MATERIALS AND METHODS
Chapter 4

MATERIALS AND METHODS

Materials —
1) Different āyurvedika Samhitas
2) Various Articles in āyurvedika as well as Modern Medicine written on Khālitya and Pālitya by experts.
4) Various web sites on the internet for information on hair loss and premature graying of hair.
5) 300 volunteers for the case study.

Settings —
Areas in and around Nasik; including neighbouring districts.

Selection Criteria —
A) Inclusive criteria -
• Both male and female of age group 16-40 years and 40-55 years for Khālitya.
• Both male and female in the age group of 16-40 years for Pālitya.

B) Exclusive Criteria —
• Children upto 16 years and adults above 55 years for Khālitya.
• Children upto 16 years and adults above 40 years for Pālitya.
Patients complaining of Khālitya since a minimum period of one month and loosing more than 15-20 hair per day with gradual thinning of hair were selected.
For Pālītya the age at which graying was observed was given importance.

- Written consent was obtained from the patient.

C) Proforma –

A case paper which covered causes of Khālītya and Pālītya from āyurvedika as well as Modern Angle was prepared. It included various aspects of history taking such as Prakruti, āhāra, Agni, Sātmya, dēṣa, sārāsāratva, exercise, etc. Also a brief history regarding nature of illness, addiction and other relevant observation was considered in each case.

A case paper was prepared as follows:

Proforma - case paper

<table>
<thead>
<tr>
<th>Date</th>
<th>pt.no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>age</td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Phone No.</td>
<td>Religion</td>
</tr>
<tr>
<td>Sex</td>
<td>birth date (ritu)</td>
</tr>
<tr>
<td>Birth-Place (dēṣa)</td>
<td></td>
</tr>
</tbody>
</table>

Age group- (16-20) (21-30) (31-40) (41-55)

<table>
<thead>
<tr>
<th>Working in AC</th>
<th>Touring</th>
<th>Sedentary</th>
<th>Marketing</th>
<th>Shift</th>
<th>Stressful</th>
<th>Other</th>
</tr>
</thead>
</table>

Occupation-Nature

Working hours-

92
Place of work -

<table>
<thead>
<tr>
<th>Noisy</th>
<th>A/C</th>
<th>Related to Chemicals</th>
<th>Near heat</th>
<th>Two much sun</th>
<th>Little sun</th>
</tr>
</thead>
</table>

- Marital status -
- Socio economic condition -
- Present complaints -
- Past illness -

<table>
<thead>
<tr>
<th>Measles</th>
<th>Chicken Pox</th>
<th>jaundice</th>
<th>typhoid</th>
<th>pneumonia</th>
<th>High fever</th>
</tr>
</thead>
</table>

- Operative history -
- Delivery -
- Medication after delivery -
- Family history -

<table>
<thead>
<tr>
<th>Maternal (mātruja)</th>
<th>mother</th>
<th>Grand mother</th>
<th>Grand father</th>
<th>Uncles</th>
<th>Aunties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental (pitruja)</td>
<td>Father</td>
<td>Grand mother</td>
<td>Grand father</td>
<td>Uncles</td>
<td>Aunties</td>
</tr>
<tr>
<td>Brothers</td>
<td>sisters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Any other important history -

1] Vikruti parīkṣaṇa - Local signs -

- Abdomen - udara śūla
- nētra (eyes) - redness / yellowish -
- Mukha (Mouth) - i) jīvā (tongue) ii) Danta (teeth)
- Skin - rukṣa (dry) snigdha (oily)
- Hair - texture - rukṣa (dry) snigdha (oily)
- (Stools) mala pravrutti
- Urine quantity - burning micturation
Sweating- less normal excessive
M/H-
Joints (Arthritis)
Pulse (nadi)

II] Prakruti
III] Sāra dhātu/Asāra dhātu
IV] Sātmya /asatmya
V] Satva parīkṣaṇa- i) hīna ii) Madhayama iii) Uttama

VI] Dincharaya
Nasya
Oil application
Head bath- frequency

VII] Sleep
Sound sleep
(Sleep during daytime) divāsvapna
Dreams
Duration of sound sleep

VIII] āhāra
Breakfast time
Lunch time
Food taken in the evening time
Dinner time

XI] nidāna (etiology) & Samprāpti (pathogenesis)

Causes (Hētu) of ‘khālitya ’ and ‘pālitya’ through āyurvedika and modern angle.

