IMPORTANCE OF THE TIME OF COLLECTION OF THE DRUG OF COMMERCE: A REVIEW ON AYURVEDIC AND CONTEMPORARY CONCEPTS

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ABSTRACT

Collection of genuine raw materials at correct time is one of the first and most important steps during preparation of quality Ayurvedic preparations. Flaws in the time of collection of raw material have direct effect on the potency of raw materials and ultimately on the finished products. So it’s necessary that this process should be done with utmost care and vigil. We can find references in Ayurvedic literature about the collection of individual drugs and also a common collection time based on the part used. Contemporary scientists have also suggested the time for collection various parts of medicinal plants. The main aim of all the processes is to collect the drug when the active principles are at maximum level. This article reviews and sums up the time of collection based on part used prescribed by various Ayurvedic Acharyas and the contemporary scientists. The views expressed by Acharya Charaka matches with the contemporary views at many instances. But there is enough difference of opinions regarding the subject between classical and contemporary views. More researches are to be taken up in this field not only to reconcile the discrepancies in various views but also to improve the quality of raw materials and finished drug.

KEYWORDS: Collection, Useful Part, Medicinal Plant, Ayurveda, Contemporary Sciences.
INTRODUCTION

Collection of genuine raw materials is one of the necessary steps during preparation of a quality product. Imperfections during collection of raw material have direct effect on the potency of raw materials and ultimately on the finished products. So the process of collection should be dealt with utmost care and vigil.

We come across a detailed description about collection of drugs in Ayurvedic literatures. Collection of drugs for the purpose of preparing medicines is known as Dravya Sangrahana. Ayurveda details many factors to be considered during drug collection. Desha, Bhoomi, Aushadha sangrahaka kala etc. are some of the factors to be perceived during collection of a drug. Collection of the plant based on the part used is dealt in detail in Charaka Samhita, Susruta Samhita and Raja Nighantu.

Contemporary scientists have evolved many methods for collection of the medicinal plants. The main aim of all the processes is to collect the drug when the active principles are at maximum level.

Methodology

This article reviews the Ayurvedic and Contemporary concepts in collecting drugs depending on the part used. For this purpose various Samhitas and Contemporary pharmacognosy books were reviewed.

RESULTS

The various opinions available in Ayurvedic literature and Contemporary scientific literature can be compiled as follows.

Time of collection of Whole plants (Panchang): Ayurvedic concept: Raja Nighantu advocates the procurement of Panchagas in Sharad ritu. (Approx. Aug-Sep). Sharngadhara samhita also shares the same opinion.

Contemporary concept: Whole plants are to be harvested when the flowers start to dry up and fall.

Time of collection of Roots: Ayurvedic concept: According to Charakacharya roots are to be collected in Shishira Ritu (approx. Dec-Jan) and Greeshma Rritu (approx. April-May), when
the plant sheds its leaves and new sprouting starts. In summer season, growth is stunted due to the scarcity of water but the season is favourable for preservation of drugs.

Chakrapani, the commentator of Charaka Samhita has opined that Soumya dravyas should be collected in Shishira ritu and Agneya dravya should be collected in Greeshma ritu. As per Raja Nighantu, the time of root collection is specified in Shishira ritu. As per Acharya Sushruta roots should be collected in Pravrt ritu (beginning of rainy season).

Contemporary concept: Roots are collected in spring (March-May) before vegetative process stops. Roots should be taken off when flowers have born up since the amount of active principles is high at this time. In temperate regions, autumn (September- November) is the season of collection.

**Time of collection of Rhizome:** Ayurvedic concept: According to Charakacharya Rhizomes are to be collected in Sharad ritu (approx. August-September) and according to Raja Nighantu it should be in Hemantha ritu (approx. October- November).

Contemporary concept: Rhizome or bulb should be dug out when the leaves/aerial parts have dried up i.e. when they have ample storage of reserve food and also contain maximum content of chemical constituents.

**Time of collection of Bark:** Ayurvedic concept: Sharad ritu (approx. August-September) is the ideal season for collecting bark according to all acharyas.

Contemporary concept: Bark is usually collected in spring or early summer (March-June) when the sap is rising in the stem and the cambium is active and therefore can be easily torn than in other seasons. While separating the bark, only the cork and cortical portion should be removed. The cambium should be left behind untouched for further growth of tissues. At a time, only 1/3rd of the bark of the tree should be collected; leaving behind the rest 2/3 to aid the further growth of the tree. In order to give sufficient period for the repair of the lost tissues and the general growth, bark should be collected only in alternate years from a tree. Sometimes they are collected in autumn season (wild cherry) or in rainy season (cinnamon).

