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EXHAUSTIVE STUDY OF VRIDDHADARU WITH SPECIAL REFERENCE TO RASAYANA

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Abstract-

Vṛddhadāru appears to be one of the most important drug for Rasayāna, described in various ancient texts. The etymological meaning of the plant itself suggests cardinal action of the plant as Rasayāna with special reference to prevention of aging. The thought to study 'Vṛddhadāru' was exhaustively done for establishing its Rasayāna and anti aging actions. To curb the increasing rise in the problems of aging and the problems of the aged, the properties of this herb were thought of. The aim, is not only to add years to life but, to life the years.

Key Points - Vruddhadaru, Rasayana, Biomarkers.

INTRODUCTION

Globalization of Ayurveda needs scientific study of Ayurvedic drugs from a modern point of view. Major attention is being provided to Ayurvedic drugs particularly in the field of Rasayāna, Adaptogenicity, immunomodulatory activity, etc.

Quite a few Rasayāna herbs have been studied on scientific backgrounds in depth and have come to the light till date.

Considering the need of anti aging Rasayāna herb like Vṛddhadāru, present study was mapped out. A thorough review of the drug right from the Vedic era till today was taken.

The objective parameters which were assessed to study the anti aging and Rasayāna effects of Vṛddhadāru are described here. The parameters are as follows:

1. DHEA-S
2. ESR
3. Hemoglobin %
4. Peak Flow Volume
5. Fat %
6. Weight
7. Total Leukocyte Count

BIO-MARKERS FOR AGING

1. DHEA-S

DHEA is a steroidal hormone manufactured in the body. DHEA-S operates as a powerful neurosteroid in the brain, modulating the transmission of

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messages from neuron to neuron and strongly influencing learning and memory processes. While our youth giving hormones are diminishing, loss of quality of life progressively settles in. We slowly begin to experience physical and mental decline; loss of energy, memory loss, visual and hearing impairment, arthritis, cardiovascular diseases, sexual decline to name a few. Supplementing small amounts of these neuro-hormones may slow down these age related processes, thus improving one's quality of life by rejuvenating the body to more youthful functioning.

In Ayurved, no direct hormonal replacement treatments are recommended but this science also explores the use of Rasayan treatments to maintain youthfulness and avoid aging.

The controlled study of Vṛddhadāru (*Argyreia speciosa)* over the geriatric group has shown a significant change in DHEA-S levels, thus proving its anti-aging properties. When administered for two months, in a dose of six g/day, in two divided doses, the DHEA-S levels have shown a significant rise in the blood.

Argyreia speciosa as per Ayurvedic samhitas have Katū, Tikta and Kaṣāya Rasa which do not nourish tissues, on the contrary wield an emaciating effect on the tissues. The Madhur Vipaka inhibits the disorientation of the tissues. Thus, it might be because of Madhur Vipaka that the enhanced activity of DHEA-S was shown.

2. ESR Changes

In the present study a significant decrease in ESR was observed in the experimental group when compared to the control group. This decrease in ESR indicates that *Argyreia speciosa* exerts some anti-inflammatory activity. This anti inflammatory activity can be ascribed due to its DHEA-S enhancing activity. It has been postulated that cortisol plays a major role in enhancing body stress which is counteracted with DHEA-S, thus relieving body stress and hence reduces ESR.

3. Hemoglobin % changes

No significant rise in Hemoglobin was observed. In the experimental group all the subjects were not anemic. Hence a special work needs to be carried out to see the effects on hemoglobin depleted patients.

4. Peak Flow Volume (PFV)-expiration

Oxygen holding capacity or PFV diminishes with aging. It is postulated in respiratory function of senile persons aged 60 years or above that restrictive ventilation impairment aggravates with age, but the severity of obstructive ventilation impairment is slight. The main function of the respiratory system is secure

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gas exchange: oxygen, which fuels metabolism.