References from āyurvedika texts.

Causes of Khālitya--
> dhūma (inhalation of smoke)
- atapa sāvana (exposure to sun)
- tuṣārāmbu kriḍā (swimming, often getting wet in the rain)
- ati svapna (excessive sleep)
- rātri jāgarana (sleeping late at night)
- utsvēda (tendency of excessive sweating)
- mānasika duhkha (tension/stress/sadness)
- purovāta (breeze from east, riding on vehicle without protection from the cool breeze)
- bāṣpanigraha (stop tears from flowing)
- rodana (crying for long time)
- atyambupāna (drinking excessive water)
- madyapāna (alcohol)
- kruumi (worms)
- vēgadhāraṇa (to stop the following urges)--
  - mūtra (urge to urinate)
  - puriṣa (urge to pass stools)
  - (retas/ ś ukra) Urge to have sex
  - apānavāyu
  - vamana (urge to emit)
  - kṣavathu (urge to sneeze)
  - udgāra (urge to belch)
  - jrumbhā (urge to yawn)
  - kṣudhā (hunger)
  - pipāsā (thirst)
  - bāṣpa flow of tears
  - nidrā (sleep)
- pariśramajanya śvāsa (increased breathing rate due to exertion)
- sleeping without pillow
- not taking a bath(head bath)
- not doing massage(head massage)
- inhaling foul smell
- āma
- Excessive speech (Bhāṣyādyai)
- dārunaka
- Hair fall causes due to asthivaha srotasa dushti--
  - over exercise
  - Trauma
Anger
➤ Dushta pratishaya
➤ Vitiation of pitta during pregnancy
➤ Not following rules after Nasya.

Causes (Hētu) of ‘khālītya ’ from Modern angle

### I] Infections

<table>
<thead>
<tr>
<th>No.</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>dermatophytosis</td>
</tr>
<tr>
<td>2</td>
<td>Spiro chaetal</td>
</tr>
<tr>
<td>3</td>
<td>Bacterial</td>
</tr>
<tr>
<td>4</td>
<td>Leprosy</td>
</tr>
<tr>
<td>5</td>
<td>Typhoid</td>
</tr>
<tr>
<td>6</td>
<td>T.B.(Koch’s infection)</td>
</tr>
<tr>
<td>7</td>
<td>Atopic dermatitis</td>
</tr>
<tr>
<td>8</td>
<td>Late secondary syphillis</td>
</tr>
<tr>
<td>9</td>
<td>Late tertiary syphillis</td>
</tr>
<tr>
<td>10</td>
<td>Folliculitis decalvans</td>
</tr>
<tr>
<td>11</td>
<td>Dissecting Folliculitis</td>
</tr>
<tr>
<td>12</td>
<td>Carbuncles</td>
</tr>
<tr>
<td>13</td>
<td>Dermatophytosis by zoophilic fungi</td>
</tr>
<tr>
<td>14</td>
<td>Viral- herpes zoster- recurrent herpes</td>
</tr>
<tr>
<td>15</td>
<td>Malaria</td>
</tr>
<tr>
<td>16</td>
<td>Pneumonia</td>
</tr>
<tr>
<td>17</td>
<td>Jaundice</td>
</tr>
<tr>
<td>18</td>
<td>Tinea capitis (fungal infections)</td>
</tr>
<tr>
<td>19</td>
<td>Pyoderma</td>
</tr>
<tr>
<td>20</td>
<td>Pediculosis (lice)</td>
</tr>
<tr>
<td>21</td>
<td>Seborrhoeic dermatitis (form of Dandruff)</td>
</tr>
</tbody>
</table>

### II] Drug induced

<table>
<thead>
<tr>
<th>No.</th>
<th>Drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>excessive thallium</td>
</tr>
<tr>
<td>23</td>
<td>excessive heparin</td>
</tr>
<tr>
<td>24</td>
<td>Cancer chemotherapeutic compounds</td>
</tr>
<tr>
<td>25</td>
<td>Hyper vitaminosis A &amp; D</td>
</tr>
<tr>
<td>26</td>
<td>Medications for hypertensions</td>
</tr>
</tbody>
</table>
27 Medication for arthritis
28 Strong antibiotics or prolonged use of antibiotics
29 Taking corticosteroids for more than 3 months
30 Antiepileptic medicines

