IJFANS INTERNATIONAL JOURNAL OF FOOD AND NUTRITIONAL SCIENCES
ISSN PRINT 2319 1775 Online 2320 7876

 Journal UGC CARE Listed (Group-I) Volume 11, Iss 10 , 2022

Nidanatmaka Study of Raktagata Vata with Upashayatmaka study to Evaluate the Efficacy of Aswagandha Churna

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ABSTRACT

Ayurveda is the most popular ancient system of medicine. It is based on principle of prevention is better than cure. Vata, Pitta, Kapha-collectively known as the doshas, are one of the fundamental concepts in the tradition of Ayurveda. When balanced, the doshas maintain the system of body, but when one of the dosha increases due to certain diet and lifestyle habits, imbalance is created and causes a number of disorders which have become a challenge for human. Among these *Raktagata* Vata is considered to be most serious disorder and frustrating ailment for the patient. *Raktagata* Vata is one of the most important diseases explained in classics affecting Rakta- dhatu. According to Ayurveda *Raktagata* Vata is due to vitiation of Vata by *Swanidana*. Vaidya Y.N. *Updahyaya* had equated the term *Raktagata* Vata for hypertension. Now-a-days hypertension is the most common life style disorder. It is due to changing life style such as excessive intake of spicy, salty food, and insufficient consumption of fruits and vegetables, stress factor and faulty life style, lack of exercise also responsible for hypertension. Hypertension is an important worldwide public health challenge and remains a major cause of morbidity and mortality worldwide. About 26.4% of the world adult population in 2000 had hypertension and 29.2% were projected to have this condition by 2025. An *Nidanatmaka* (epidemiological) Study on *Raktagata* Vata (Hypertension) and A *Upashyatmaka*(Therapeutic) Study to Evaluate the Efficacy of *Aswagandha Churna* to evaluate the *aetiopathological* aspect of the disease *Raktgata* Vata (Hypertension).

Key Words: *Raktagata*, hypertension, *Nidanatmaka, Aswagandha Churna*

INTRODUCTION

Hypertension is chronic and often asymptomatic medical condition in which systemic arterial blood pressure is elevated beyond normal limits that is blood pressure more than 140/90 mmHg. It is also known as a silent killer because it rarely exhibits symptoms before it damages the heart, kidney and brain also it is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease (CHD) death in India. Hypertension is a major risk factor for cardiovascular diseases, requiring long-term management. Herbal medicines offer a promising alternative to synthetic drugs due to their safety and efficacy. *Withania somnifera* (Ashwagandha) has been traditionally used for its adaptogenic and cardioprotective properties, making it a potential antihypertensive agent. This study focuses on the formulation and

evaluation of an herbal antihypertensive powder using Ashwagandha. The powder was prepared by drying and pulverizing Ashwagandha roots, followed by quality assessment, including physicochemical characterization, phytochemical screening, and in-vitro antihypertensive activity. The formulation exhibited good stability, flow properties, and significant potential in managing hypertension. Further research and clinical trials are necessary to confirm its therapeutic efficacy and safety.

Current definition of hypertension (HTN) is systolic blood pressure (SBP) values of 130 mm Hg or more and/or diastolic blood pressure (DBP) of more than 80 mm Hg. Hypertension ranks among the most common chronic medical condition characterized by a persistent elevation in arterial pressure. High blood pressure (hypertension) is a significant cause of preventable mortality in the UK. It is a major risk factor for various diseases, including heart disease and cognitive disorders. Blood pressure levels vary across the population without a definitive cut-off for defining hypertension. Each increase of 2 mmHg in blood pressure raises the risk of mortality related to heart disease. Hypertension is prevalent in the UK, with age being a key factor; it typically affects younger individuals with diastolic pressure and becomes more pronounced in older individuals due to arterial stiffness. At least one-fourth of the population and more than half of those over 60 have hypertension. Managing hypertension is a common focus in primary care.