The study shows a significant increase in experimental group. This change brought about may be due to decrease in the inflammatory factors in the lungs as was seen in the significant decrease in the ESR. It has also been seen that DHEA-S enhances skeletal muscle strength which may indirectly exert its effect on PFV.

5&6. Fat % and weight changes

Argyreia speciosa showed a significant change in Fat % and weight of the experimental group.

As people age, especially after 40, they lose one-third to one-half of a pound of muscle each year and gain that much in body fat. Although this may seem minuscule, in fact it is quite significant as it translates to about 1 to 2 percent loss of strength each year. With this loss of muscle strength, people tend to spontaneously become less active. Daily activities become more difficult and exhausting.

Argyreia speciosa showed a significant change in weight of the experimental group. A significant increase in weight and fat mass was observed.

As *Argyreia speciosa* has a predominant Tikta and Katū Rasa and exerts Madhur Vipaka, it helps to improve appetite of the individuals. This is again supported by the observations. This gain in appetite might have brought a change in fat mass and weight in the subjects of experimental group. None of the individuals in the study was advised a particular dietary schedule.

Argyreia speciosa enhances DHEA-S levels which are precursor to testosterone and testosterone is known to build muscle weight. If we would have given the medicine for a prolonged period then it would have shown a significant change in weight of muscles. Though fat % was increased in experimental group none of the individual's complained about loss of strength or weakness. On the contrary a significant development in strength and vigor was noticed.

7. Total Leukocyte Count (TLC) Changes

No significant TLC changes were observed.

As white blood cells are closely related to the immune system, it was very important to see the effects of *Argyreia speciosa* on White Blood Cells. Our study did not reveal any significant changes in TLC or any of the White Blood Cells. It has been documented that DHEA-S potentiates immune system. It is very clear that *Argyreia speciosa* stimulates DHEA-S secretion but it is not clear that this much

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stimulation of DHEA-S is sufficient to enhance immunity or not. More sensitive investigation concerned with immune system is essential to prove the effects of *Argyreia speciosa* on immunity.

DISCUSSION ON RESULTS USING CLINICAL PARAMETERS

1. Improvement in appetite

As the herb contains Katū and Tikta Rasa, which is dominant, it stimulates the *Agni*, Resulting in appetite enhancing Deepana effect. Katū Rasa specially stimulates autonomous nervous system which helps to improve the appetite.

2. Improvement in Bowel function

Constipation tends to be more of a problem as we age.

In this study, a peculiar and most important effect of the herb was seen among roughly all the patients. It was noticeably seen that every patient underwent good bowel regulation when they were kept on *Argyreia speciosa* treatment.

One of the patients who had an old history of IBS had more frequent motions but he never complained about any weakness.

This effect of *Argyreia speciosa* may be due to the high hydrolysable tannins present in it. The fiber is also high which might have been responsible for the constipation relieving activity. As the herb exerts a significant enhancement in DHEA-S levels, these changes might impart a change in the intestinal tone and improve the intestinal transit time.

3. Improvement in tiredness

A good improvement in tiredness especially in the old age group of people was observed.

This effect might be due to the improvement in muscle mass and strength.

4. *Improvement in Energy and Vigor*

Good Improvement was seen. This was basically due to enhancement of DHEA-S levels.

5. Relief in Urinary problems

Vṛddhadāru treatment showed statistical and significant relief in old age urinary problems.

As *Argyreia speciosa* exerts effects on DHEA-S which is precursor to testosterone and other hormones, it might be responsible for improving the urinary problems of the aged.

The medicine might have enhanced the bladder muscle tone and hence relieved incontinence of urine.

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6. Improvement in libido and Sexual Dysfunction

Argyreia speciosa imparted a change in libido in aged people. Cortisol is responsible for inducing loss of libido. Stimulation of DHEA-S due to the herb thus brought a change in libido which was statistically significant.

7. Improvement in Memory

As the herb showed a significant increase in DHEA-S levels, it might indirectly work for the enhancement of memory. *Argyreia speciosa* may exert its activity through neuro endocrine regulation if used for a long term period.