III] Physical trauma
31 trichotillomania
32 scratching of neurodermatitis
33 mild trauma
34 short term hair traction
35 long term hair traction
36 severe physical trauma
37 using hair additions such as weaves and extensions
38 tying hair tightly like ponytails
39 over brushing / vigorous combing
40 excessive use of hair dryers
41 excessive use of hair curlers

IV] Endocrine
42 hypothyroidism
43 hyperthyroidism
44 hypo parathyroidism
45 hyper parathyroidism
46 hypopituitarism
47 androgens, oestrogen & progesterone variations
48 over abundance of male hormones
49 menopause
50 puberty
51 pregnancy
52 high levels of dihydro testosterone (DHT) in the hair

V] Diseases
53 cutaneous disease
54 discoid LE
55 pseudopelade
56 follicular lichen planus
57 destructive neoplasm
58 granulomas
59  Addison's disease
60  Hashimotos disease
61  Pernicious anemia
62  Acute febrile illness
63  Psoriasis
64  Eczema
65  Malabsorption syndrome
66  Irritable bowel syndromes
67  P C O D, Uterine fibroid
68  Minute tumors on hair follicles
69  SLE

VI] Injury
70  Burns
71  Chemical injury by caustics

VII] Chemicals related
72  Excessive use of chemical based shampoos
73  Excessive use of soaps
74  Excessive use of lotions
75  Use of hair dye
76  Use of bleaches
77  Exposing the head to industrial fumes
78  Chemicals and perfumes used for the preparation of hair oils, shampoos and soap

VIII] Dandruff causes leading to hair fall
79  Excessive use of hair spray
80  Climate — (dry)
81  Improper use of hair coloring agents
82  Dry indoor heating
83  Frequent washing of hair
84  Lack of rest
85  Excessive consumption of sugar, fat and starch
86  Improper nutrition
87  Hereditary predisposition
88  Excessive perspiration

98
89 Overactive oil glands, excessive sebum leading to enlargement of sebaceous glands

IX] Diet related
90 Proteins deficiency
91 Minerals deficiency
92 Calcium deficiency
93 Iron deficiency
94 Vitamin deficiency
95 Vitamin B group
96 Severely abnormal eating habits
97 Crash diets
98 Intoxicated water (with high levels of mineral & metals)
99 Water treated with chemical
100 Bore water
101 Hard water
102 Salty water

X] Hair care related
103 Excessive use of hair dryers
104 Improper hair care
105 Infrequent head wash

XI] Other causes
106 Osteoporosis
107 Stress (physical) due to surgery
108 Local allergic climate

   psychosomatic/ psychogenic conditions
109 Neurotic excoriatory factitial injury to skin
110 Acute psychiatric illness
111 Unhealthy attitudes like aggressive behaviour, violent expressions, hurried and impatient behaviour.
112 Sustained strong emotional stress
Premature greying of hair (pālītya)
Causes leading to the vitiation of rasavaha sota-
- food difficult to digest
- cold food
- fatty food
- over eating
- excessive thinking
- sorrow
- exertion
- anger
- Headache
- anxiety

Causes of greying of hair (pālītya) from modern angle

- Severe emotional stress
- Congenital
- Acute febrile states/debilitating febrile illness
- Manifestation of albinism
- Severe malnutrition
- Lack of vitamin B in daily diet
- Lack of iron in daily diet
- Copper deficiency
- Iodine deficiency
- Chronic cold
- Sinusitis
- Anaemia
- Chronic constipation
- Heredity
- Malignant disease
- Associated with drugs like chloroquine, mephenesin, triparanol
- Fear
- Jealousiness
- Failure
- Washing with hot water and drying with electric dryers which emit a blast of hot air

100
Use of hair dyes in the earlier stages when the hair have just started graying

Hormonal imbalance

Chemicals and perfumes used for preparation of hair oils, shampoos and soaps.

In order to study the āhāra and vihāra of each patient a chart was made. It consisted of the following points —

• The diet consisting of madhura rasa — in this the consumption of sugar, fatty food and sweets was inquired into.

• The Diet consisting of amla rasa — in this consumption of sour food items like lemon, tamarind, tomato, curd, fermented food items like dosa, idalī and preserved food items like tomato ketchup etc. was inquired.

