Interpretation: Total 35 females used 3 to 5 pads in 3 days, with max 4 pads. Total 28 females used 4 to 5 pads in 4 days, with max 4 pads; Total 33 females used 4 to 5 pads with max 5 pads. No female used 3 pads in 4 and 5 days.
DISCUSSION

• On previous work done
• On ayurvedic literature study
• On modern literature study
• On statistical analysis and results
• On problems while conducting survey

On previous work done - A study of aartava pravritti in post tubectomy women 2013-2014, from Tilak Ayurved College, Pune, Maharashtra, concludes—There is relation between ovum and menstrual flow, as if there is cessation of ovum, the menstruation is also affected.

On ayurvedic literature study—
According to kashyapa 20 female shonita and male shukra get complete maturity (purnata) for their functions, up to 16 yrs. But due to different food habits (aahaarvisheshata) and healthy conditions (aarogyaat), this maturation can occur earlier. It means that, slight variations in menarche age can occur due to different food habits 20.

1. Aartava is an updhaatu particularly expressed in female body. 8,9,2
2. It is formed as updhaatu when rasadhaatu is formed.
3. It has its own strotas and agni should be considered there as aartava updhatwagni. 17
4. The term Aartava is coming from the word Ritu, which indicates its connection with time period and cyclical nature. As in nature, seasons get repeated after particular time period and in cyclical manner. In the same way, particular physiology repeats in female’s body 18, 23
5. The word ‘Aartava’ can be used for a Flower, which arises in its natural season and can give birth to Fruit, decided naturally. In its own season, it is full of its all properties like color, smell 18…..so, word ‘aartava’, can be used for menstrual fluid & streebeeja. Wherever word aartava is used to describe menstrual flow, it should be understand that menstrual flow is an indicator of ovum. It means it is outward expression of ovum, which is not to be seen with naked eyes.
6. Problems related to female’s health are observed to be present from ancient times so treatments are observed in aayurved literature 3.
Reference of shuddha aartava lakshana found here 3.

7. The sharirbhava produced in body vary person to person, their variation should be within physiological limits.
e.g. mootra produced in body varies person to person in its quantity, but logically answered quantity is 4 anjali. shuddha aartava should have a convenient parameter for its quantity.
Characteristics of shuddha aartava are one of the basic concepts of aayurveda but in modern literature normal menstruation is mentioned with slight variations by different authors.
Some of them are as follows 13, 22-

• Dictionary meaning of word ‘menstrual’ is ‘monthly’ 22.
• ‘Menstruation’ means ‘menstrual fluid or discharge’ 22.
• Reproductive years of adult female accepted are- 13 to 46 yrs 6
• First menstruation is termed as ‘menarche’ 5, 6
• Menarche age ranges from 11 to 15 yrs, with an average of 13yrs. 5

Table 5: Frequency distribution of volunteers according to presence of shuddha aartava –

<table>
<thead>
<tr>
<th>Shuddha Aartava</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>96</td>
<td>100</td>
</tr>
</tbody>
</table>
Cycle of 20,21,40,45 days is considered normal.5, 6 (Ayurved says of 28-30 days i.e. a chandramas.)16
Per cycle duration of menstruation is of 4-5 days.5,6,10
Estimated amount of blood loss is 40ml + serous fluid 35ml= total 75 ml Menstrual fluid.6
Color of menstrual fluid is like ‘dark-altered-blood’, which is not like normal blood flowing through arteries.5

Discussion about assessment criteria-
While assessment of shuddha aartava,
A1. Interval between two menses observed is of 28-30 days i.e. a maasa or a lunar month. 2% females were with 28 days interval between two menses, 82% were with 29 days cycle, 16% were with 30 days of cycle. With other shuddha aartava characteristics in assessment criteria.
A2. Days of bleeding observed were 3 to 5 days, with other shuddha aartava characteristics in assessment criteria. Menstruation upto 7 days had not observed.
B1. Any Pain, only during menstruation had not observed. Other shuddha aartava characteristics in assessment criteria were present.
B2. Burning sensation in body, only during menstruation had not observed. Other shuddha aartava characteristics in assessment criteria were present.
B3. Sliminess to flow of menstruation had not observed. Other shuddha aartava characteristics in assessment criteria were present.
C. A stage of female indragopa is matching with ishat krushna color.. It is noted here as a vaidya samvedya lakshana’..

