

Phytochemicals Analysis of Formulated Ayurveda Rasayana using Nootropic Herbs

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Abstract—The healthy diet is not only meets essential requirements but also require bioactive components in food for all individual. The use of Ayurveda Rasayana herbs supplements in regular basis have promote the overall health benefit of an individual and revitalize our body system and maintain potent antioxidant activity. The herbs specific to brain is called Medhya Rasayana (Nootropic/ cognitive enhancer). Herbs contains Phytochemical constituents enhance desired health benefits and also to reduce the risk of chronic diseases. The present study designed Evaluate qualitative phytochemical analysis of Medhya Rasayana. The phytochemical extract acetone, ethanol methanol and distilled water. The study revealed the presence of Flavonoids, Alkalids, Saponin, tannins, sterols, terpenoids, phenolic Glycoside, and Tannin present in Medhya Rasayana.

Keywords: Medhya Rasayana, Phytochemical, Nootropic, Flavonoids, Ayurveda.

1. INTRODUCTION

The Plants are with extensive variety of medicinal values. Several medicinal herbs are used to treat different ailments by local vaidyas (Traditional Healers) and tribal in all over the world. Many natural products produced from plants source have been used as herbal medicines. The history of herbal medicine is almost as old as human civilization; they are in great demand because of their great efficacy in treatment of various diseases without any side effects [Acharyya et al., 2011]. They are also used in ayurvedic medicine because of its effective bioactive components. Rasayana herbs has therapeutic procedure. Regular use of Rasayana practice will boost nourishment, health, memory, intellect, immunity and longevity. Rasayana herbs which are specific to brain tissue are called Medhya Rasayana [Sheshadri Malvika]. They are group of medicinal plants described in Ayurveda with more benefits, specifically to improve memory and intellect [Saroj Parhate.,]. The extract chemical component produces a certain physiological action on the human body [Ch. N. Durga -2015]. Phytochemicals are naturally occurring in bio-active components in plants. Phytochemicals are not essential nutrients and it is not required to sustain of life but it has very important properties to prevent or to fight some common diseases []. Each part of the plant body contain bioactive

components [Solomon Charles et al., 2013]. Benefits of phytochemical are low toxicity, low cost, easy availability and their biological properties such as antioxidant activities, antimicrobial effects and increase body immunity [].

2. MATERIAL AND METHODS

2.2. Formulation of Medhya Rasayana prepared by Ayurveda classical Method

1 Selection of potential Medicinal herbs

The plant were collected from natural habitat both cultivated and non-cultivated from different region of the Rayala seema area and identified for authenticity by Botanist and Ayurveda Doctors. The list plants collected are tabulated in table 1

Table 1: List of plants from cultivated and non-cultivated land.

Botanical Name	Sanskrit Name	Hindi Name	Telugu Name	Part used	Quantity (in Grams)
<i>Acorus calamus</i>	Vacha		Vaja	Rizome	50
<i>Bacopa monnerie</i>	Jalabrahmi	Brahmi	Neelubrahmi	Whole plant	50
<i>Centella asiatica</i>	Manduka parni	Gotkula	Saraswati chattu	except Root	50
<i>Clitoria ternatea</i>	Shanka Pushpi	Dintena	Shanka Pushpi	Root	50
<i>Tinospora cordifolia</i>	Guduchi	Gilayo	Thippa theega	Stem	50
<i>Withania somnifera</i>	Aswagandha				50

2.2. Experimental Procedures:

2.2.1. Initial preparation

Medhya Rasayana poly herbal drug prepared according to classical Ayurveda texts like Sathwa(extract) of Guduch., Swarasa (Juice) of Mandukaparni and Jalabrahmi, churna

(powder) form of Vacha Rizome and Ashwagandha root and Kalka (Paste) form of Shankapushpi pushpi prepared and mixed and son dried. Composite mixture pulverized and sieved (85 mesh) to obtain fine powder product [Vagbhata. Ashtanga Hridayam].