• The diet consisting of lavaṇa rasa — in this consumption of salty food items like papad, salted nuts, pickles, cheese, butter, chips, wafers etc. was inquired.

• The diet consisting of kṣāra — in this consumption of food items containing more kṣāra like green leafy vegetables was inquired.

• The diet consisting of kaṭu rasa — in this consumption of green chillis, garlic, ginger, and the use of spices was inquired.

• The diet consisting of vidāhī food items — the consumption of fast food items, like different type of chat, fried food, pav bhaji and other spicy food was inquired.

• The consumption of non vegetarian diet was inquired.

• The diet consisting of bakery items — the consumption of the bread in different forms like pizza, donut, cream roll, pattice and other bakery items like cakes, biscuits, was inquired into.

• The food items consumed while fasting which is starchy was inquired.
• Consumption of stale food was inquired.
• Consumption of viruddha āhāra in the form of fruit salad, mixture of curd milk and rice, mixture of roti and milk etc. was inquired.
• Consumption of liquid diet in the form of cold drinks, tea, coffee, milk, etc was inquired.
• Consumption of other food items like different snack items, frequency of eating leafy vegetables, sprouted seeds, gram flour and ice cream was inquired.
• Addictions, if any, were inquired.
• The amount of drinking water and the time of drinking water were inquired.
• Consumption of cold food, like that of food from the refrigerator was inquired.

The daily exercise routine was enquired.

Methodology

A) The following method was adopted while studying each case as per the case paper.
1) General information regarding age, gender, etc. was obtained from the patient.
2) In order to know the rutu of birth, the month in which the patient was born was noted and the rutu was found out accordingly.
3) Each patient was classified into four age groups according to age. This classification was done based on the division of age based on the text. The madhyam vaya has been considered in the inclusion criteria and this has been further divided into four groups.
   ❖ 16-20 years
   ❖ 21-30 years
   ❖ 31-40 years
41-55 years (1)

Although the madhyam vaya has been mentioned up to 60 years, the inclusive criteria for pālitya has been considered up to 40 years and that for khālitya has been considered up to 55 years. In day to day practice it has been observed that pālitya after 40 years and khālitya after 55 years has been accepted as a part of ageing by the people. Also for pālitya many easy options like natural and artificial dyes and various colouring agents are available to hide gray hair. Hence a person is not eager to seek treatment for pālitya after the age of 40 years.

4) The occupation was inquired in the following manner —

A) Whether the person was working in A.C — in this criteria patient having A.C. at home and sleeping with A.C. on, at night, were also included, as they were exposed to cold air for 7-8 hours

B) Touring and marketing jobs were enquired into.

C) For considering exposure to chemical and heat, the following patients were considered.
   i) Those working in a chemical factory
   ii) Those working near a furnace in a factory.
   iii) Those working as cooks in hotel.
   IV) Women working as cooks in houses.

In order to ascertain the exposure to a noisy atmosphere, following patients were considered.
   i) Those working at Railway Station, S.T.Stand, at radio station were considered.
   ii) Those living on a busy main road were considered.
   iii) Those working in shops or offices at a busy main road with too much traffic and shrill vehicle horns were considered.
   iv) Those with jobs like marketing who have to travel a lot through traffic were considered.
v) Workers in a factory exposed to machinery noise were considered.

(2.)

- Past illness was inquired into for the following diseases —
  1) Measles
  2) Chicken Pox
  3) Jaundice
  4) Typhoid
  5) Pneumonia
  6) Any type of high fever.

- In order to consider heredity the occurrence of Khālitya and Pālitya early on both maternal and parental side was noted.

- General examination of the patient was carried out and the following points were noted.

  1) Examination of eyes for redness.
  2) Examination of tounge is done and saam and niram tounge was noted.
  3) Teeth were examined for caries.
  4) Skin was examined to see whether it is dry or oily.
  5) Hair texture was examined for dryness and oilyness.
  6) The amount of sweating whether less, medium, excessive was noted.
  7) Menstrual history in case of women was noted. The duration of the cycle and the duration of bleeding were inquired.
  8) Any painful joints were inquired.
  9) The pulse was noted and the following points were considered.
    - Gati
    - Bala
    - Saam or niram (3.)
  10) In the urine examination the following points were inquired.
    - Quantity
    - Colour
    - Burning micturation. (4.)
  11) The mala pravruti of the patient was inquired as follows —
    - Whether the patient had satisfactory bowel evacuation or not.
    - Whether the patient passed stools regularly or not
    - Consistency of the stools; whether hard, soft, well formed or loose.
In order to ascertain the prakruti of the patient points of each prakruti mentioned in the text were considered. (6,7,8)