D. Unstaining property of shuddha aartava- On the basis of experience in third month of observation, unstaining of aartava after washing with water when it stained on cloth has been observed. Cloth was immediately washed by females after staining. Other shuddha aartava characteristics in assessment criteria were observed to be present in them. Unstaining indicates nonvitiation of aartava by dosha.
On observation, statistical analysis and results-
This part of discussion is based on-
a. Collected data, Demographic data-
1. Age 2. Marital status 3. occupation
b. Assessment criteria c. Observed data
3. On the basis of statistical analysis-
a) Range of sanitary pads used in a menstrual cycle
b) Confidence interval(CI) for days of bleeding
c) CI for total no. of sanitary pads used in a cycle.
3. On the basis of results -
Discussion on observation and results in 96 females-
As per cross tabulation graph in statistical analysis-
Observations show that, as days of bleeding are important, quantity is also important.
3 Days of bleeding does not mean that quantity of aartava is less or 5 days of bleeding does not mean that quantity is more.
3 Days of bleeding can require 4 pads, 4 days of bleeding can require 4 pads, and 5 days of bleeding can require 4 pads.
A/c to aayurveda aartavpravritti is as normal as micturation and defecation but it is not included in ‘vega’. Aartava cannot be hold as vega.
In these 3 processes apan vat is in function.
Speed of normal apna vay is responsible for expulsion of endometrial lining.

It can have slight variation from female to female. This slight variation can be calculated by confidence interval and it will also give population mean.

So, for 95% confidence interval, days of bleeding are of 4 days and total number of sanitary pads used in a menstrual cycle of shuddha aartava is 4pads.

Range for sanitary pads used in a menstrual cycle when aartava is shuddha is 3pads to 5pads.

CONCLUSION

- Range for sanitary pads used in a menstrual cycle when aartava is shuddha is 3pads to 5pads.
- Females will need to use 4 Pads, when shuddha aartava was observed to be present in them, in a menstrual cycle. So, quantity of shuddha aartava in total number of sanitary pads used in a cycle is 4 Pads. It is by confidence interval.

REFERENCES

11. Krushnachandra chunekear, Bhavaprakash nighantu, chaukhamba bharati academy, 2001, pg.113
12. Lakshmipati, Yogratinakar, Chaukhamba Sanskrit Sansthana, Varanasi, 2004, Pg 82,397
13. M. Monier Williams, A Dictionary English Sanskrit, Pg.495
14. Nandini Dhargalkar, Sharirkriya Vidnyaan, chaukhamba, part 1 and 2
16. Nirmala Joshi, Ayurvedic Concept in Gynecology, Chaukhamba Prakashan
17. Priyavat Sharma, Dalhana, Sushruta Samhita, Chaukhamba Vishwabharati, 2000, Pg 129
21. Taber’s cyclopedic medical dictionary 20th edition
24. VJ Thakkar, Ashtangasangraha, Kendriya Aayurved Evam Siddha Anusandhan Parishara, Dehli, 1991, Pg 426
29. Ghanekar, Sushrut, Sushrut Samhita Sharirasthan, 2/25-26, Meharchand Lachmandas Publication, New Delhi, 2010, pg no. 31

CORRESPONDING AUTHOR
Vd. Khan Rohee Wadoodkhan
Assistant Professor, Kriya Shareer Dept., Yashwantrao Chavan Ayurved Medical College, Nipani-Bhalgaon, Aurangabad, Maharashtra, India
Email: drruheekhan11@gmail.com

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