Type of hypertension

A. Essential (primary) hypertension

- The main form of high blood pressure accounts for around 90-95% of cases
- Has no single identifiable cause
- Potential causes include genetic and environmental factor

B.*Secondary* hypertension

- Rare forms of high blood pressure
- Caused by another medical condition or treatments [2]

The plant *Withania somnifera* (L.) *Dunal*, commonly known as "Ashwagandha" is well known for its therapeutic use in the ayurvedic system of traditional medicine. It has been used as an antibacterial, antioxidant, adaptogen, aphrodisiac, liver tonic, anti-inflammatory agent. It is a reputed health food and herbal tonic and used for cardiovascular diseases in ethnomedicine. It is available for human use either as a single herb or an ingredient of polyherbal or *herbomineral* formulations. The human doses of Ashwagandha are generally in the range of 4-6 g/day and expected to be safe and non-toxic. *Withania* contains active ingredients like steroidal alkaloids and lactones known as "*withanolides*". Withaferin A and *withanolide* D are the two main *withanolides* that contribute to most of the biological actions of *withania*. Stress, as a major cardiovascular risk factor leads activation of sympathoadrenal and hypothalamic pituitary adrenal (HPA) axis and causes oxidative stress. *Withania* possesses a potent anti-stressor effect and is reported to alleviate stress induced changes and provides cardio protection in ischemic rats similar to the properties ascribed to adaptogens like Panax ginseng. It also increases heart

weight and glycogen in myocardium and liver indicating intensification of the anabolic process and enhances the duration of contractility as well as coagulation time. So, this study was planned to assess the effect of Ashwagandha on hypertensive subject.

In Ayurveda the symptoms of *Raktagata* Vata very much resembles with hypertension. *Acharaya* Charaka explained the symptoms of *Raktagata* Vata under the context of Vata *Vyadhi* which is as follows.

Aggravation of Vayu in the blood gives rises to the signs such as acute pain, burning sensation, discoloration of skin, emaciation, anorexia, appearance of rashes on the body and stiffness of the body after taking food etc.

As we know the description about *Raktagata* Vata is available in ancient literature but the correlative interpretation between *Raktagata* Vata and hypertension has not yet been clear. No one has explored in detailed the *aetiopathological* aspect of *Raktagata* Vata in the light of Ayurvedic literature. So, present study efforts are done to understand the concept of *Raktagata* Vata in terms of Nidan Panchak and also to collect the various preventive measures for hypertension in Ayurveda such as life style management and *Upashyatmaka* role of *Aswagandha Churna* on hypertension. *Aswagandha* (*Withania somnifera*) has been popular in Ayurvedic drugs for thousands of years because, it energies body and improves longevity, but its potent anti- stress and anti-anxiety effect helps to reduce hypertension.

AIM AND OBJECTIVES

An *Nidanatmaka* (epidemiological) Study on *Raktagata* Vata (Hypertension) and A *Upashyatmaka*(Therapeutic) Study to Evaluate the Efficacy of *Aswagandha Churna*.

- To evaluate the *aetiopathological* aspect of the disease *Raktgata* Vata (Hypertension).
- To assess the *Upashyatmaka*(Therapeutic) effect of *Aswagandha Churna* in clinically diagnosed case of *Raktagata* Vata *w.s.r.* to Hypertension.
- Try to establish a guideline regarding dietary habit and life style of such type of disease.

MATERIALS & METHODS

In this dissertation a *Nidanatmaka* (Epidemiological) study on *Raktagata* Vata (Hypertension) and A *Upashyatmaka*(Therapeutic) study to Evaluate The efficacy of *Aswagandha Churna* is to be tried. To study signs and symptoms resembling hypertension with Ayurvedic *prespective*, classical books on Ayurveda, modern literature, available research updates and scientific information available on internet etc were searched and *analyzed*.

Study type - Open randomized control clinical study.

Slection of patient of *Raktagata* Vata will be done according to the proforma prepared for present clinical study, total 30 patient will be selected from the OPD and IPD of GACH, *Patna*.

Drug selected for purpose is *Aswagandha* (*Withania Somnifera*) *churna* (powder), the dose of the drug would be 5 gm. twice a day after meal. Trial drug will be prepared in the pharmacy of GACH, Patna as per classical text. Total duration of study will be 2 months.

Follow up will be done once in 15 days to assess the subjective criteria of improvement. Pathya *Aahara* and Vihara will be advised to the patient as per mentioned in classics.

INCLUSION CRITERIA

- Selection of patients will be done irrespective of sex, socioeconomical status.
- Patients of age group 20-70years are taken
- Patients having classical symptoms of Raktagata Vata given in Samhitas will be taken.