In order to ascertain the sāra dhātu of the patient the points of sāratva mentioned in the text were considered. (9,10,11,12)

The sāratva of each dhātu was divided into four parts —

- Uttama sāra — those with more than 60% signs were included in this category.
- Madhayama sāra — those with 40% - 60% signs were included in this category.
- Alpasāra — those with 20% - 40% signs were included in this category.
- Asāra — those with less than 20% signs were included in this category.

14) The satva parīkṣaṇa was done for which three types of satva were considered.

a) Uttama Satva or satva sāra — Its signs were considered as follows.
   1) Remain firm in adverse situation
   2) Religious
   3) Brave
   4) Intelligent
   5) Enthusiastic
   6) Thankful to others

b) Madhayama Sāra — They get strength to tolerate any calamity by observing how others have tolerated any bad phase in life.

c) hīna Satva —
Following points were considered.
- They cannot remain calm during a calamity even if they are consoled by others.
- They cannot control their emotions and try or shout during adverse situations.
- Even if they have a strong body they are not able to take any tensions and collapse during adverse situations.
They cannot tolerate the sight of blood, flesh and might collapse on seeing these things. (16)

15) Application of oil —
The patients were inquired about the frequency of applying oil. This was divided into four parts.

- Those who applied oil every day.
- Those who applied oil once a week.
- Those who applied oil two to three times a week
- Those who applied oil every day.

16) The frequency of washing hair was noted.

17) The time of sleeping was considered.
- Those sleeping in the afternoon after lunch were included in divāsvapna.
- Those sleeping for less than six hours were considered in nīdralpatā.
- Those sleeping for more than nine hours were included in excessive sleeping.

18) The time of consumption of food was noted to detect irregularity in the time of taking diet.

19) Exposure to the smoke.
The following were considered in this category.
- Those with a marketing job.
- College children traveling to and fro from colleges, home and classes everyday.
- Those traveling to office everyday.
- Those living on a road with busy traffic.
- Those working in office or shop on a road with busy traffic.

20) Sleeping late at night —
Ayurveda has advocated getting up at brahma muhurta. This is one and half hours before sunrise. Sunrise varies from 5.30am to 7.00am as per season. Considering an average of 6.00am as the time of sunrise, the time of brahma muhurta can be calculated to be 4.30am. Minimum 6 hour sleep is
essential for maintaining health. 6 hours before 4.30am is 10.30pm. hence it is essential for a person to sleep by 10.30pm. But, considering a grace period of plus 30 minutes, a time of 11pm was fixed and those sleeping after that were considered in rātri jagaran.

21) Mental Strain – Klama, due to mental strain was considered.

21) Vēgadhāraṇa in any form was inquired.

23) For purovāta those exposed to wind in the following manner were considered

- Winds during monsoon.
- Riding on vehicle without covering head and ears.

24) In order to access anger an anger check list in the form of questions was made.

I. Do you often find yourself unable to control your temper?
II. Does your anger come out in unhealthy ways that are damaging to both yourself and others?
III. Do you feel tense much of the time?
IV. Do you have trouble going to sleep?
V. Do you feel misunderstood or not listened to, much of the time?
VI. Do your near ones feel that you get angry often?

Anger was considered a hētu in patients who answered yes to three or more questions. (17)

25) In order to ascertain over exercise the daily routine of exercise of the patient was inquired into in the following way.

- Exercise till breathing by mouth (breathlessness)
- Exercise till sweating occurred  (18)

Those exercising more than this were considered in overexercise.

In śrama, over exertion due to physical activity and inadequate rest was also considered by considering the following signs and symptoms

- Headache
Irritability
Fatigue
Sweating
Trembling (19)

26) Dushta Pratishaya, a cause of shirrog was considered by following signs

a) chronic cold for long duration
b) sneezing
c) nasapak
d) nasashosh
e) nasaparisrav (20.)

27) To ascertain hypothyroidism and hyperthyroidism the changed levels of T3, T4 and TSH in the blood were considered.

