

Introduction

Introduction

"Swasthasya Swasthaya Rakshanam, Atursya Vikar Parimoksham" is the main object of Ayurveda. Ayurveda is not just pathy to cure diseases, but it is the healthy life style designed by our great Rushi-Munis to make life suitable according to eco-climatic condition of our country.

Ancient Indian science has described in details the use of herbs in treating various diseases of plants and animals. The field of Indian medicine dealing with plant health is termed as Vrikshayurveda. As the principals of Ayurveda are effectively applicable in today's lifestyle in treating human disease, it is interesting to study the effects and practical applicability of herbs in cultivating practices about plant health, plant yield and their pharmacological actions.

The global demand for herbal medicine is fast growing. The short supply of genuine raw material of number of indigenous medicinal plants is the major problem. This is because of the supply is from wild stands and extensive cultivation of these species has not taken place so far. The low costs involved in collection of these raw drugs from wild stands compared to their cultivation also tilt the balance in favour of such collection. As a result the exploitative collection, outspacing regeneration, coupled with shrinkage and degeneration of areas of natural resources.

So, the conservation of medicinal plants, systematic domestication and large scale commercial cultivation of medicinal plants is need of the hour.

In order to achieve high yield and greater cash value a lot of inorganic compounds in the form of fertilizers, pesticides and insecticides are widely used in modern agricultural practices. But, it has been noticed that these practices have significant ill effect on plant's health, yield and soil grade. The final output of the same is to harm plants, human health and environment.

Collaboration of Agriculture universities and Ayurveda will help the farmers to grow proper varieties of medicinal plants. It will also help to get fresh, genuine and effective medicine for the patients as compared to present practice of collection of medicinal plants from various and unknown sources.

The cultivation of medicinal plants by methods described in Vrikshayurveda will also be very useful for mankind as it is free from harmful inorganic products. This will save the human from ill effects of fertilizers, pesticides and insecticides and also improve soil grade and there by the environment.

After reviewing the previous work done by Ayurvedic researchers, it was seen that a lot of study was done on the effect of Ashwagandha on underweight children, of Shatavari in respect of Rasayan karma, in Strirog and Vandhyatwa, in Amlapitta and Parinamshoola. Though there was lot of work done in respect of various karmas of Ashwagandha and Shatavari, but there was no work seen in respect of cultivation by Ayurvedic researchers.

Ashwagandha [Withania somnifera] and *Shatavari [Asparagus racemosus]* are the main drugs of Ayurveda. They are used in large scale for various Karmas. So, these two drugs are selected for the study in respect of cultivation, health of plant and pharmacological action.

Aims and Objectives:

Aims:-

Comparative Study of cultivation of *Ashwagandha [Withania somnifera]* and *Shatavari [Asparagus racemosus]* with modern Agricultural method and the method mentioned in Vrikshayurveda with respect of yield and phytoconstituents, with respect to its effect in underweight children.

Objectives:-

- 1) To standardize cultivation process of *Ashwagandha* and *Shatavari* as per Vrikshayurveda.
- 2) To standardize *Ashwagandha* and *Shatavari* cultivated by modern agricultural method and method mentioned in Vrikshayurveda as per Ayurvedic Pharmacopiea of India guideline.
- 3) To observe the adverse effect if any.

Plan of Work:-

Review of literature:-

A. Data Base of Natural flora of Aurangabad District -

Flora of medicinal plants in Aurangabad district was reviewed. In this chapter, the eco-climatic conditions, soil grade, irrigation facilities in Aurangabad district were discussed as to whether Ashwagandha and Shatavari can be cultivated or not.

About 400 medicinal plants were found in Aurangabad district along with Ashwagandha and Shatavari.

B. Review of literature about Vrikshayurveda -

Vrikshayurveda is an ancient science related to the plant life. In Varahmihir's Brihat Samhita as well as in Agni purana, there are separate chapters dealing with Vrikshayurveda. Vrikshayurveda of Surpala and Upavana vinoda of Sharangdhara are the main two books available on Vrikshayurveda. These books share all most all the topics i.e. importance of trees, types of soils, selection and preparation of soil for sowing, plant diseases and their remedies, ground water sources, preparation of different kinds of manures. Varahmihir, Surpala, Sharangdhara had admitted that it is a compilation in which, information from various texts on Vrikshayurveda culled together. From these two books cultivation methods were adopted.

C. Drug Review

Review of literature about of Ashwagandha and Shatavari

- References regarding Ashwagandha and Shatavari were reviewed from Vedic literature to till date.
- Classification of both plants according to Ayurveda and Botany.
- Synonyms as per Ayurvedic texts.
- Morphological characters of both plants.
- Various Karmas of both plants.
- Various Kalpas mentioned in Ayurvedic texts.

D. Review regarding soil and water -

Views of Ayurveda, Vrikshayurveda and Agriculture were considered regarding soil and water. Sushrut had described soil types according to panchmahabhootas. In Raj Nighantu, a separate 'Dharanyadi Varga' is described about various types of soil for example: Urvara bhoomi, Sharkara bhoomi, etc. Varahmihir in his Bruhatsamhita described Sit, Pit, Rakta, and Krishnabhoomi. Vrikshayurveda by Surpala and Upavana vinoda also had described various types of soil.

E. Disease Review -

Review of Karshya was taken.

F. Review of literature of Cultivation Practices -

Review of literature about cultivation practices of Ashwagandha and Shatavari by modern agricultural method.

Materials and Methods

Soil and Water Testing –

Soil in which the both drugs were cultivated and water for the irrigation were tested in the laboratory. [Katpur, Tal, Paithan Dist. Aurangabad].

Methodology of Cultivation

Vrikshayurveda Method -

Detail procedure of cultivation by method mentioned in Vrikshayurveda was discussed. In the text of Vrikshayurveda the method of cultivation especially for Ashwagandha and Shatavari is not mentioned. So, the general method of cultivation was adopted for cultivation of these plants. As per the script both Ashwagandha and Shatavari were cultivated.

Detail procedure of cultivation by modern agricultural method was discussed. As per the texts about cultivation practices of Ashwagandha and Shatavari by modern agricultural method both plants were cultivated.

Standardization -

As per the aim and object of the study identification, authentication and standardization of both Shatavari and Ashwagandha were done. For this procedure, samples of Shatavari and Ashwagandha cultivated by Vrikshayurveda method and modern agricultural method were collected and following tests were done.

Ash value, Acid soluble ash, Water ext. pH, Alcohol ext, pH, Pet. ether ext. value, Water ext. value, Na concentration, K concentration, Ca concentration, HPLC, Spectrophotometric study. The values were compared with the standards.

Clinical Trials -

Ashwagandha and Shatavari both drugs are widely used in clinical practice for various karmas. However comparative efficacy between variety cultivated by modern agricultural practices and variety cultivated by method mentioned in Vrikshayurveda was still awaited. This study is therefore planned to study the efficacy of both drugs cultivated by modern method and method mentioned in Vrikshayurveda. The clinical trails were conducted on 150 underweight children in the O. P. D. of C. S. M. S. S. Ayurveda College and Hospital, Aurangabad. The study was placebo controlled, comparative, single blind and parallel.

Discussion -

Discussion of the whole study was done.

Conclusion -

Conclusion was drawn from the obtained results.