8. Behavioral changes

Mild improvement in behavioral changes was observed.

The effects on well-being, mood and cognitive performance in elderly subjects using standardized questionnaires and well evaluated test results were studied. An overall observation could not be concluded but some men showed a trend towards increased quality of life and a better performance in their regular activity.

9. Changes in menstrual cycle

In the study, female subjects were all above 60 years of age and hence in their menopausal stage.

Thus, no record of any related symptoms.

10. Changes in hair color

A change in hair color typically occurs naturally as people age, usually turning their hair grey and then white.

The administration of this herb did not show any effects on the hair color. Even though it showed excellent anti aging properties, no effects were shown on hair color.

11. Skin and elasticity changes

Mild improvements in skin and elasticity changes were observed. *Argyreia speciosa* like herbs if given prior to the aging effects on skin may prove helpful in retarding the collagen changes and mucopolusaccharides alteration in the skin.

12. Effects on loss of hearing and decreased vision

No significant changes were noticed.

13. Effects on abdominal obesity

This treatment did not show any significant changes in abdominal obesity. Fat % was seen to be slightly increased.

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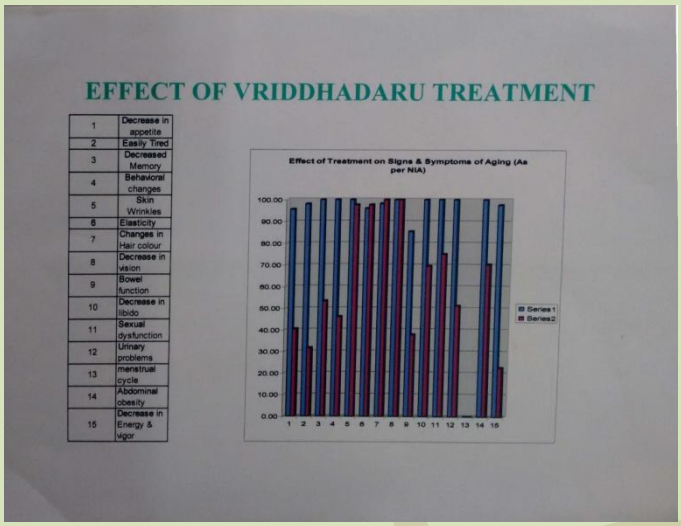
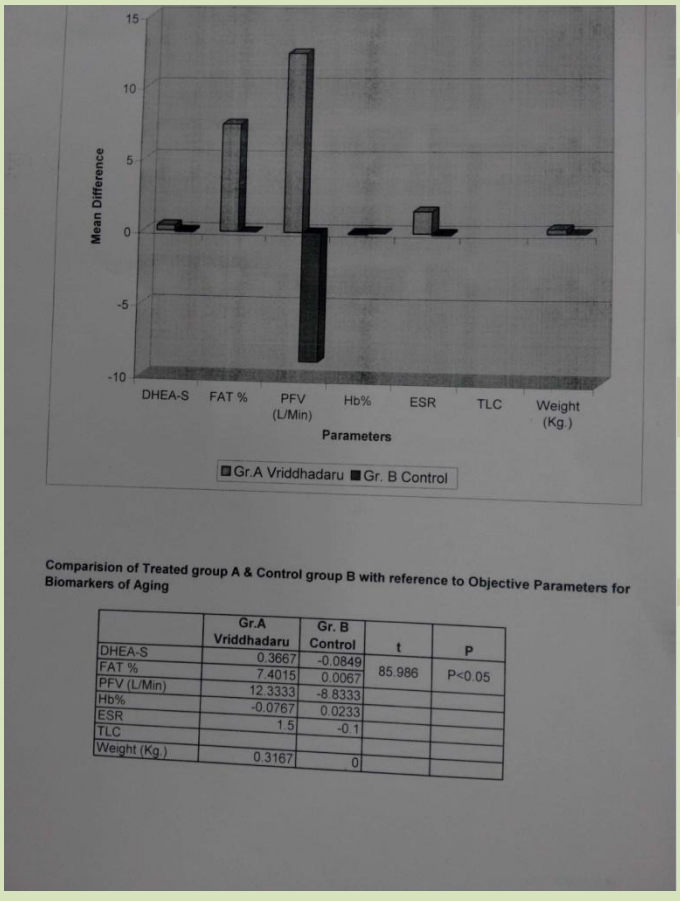
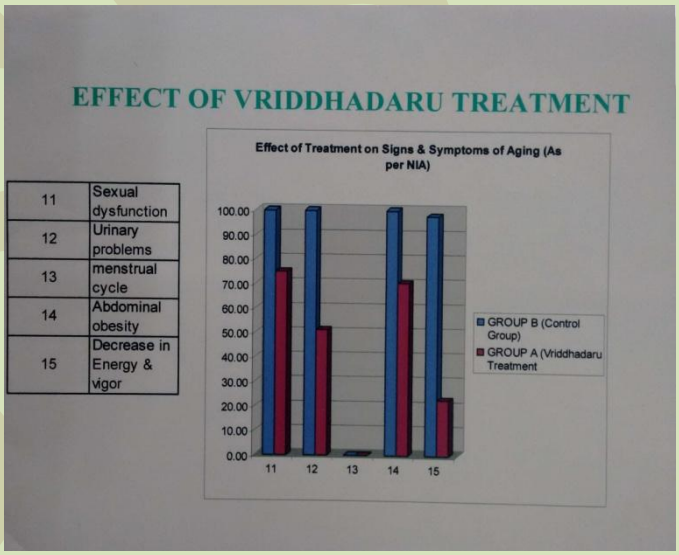
CONCLUSION