EXCLUSION CRITERIA

- Pregnant women and lactating mother.
- Patient suffering from genetical and congenital disease.
- Immunocompromised patient are not taken.
- Patient having any complication like diabetes and cancer.
- Patient having BP more than 200/110 mmHg are excluded.

LABORATORY INVESTIGATION:

Necessary investigations like CBC, ESR, lipid profile, RFT, LFT, and ECG will be done before and after the treatment.

DISCUSSION

Ashwagandha (*Withania somnifera*) is a prominent herb in Ayurvedic medicine, known for its rejuvenating properties and its role as a natural adaptogen. It is widely used to enhance energy, improve overall health, and prevent various diseases 12. Recent studies have explored its potential benefits in managing blood pressure, particularly in hypertensive individuals. The safety of Ashwagandha root extract has also been evaluated in a randomized, placebo-controlled study involving 80 healthy participants. The study found no significant adverse effects on vital signs, including systolic and diastolic blood pressure, over an 8-week period. This indicates that Ashwagandha is safe for consumption in healthy adults, with no significant changes in blood pressure or other vital parameters. Another study explored the effects of Ashwagandha and Terminalia arjuna on physical performance and cardiovascular health in healthy young adults. While Ashwagandha was found to improve physical performance metrics such as velocity and power, Terminalia arjuna specifically lowered resting systolic blood pressure. The combination of both herbs showed improvements in various health parameters, though it did not significantly affect diastolic blood pressure 4. This highlights the potential of Ashwagandha in enhancing physical performance and its complementary role with other herbs in managing blood pressure.

Essential Hypertension is a psychosomatic hemodynamic disease with a multi-factorial pathology and origin of several dietary, environmental and genetic factors. Numerous researches have been done, yet, there is a necessity for pursuing further research to find out some safe and effective therapy with no adverse effects and to prevent from life threatening complications of the Hypertension and save the Hypertensive population. EHT is a Vata-Pitta Pradhana *Tridoshaja Vyadhi* and the main pathogenesis occurs in Rasa, Rakta Dhatu and *Upadhatu* (Sira and Dhamani). Vyana Vayu which is the main Vayu responsible for the

maintenance or pumping function of the blood. It vitiation will lead over contraction of heart and increases of pressure in the blood vessel. If left untreated or its normal Gati it's do not bring back to normal it will further, cause *Sankoch* of *Vahinies* and by its Ruksha Guna it will dries up the inner *Uplepa* of *Malarupa* Kapha; enhances the process of Kathinya. Due to this there is narrow of pathway of circulation and *Avarodha* occurs in Rasa-Rakta *Vikshepana* Karma, causing forceful function of Vyana Vayu with increase of its Chala Guna. Due to which Vyana Vayu has to exert more pressure on the wall of Dhamani (blood vessels) to provide nourishment to different body part and lead to Essential Hypertension. After 21 days of treatment of *Ashwagandhadi Churna*

SBP was reduced by 18.6% from 153.7mmHg to 124.9mmHg. DBP was reduced by 18.5% from 103.7 to 84.4mmHg. The therapy significantly reduced mean pulse pressure by 18.8% from 49.8mmHg to 40.4mmHg and mean arterial pressure by 19.05% from 120.3mmHg to 97.4mmHg. The therapy produced highly significant result in *Shiroruka*, Klama, *Anidra*, *Bhrama* and decrease in Irritability. Hence it can be concluded that *Ashwagandhadi Churna* brought significant changes in blood pressure *withdecrease* of symptoms associated with essential hypertension and reduce in blood pressure to normal limits.

CONCLUSIONS

Ashwagandha shows promise as a natural supplement for managing blood pressure, particularly in stress-related hypertension. Its safety profile is well-established, making it a viable option for both hypertensive individuals and healthy adults. Further research is warranted to explore its long-term effects and optimal dosages for blood pressure management. Several studies have investigated the effects of Ashwagandha on blood pressure. One notable study examined the efficacy of Ashwagandha root powder in treating hypertension among 51 stress-oriented hypertensive subjects aged 40 to 70 years. The participants were divided into two groups, with one group receiving Ashwagandha with milk and the other with water. Over three months, a significant decrease in systolic blood pressure was observed in the group taking Ashwagandha with milk, while both groups experienced a significant reduction in diastolic blood pressure. This suggests that Ashwagandha, particularly when consumed with milk, may be beneficial in managing stress-related hypertension.

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