INTRODUCTION

Birds parts as in Ayurveda

Birds have been used in ayurvedic in various forms. Poultry eggs, bird flesh. Oil, feathers, nests etc. Have been employed in medicine but detailed scientific Research in this direction is not yet done. Septic wounds are cured by wrapping peacock feathers around them in Punjab. The smoke of peacock feathers is considered as an antidote to snake-bites. The smoked ‘eye’ of the long train feathers is also used for ophthalmic diseases. The burnt ash of these feathers is used as antiemetic.

Special test

A technique known as phased spot test designed by the investigators of central council for research in Ayurveda and Siddha (CCRAS), To identify bhasma.

The traditional formulations though effective are at times non-responsive too and this can be attributed to the lack of unit dosage forms of these formulations. Considering this aspect, it is utmost rational to formulate then into unit dosage forms for better efficacy and patient compliance. Here we designed these oral formulations, containing these active metabolites with a better perception of patient compliance and ease of administration for the elderly patients and hicough patients, now in pursuit of the best oral formulation with natural ingredients, the present research work was aimed towards development of easy to use and palatable formulations of Mayurchandrika bhasma.

MATERIALS AND METHODS

Pharmaceutical Study

The study related to manufacturing medicinal drug is called pharmaceutical study. The purpose of this branch is to produce standardized, reproducible clinically effective medicine and mass scale production of Ayurvedic medicines or health care production is now the need of present era. Considering increased demand and commercialization of Ayurvedic products’ standardization is must or assure the products are reliable in terms of quality. Efficacy performance, safety and protect consumer for exploitation [8-15].
To standardize any drug careful and keen observation is very essential in each and every step

1. Identification of genuine raw drugs.
2. Proper method of processing.

By considering above steps preparation Mayurchandrika bhasma is carried out in this particular study.

PHARMACOGNOSTIC INVESTIGATIONS

Bird Part

Based on the Ethano-medical information and literature survey, the colorful part for the present study was pavo cristatus [16-21].

Bird feather collection and authentication of birds feather:

The peacock feather was collected in month of November to March 2019 in own farm at Khambhale (BHA) Tal- Khanapur Dist-Sangli, it found naturally and it is authenticated by zoologist from the department of zoology, Pune University, Pune [19,20].

Ghee flame method (burning peacock feathers on ghee flame): peacock feathers were burnt on ghee flame (sample put in earthen pot) and the ash so obtained by putting burned sample into maffle furnace until it got converted into a black powder. The powder was then collected and preserved in an air tight glass container.

ANALYTICAL PHARMACOGNOSY

Macroscopic Characterization: Pavo cristatus was subjected to macroscopic studies which comprised of organoleptic characteristics of the drug [13,24].

Organoleptic Characteristics: Colour of different colour in feat X-Ray Diffraction (XRD) The Mayurchandrika Bhasma was subjected to XRD at Department of physics PUNE university [25-30].

Scanning Electron Microscopy and Electron Dispersive X-ray Spectroscopy (SEM &EDX): The Mayurchandrika Bhasma was subjected to SEM and EDX at Department of Botany, Shivaji University, Kolhapur. FTIR (Fourier Transform Infrared Spectroscopy) was performed to detect the Presence of functional groups or organic legends in Mayurchandrika bhasma [31].

Procedure: 5 gm mayurchandrika bhasma was macerated with 100 ml of solvent in a closed flask for twenty-four hours separately, shaking frequently during six hours and allowed to stand for eighteen hours. It was filtered, taking for UV spectroscopic study. The Spectra was taken at 200-800 nm from the peak obtained the λ max value was calculated [10].