Comparision of Treated group A & Control group B with reference to Objective Parameters for Biomarkers of Aging

	Gr.A Vriddhadaru	Gr. B Control	t	P
DHEA-S	0.3667	-0.0849	85.986	P<0.05
FAT %	7.4015	0.0067		
PFV (L/Min)	12.3333	-8.8333		
Hb%	-0.0767	0.0233		
ESR	15	-0.1		
TLC				
Weight (Kg.)	0.3167	0		



1. Argyrecia speciosa sweet (Syn. Argyreia nervosa (Burn.f.) Bojer) family of convolvulaceae is to be used as Vrddhadaru.

2. The specific Rasayana effect of Argyreia speciosa is exhibited on the following symptoms of aging such as-

3 Argyrecia speciosa exerts a good enhancing effect on DHEA-S

4 Argyrecia speciosa significantly increases appetite in older age group.

5 Argyrecia speciosa helps to improve tiredness due to ageing.

6 Prolonged treatment may bring out some change in memory in dementia induced by ageing

7 No significant change seen in vision and hearing loss in old age..Further studies recommended.

8 Argyreia speciosa does not exert any significant change in hair colours or hair loss in aged persons.

9 Significant change are exerted by Argyrecia speciosa in context of change in libido in aged persons.

10 Argyreia speciosa brings a significant change in urinary complains in males as well as females, having incontinence due to BHP in males or muscular weakness in females.

11 Argyreia speciosa does not impart any noticeable change in behavior of aged persons.

12 No change in skin elasticityis found in aged persons after administration of Argyreia speciosa Either it showed any change in skin texture or colour.

13 Argyreia speciosa exerts a good significant change in regulation of bowels. All the individuals in the study showed remarkable.effect.

14 Argyreia speciosa showed enhancement in fat% and weight of experimental group which lead to increased power and vigor.

15 A significant reduction in ESR is seen which directly indicates its anti inflammatory activity.

16 Argyreia speciosa does not help to increase haemoglobin% in aged persons. It significantly improves PFV in them.

Thus it can be concluded that Argyreia speciosa sweet exerts a good anti aging activity in Geriatric persons.

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