28) To ascertain abundance of androgen following points were considered —

In women -
Hirsuitism
Obesity
Deepening of voice
Acne
High B.P.due to PCOS
Irregular mensus

In men —
• Loss of hair and baldness (22)

29) To ascertain various nutritional deficiencies the help of diet chart was taken. Also, the following signs and symptoms in each deficiency were considered.

I) Protein deficiency —
   a) Weight loss
   b) Anaemia.
   c) Reduced resistance to infections
   d) Impaired healing of wounds.
e) Nutritional Oedema
f) Easy fatigue.
g) Muscular illness. (23)

I) Mineral deficiency

Iron deficiency
a) Anaemia
b) Low red cell volume
c) Low haemoglobin (24)

Iodine deficiency — goitre

Calcium deficiency —
a) Osteomalacia.
b) Rheumatic type pain in bones of legs, lower part of back.
c) General weakness especially while walking and climbing stairs.
d) Spontaneous multiple fractures. (25)

Zinc deficiency —
a) Loss of appetite
b) Loss of taste sensitivity
c) White spots on fingernails
d) Delayed healing of wounds
e) Dull hair (26)

III) Vitamin A Deficiency —
a) Rough scaly skin
b) Poor teeth formation
c) Dry mucus membrane
d) Xerosis of the conjunctiva of eye (27)

Vitamin B deficiency —
Anemia due to folic acid, B6 deficiency (28)

Thiamine deficiency —
Peripheral neuritis characterized by heaviness and weakness of legs,
followed by tenderness and cramping of calf muscles, burning and numbness of feet. (29)

The quantity of consumption of water was enquired. Consuming more than two litters of water per day was considered atyambupan.

B) 1) The samprāpti was established linking the Hētu with the lakṣaṇa

2) As per the signs and symptoms of vitiated Doṣa and Dhātu, the vitiated Doṣa and Dhātu were identified separately in each case.

3) The āhāra and vihaar was analysed to find out the vitiated ḍoṣā and dūṣya.

4) The gradation and scoring using criteria for clinical assessment was done in the following manner for the dietary substances.

Frequency of the consumption of food item per month was analysed as

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>P</td>
<td>15 to 30 days per month</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>6 to 14 days per month</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>1 to 5 days per month</td>
<td></td>
</tr>
</tbody>
</table>

ab - quantity/month
a-excess
b- medium or normal

<table>
<thead>
<tr>
<th>Name of the food item</th>
<th>a = excess</th>
<th>b = medium or normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid (bread, idli, etc.)</td>
<td>6 or more</td>
<td>Upto 5</td>
</tr>
<tr>
<td>Liquid (tea, milk, buttermilk etc.)</td>
<td>4 or more</td>
<td>Upto 3</td>
</tr>
<tr>
<td>Ghee, Chatni, Pickle, sauce, leafy vegetables, etc.</td>
<td>3 or more Spoons</td>
<td>Upto 2 spoons.</td>
</tr>
<tr>
<td>Khir, Dahi, Dal, etc.</td>
<td>3 or more bowls</td>
<td>Upto 2 bowls.</td>
</tr>
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<td>---</td>
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<td></td>
</tr>
<tr>
<td>Pa</td>
<td>Excess in frequency and excess in quantity.</td>
<td></td>
</tr>
<tr>
<td>Pb</td>
<td>Excess in frequency and medium in Quantity.</td>
<td></td>
</tr>
<tr>
<td>Qa</td>
<td>Medium in frequency and excess in Quantity.</td>
<td></td>
</tr>
<tr>
<td>Qb</td>
<td>Medium in frequency and medium in Quantity.</td>
<td></td>
</tr>
<tr>
<td>Ra</td>
<td>Less in frequency and excess in Quantity</td>
<td></td>
</tr>
<tr>
<td>Rb</td>
<td>Less in frequency and Medium in Quantity.</td>
<td></td>
</tr>
</tbody>
</table>

Pa, Pb and Qa = excess. (Atiyoyog)  
Qb and Ra = medium  
Rb = less (hinayog)

This was further sub divided into Atiyoyog, mithyayog and hinayog.

5) In case of vihaar the frequency of occurrence of 15-30 days/month was considered a hētu.

6) In each case, the following Hētus were also considered.
   a) Psychological.
   d) Iatrogenic
   e) Addiction.

7) The causes as per the modern medicine were grouped and considered under the heading under which they were grouped.