ORGANOLEPTIC EVALUATION [11]

A. Color- The color of the different bhasma is specified. Like Mayurchandrika Bhasma black in color.

B. Odor- Generally the well prepared bhasma has no odor.

C. Taste- Generally the well prepared bhasma are tasteless.

D. Touch- In touch the bhasma will be soft and smooth [11].

RESULT

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Character</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Length of peacock feather</td>
<td>12 cm</td>
</tr>
<tr>
<td>2.</td>
<td>Width of peacock feather</td>
<td>8 cm</td>
</tr>
<tr>
<td>3.</td>
<td>Colour</td>
<td>Greenish</td>
</tr>
<tr>
<td>4.</td>
<td>Texture</td>
<td>Smooth</td>
</tr>
</tbody>
</table>

Table 1: Macroscopical character of peacock feather.

S.No. | color | Interpretation |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>C</td>
<td>Black</td>
</tr>
<tr>
<td>2.</td>
<td>C str</td>
<td>Soft</td>
</tr>
<tr>
<td>3.</td>
<td>Appearance</td>
<td>Black Amorphous Powder</td>
</tr>
<tr>
<td>4.</td>
<td>odour</td>
<td>unpleasant</td>
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</tbody>
</table>

Table 2: Macroscopical character of Mayurchandrika bhasma.

Sr.No | 2 | Intensity |
<table>
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<tbody>
<tr>
<td>1.</td>
<td>25.1408</td>
<td>479</td>
</tr>
<tr>
<td>2.</td>
<td>31.0528</td>
<td>357</td>
</tr>
<tr>
<td>3.</td>
<td>26.243</td>
<td>258</td>
</tr>
<tr>
<td>4.</td>
<td>28.0437</td>
<td>255</td>
</tr>
</tbody>
</table>

Table 3: X-RD value of Mayurchandrika bhasma.

S. No. | Group | Type of vibration | region in cm⁻¹ and intensity |
<table>
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<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Alkyne Di-substituted</td>
<td>C≡C-C str</td>
<td>2900-2820</td>
</tr>
<tr>
<td>2.</td>
<td>Aldehyde</td>
<td>C-H str</td>
<td>2260-2200</td>
</tr>
</tbody>
</table>

Table 3: Infrared value of Mayurchandrika bhasma.

DISCUSSION

The study revealed the various parameters of Mayurchandrika bhasma and it is evaluated by traditional and modern analytical technique like X-RD, SEM, IR etc. Role of Sodhana, Bhavana and Marana is important in Bhasma preparation. Sodhana and Marana are considered highly necessary for converting the metals, sub metals and minerals into the suitable form in which they could be administered internally for achieving their therapeutic values. One of the aims of the Bhavana is to make the particles finer and to induce the new properties into the main drugs through the various liquids used during the Bhavana process. Bhasamikaran process converts the metal into its specially desired chemical compound which eliminates the toxicity of the metal and has the necessary medicinal benefits. Bhasamikaran helps dravya to get sendriyatwa from nirindriyatwa, and also helps for easy absorption and assimilation in the body due to its reduced particle size. Bhasma pariksha signifies genuinity of Bhasma. Through the modern parameters qualitative and quantitative analysis as well as structural analysis is possible which helps to analyze the changes that takes place from raw drugs to the final product. This not only helps to interpret the knowledge laid down by our ancient Acharyas but also helps in assuring its toxicity level. FT-IR of Mayurchandrika bhasma shows two peaks 2260-2200 cm⁻¹ and 2900-2820 cm⁻¹ intensity. FT-IR reveals with presence of aldehydes and alkyne substituted group.
Scanning electron microscopy (SEM) is an analytical technique to know the surface morphology of the drug. It uses electron beam rather than light to form a Figure. It is capable of producing high resolution figures of a sample surface, which means that closely spaced features can be examined at a high magnification. Due to the manner in which the Figure is created, SEM Figures have a characteristic three-dimensional appearance and are useful for determining the surface structure of the sample i.e. topography. It can magnify objects to extreme levels where even structure of nano particles could be clearly visible. The distribution of particles in Mayurchandrika bhasma shows crystalline particles which are smaller in size.

**Conflict of interest:** No Conflict of Interest to Authors

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