**Time of collection of Leaf:** Ayurvedic concept: Basanta (approx. February-March) and Varsha ritu (approx. June-July) are the ideal seasons for the collection of leaves and branches. Leaves should be mature, but not be about to fall. The time when the flowers have opened
and the fruits have not ripened is ideal for collecting leaves. Extreme conditions of warmth and cold in summer and winter seasons make them unfit for the purpose. But Greeshma ritu (approx. April- May) is proposed for leaf collection in Raja Nighantu, quite contrary to the Samhithas. Varsha ritu (rainy season) is preferred in most of the references. During Varsha ritu, the abundant availability of water promotes the growth of plants. Similarly during Basanta ritu, the deciduous trees produce new leaves and flowers. So both these ritus are suitable. Generally leaves are collected along with twigs.

Contemporary concept: Leaves may be collected when the flowers are just beginning to expand, or the flowering is just arriving at its height. At this time it is reasonable to assume that the whole plant has arrived at its condition of maximum vigour and that the leaves are in the healthiest state and contain an optimum of the products of the plant’s metabolism and therefore should be at the period of their development suited to exert the most desirable therapeutic action. Leaves of Aloe are collected when they are sufficiently thick. The actual collection should be made, as far as possible, in dry weather, since leaves collected in wet weather deteriorate in quality and become discoloured during drying.

**Time of collection of Flower:** Ayurvedic concept: Flowers should be collected whenever available according to Charaka and in Basanta ritu (approx. February-March) according to Raja Nighantu.

Contemporary concept: Drugs like saffron, clove should be collected just before pollination or many a times, before their full expansion. Flowers must be collected in fine dry weather and preferably during morning hours. They should not be collected when covered with dew or rain since damp petals becomes badly discoloured during drying.

**Time of collection of Fruit:** Ayurvedic concept: Fruits are to be collected whenever available according to Charaka and in Vasant ritu (approx. February-March) according to Raja Nighantu. Phala should be collected in Greeshma ritu (approx. April- May) according to Sushruta.

Contemporary concept: The fruits are collected depending upon the part of fruits used. They are collected either ripe or half ripe but fully grown. For example, cardamom fruits are collected just before their dehiscence; tamarind after their full maturity, while caraway, fennel and coriander are collected, when they are fully ripe.
Time of collection of resin/gum drug/lattices: Ayurvedic concept: Ksheera is to be collected in sarat ritu according to Charaka and in Hemantha according to Sushruta.

Contemporary concept: For the collection of gums, gum resin etc, dry weather (i.e. summer) is obviously indicated and care should be taken to exclude vegetable debris as far as possible. The unorganised drugs such as resins, lattices, gums are collected, as soon as they ooze of the plant. Acacia gum is collected 2-3 weeks after making incisions on the bark of the tree and when it is sufficiently hard. Opium and papaya lattices are collected after coagulation of latex. Turpentine oleo-resin and balsam of Peru are collected when the plant is about 8-10 years old.

DISCUSSION
Table 1 summarises the various opinions pertaining to collection of drug based on useful part.

<table>
<thead>
<tr>
<th>Prayojyanga (Part used)</th>
<th>Charaka</th>
<th>Susrutha</th>
<th>Rajanighantu</th>
<th>Contemporary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mūla</td>
<td>Greeshma(April-May)/Sisira(Dec-Jan)</td>
<td>Prāvrt</td>
<td>Sisira(Dec-Jan)</td>
<td>Spring (March-May)</td>
</tr>
<tr>
<td>Patra</td>
<td>Varsha(June-July), Vasantha(Feb-Mar)</td>
<td>Varsha (June-July)</td>
<td>Sisira(Dec-Jan)</td>
<td>Flowering at its height(usually Feb-Mar)</td>
</tr>
<tr>
<td>Pushpa</td>
<td>According to season</td>
<td>---</td>
<td>Vasantha(Feb-Mar)</td>
<td>According to season</td>
</tr>
<tr>
<td>Phala</td>
<td>According to season</td>
<td>Greeshma</td>
<td>Vasantha(Feb-Mar)</td>
<td>According to season</td>
</tr>
<tr>
<td>Twak</td>
<td>Sarath(Aug-Sep)</td>
<td>Sarath(Aug-Sep)</td>
<td>---</td>
<td>Summer(April-May)</td>
</tr>
<tr>
<td>Kandha</td>
<td>Sarath(Aug-Sep)</td>
<td>---</td>
<td>Hemantha(Oct-Nov)</td>
<td>Aerial part dries off</td>
</tr>
<tr>
<td>Ksīra</td>
<td>Sarath(Aug-Sep)</td>
<td>Hemantha(Oct-Nov)</td>
<td>---</td>
<td>Summer (April-May)</td>
</tr>
<tr>
<td>Panchangas</td>
<td>---</td>
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<td>Sarath(Aug-Sep)</td>
<td>When flower falls</td>
</tr>
</tbody>
</table>

CONCLUSION
The views expressed by Acharya Charaka matches with the contemporary views at many instances. But there is enough difference of opinions regarding the subject between classical and contemporary views. More researches are to be taken up in this field not only to reconcile the discrepancies in various views but also to improve the quality of raw materials and finished drug.

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