2.2.2. Preparation of extract

100gms of each Medhya Rasayana was mixed in presence of solvents at 240ml of acetone, 240ml of methanol and 240ml of distilled water and kept a side for 28 hours. The obtained crude extract was studied for qualitative phytochemical analysis by using standard methods. [Kavya-2016, and Trease et al., 2002].

2.2.3. Preliminary Phytochemical Analysis:

2.2.3.1. Test for Alkaloids

Take a few ml extract and pour 2 drops of Mayer's reagents added along the side of the test tube. White creamy precipitate indicates the presence of alkaloids

2.2.3.2. Test for Saponin

Extract is boiled with 5ml of water for 2mts the mixture was cooled and left for 3mts; the formulation frothing indicates the presence of saponin.

2.2.3.3. Test for steroid

Extract was mixed with Concentrated H_2SO_4 produces wine red colour in the extract. This indicates presence of Steroids.

2.2.3.4. Test for Tannins

Extract was dissolved in 10ml of distilled water and filtered. The filtered mixture was mixed 0.1% ferric chloride. Greenish grey precipitate indicates presence of tannin.

2.2.3.5. Test for Glycosides

Plant extract was added with glacial acetic acid and boiled for a minute and cooled then add two drops of ferric chloride was added which was then transferred to another test tube containing concentration H_2SO_4 and produces formation of reddish brown ring at the junction of two layers.

2.2.3.6. Test for Terpenoids

Addition of few drops of concentrated H_2SO_4 to the extract. Golden yellow colour of the lower layer appearance indicated the presence of terpenoids.

2.2.3.7. Test for Flavonoids:(Ferric Chloride test)

Extract solution was added with few drops of ferric chloride solution intense green colour precipitate indicates the presence of flavonoids.

2.2.3.8. Test for Phenols: (Ferric Chloride test)

Extract was dissolved in 10ml of distilled water and filtered. The filtrate is mixed with 0.1 ml of ferric chloride. Greenish grey precipitate indicated the presence of phenols.

3. RESULT AND DISCUSSION:

From extraction method as shown in Table 2. It can be observed that from methanol yield of medhya rasayana was more compare to acetone and distilled water solvents.

Table 2: crude extract yield

Extract	Organic Solvent	Yield in Grams
Medhya Rasayana	Acetone	2.18
	Methanol	2.93
	Distilled water	2.48

3.1. Phytochemical analysis

Table 3: Phytochemical components of crude extract of formulated Medhya Rasayana

Sl. No	Secondary Metabolites	Name of the test	Crude Extract of Medhya Rasayana		
			Acetone	Methanol	Distilled water
1	Alkaloids	Mayer's	+	+	+
2	Flavonoids	Ferric Chloride	+	+	+
3	Glycosides	Kellerskilliani's	-	-	-
4	Phenols	Ferric Chloride	+	+	+
5	Saponin	Foam test	-	+	-
6	Tannins	Ferric Chloride	-	-	+
7	steroids	Salkowisk's	+	+	+
8	Terpenoids	Salkowisk's	-	+	-

'+' indicate present and '-' indicate absent.

4. DISCUSSION:

The Phytochemicals are naturally occurs in plants and they are biologically active. The present study carried out Qualitative analysis of Polyherbal Medya Rasayana. The Formulated Medhya Rasayana showed the presence of phytochemical constituents and the result are summarized in Table 2. It shown that Alkaloids, Flavonoids, Saponin, Tannin, steroids and Terpenoids present in Medhya Rasayana. Various test samples were obtained from the analysis of Phytochemical as shown in table 3. From the above table it can be said except glycosides other tested Phytochemicals were present.

5. CONCLUSION

The present study concludes that Phytochemicals were present in Medyarasayana. The obtained product is rich in nutrients, therapeutic and nutraceuticals benefits. Thus regular consumption of Medhya Rasayana in diet will enhance good health and cognitive abilities.

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