

## EVALUATION OF CLINICAL EFFECT OF ASHWAGANDHA (WITHANIA SOMNIHERA) AS A RASAYANA IN ELDERLY PERSONS

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### ABSTRACT

*Jara Vyadhi is Swabhavika Vyadhi. Acharya Dalhana divided Jara into two parts Premature Ageing) In this clinical trial 30 patients attending OPD unit of NIA Hospital were allocated into two groups. In Group A, 15 subjects were registered in middle age group of 30-60 years. In Group B, between 60-80 years. The subjects were given Haritakyadi churna for Koshtha Shodhan depending upon the Koshtha and Ashwagandha granules 5gm BD with milk for 3 months. Subjects were assessed in terms of subjective( Rasayana Prabhav) Smriti Medha on the reference cha chi- 1/1/7-8, Clinical Improvement (Kalaja and Akalaja Jara Lakshan) A.S. Sha 8/22, physiological, Psychological (Anxiety Level, Adjustment Level, Immediate memory span) ADL (activities of daily living) and IADL, Hematological and Biochemical parameters and Biological Age Scale and results were noted. Ashwagandha (Withania somnifera) proved anti-ageing agent particularly in subjects of Akalaja Jara (Premature Ageing) Group B.*

**Keywords:** Jara, Vaya, Kalaja, Akalaja Jara etc.

### INTRODUCTION

Our world is growing with 75 million senior citizens in India<sup>1</sup>. While the number has gone up the quality of life has gone down. Industrialization, migration, urbanization and westernization have severely affected value system. The joint family & the natural support system has been crumbled, which adversely affects the health of elderly person. The present research work was an attempt to search the remedies and other health care modalities, which may improve quality of life in aged persons. In Ayurveda specialized Therapy has been mentioned as *Jarachikitsa i.e. Rasayana* Therapy, which may be employed to prevent ageing especially Premature Ageing. The *Rasayana* therapy is one of eight major disciplines of *Ashtanga Ayurveda*. *Rasayana* is the means of obtaining the best qualities of *Dhatu* 'Lab-

*hopayo Shastanam Rasadinam Rasayana*<sup>2</sup>. *Rasayana* is an agent, which prevents premature ageing & promotes intellect, memory, provides immunity against diseases and thus helps an individual in living energetic life (Cha.chi.1/5). In the present study attempts have been made to study the demographic features of a series of aged persons and to evaluate the therapeutic and *Rasayana* effect of an Indigenous drug *Ashwagandha* (*Withania somnifera*) in apparently healthy 30 elderly subjects on certain scientific parameters relevant to the process of ageing.

**Concept of JARA:** In Ayurvedic Classics, great emphasis has been laid down over ageing in terms of 'Vaya' and 'Ayu'. The specification of particular stages in relation to the span of life is known as 'Vaya'. the one which is passed away is *Vaya* (Ch.Vi

1/122). The Ayurvedic texts have also given due emphasis over the process of ageing & related health problems. According to *Ayurveda*, the *Jara* (ageing) is a natural phenomenon like hunger, thirst & sleep. *Ayurveda* divides whole span of life into 3 parts viz *Balayavastha* (Childhood), *Madhyavastha* (middle age), *Vradhavastha* (old age) (Ch.Vi 1/122). The last phase of life span is considered as *Jara*, which is described as a natural & inevitable process as well as a natural disorder. *Jara* is *Swabhavika Vyadhi* hence can be classified into *Kalaja* and *Akalaja* since *Swabhavika Vyadhis* are classified in these 2 types according to *Acharya Sushruta*.

**Process of ageing in different body tissues:** In *Ayurvedic* Classics, *Vridha Vagbhat*<sup>3</sup> has mentioned that particular thing is being lost passing each decade of life. *Acharya Sharangadhara* has divided the span of 120 years of life in 12 decades (Sha.P.K 6/19) & has described decade wise loss specific *Dhatus* in each decade. *Acharya Bhavaprakasha* has also expressed similar view. (B.P Pk4/5)

#### **Aim and objectives:**

- I. Conceptual studies are on ageing & its care in *Ayurveda* & Modern medicine.
- II. Clinical evaluation of *Rasayana Prabhava* of *Ashwagandha* (*Withania somnifera*) on various scientific parameters in elderly persons.

#### **MATERIAL & METHODS**

30 apparently healthy subjects attending to OPD/IPD of *Arogyashala*, NIA Jaipur were registered for present trial. Subjects having specific diseases like Tuberculosis, Diabetes mellitus, Typhoid, Rheumatoid Arthritis & malignancies etc. were not registered. Selected subjects were randomly divided into following 2 groups consisting of 15 subjects each. In **Group A:** age group of 30-60 years suffering from '*Akalaja Jara*' ( Premature Ageing ) were se-

lected and in **Group – B:** age group of 60-80 years i.e. subjects of *Kalaja Jara* (Timely Ageing) were selected.

#### **Administation Of Drug:**

( I ) **Samshodhana:** It is clear from the classical reference that no 'Rasayana' effect can be produced in the individual without proper Samshodhana of his body<sup>4</sup> (Su.Chi 27.4). Therefore all the subjects were given 'Haritakyadi Churna (Ch.Chi 1/1-25) in the dose of 5-10gms at bed time with lukewarm water for 3-5-7 days according to condition of their Koshtha.

(II) All registered subjects were administered *Ashwagandha granules*<sup>5,6</sup> in the dose of 5 gms BD with milk for 3 months.

#### **PARAMETERES OF ASSESSMNT**

**Subjective Improvement:** Attempts were made to work out the incidence of subjective improvement produced by the drug under trial in the form of increase in the feeling of well-being, physical & mental fitness. In addition all the subjects were assessed in terms of various 'Rasayana Prabhava' produced in their bodies on the basis of *Ramayana* effects described in *Charaka Samhita* (Ch.Chi. 1-1/7-8)

**Clinical Improvement:** Patients were assessed on symptoms Rating Scale (**Sharma et al**) for the improvement in symptoms of *Kalaja Jara* & *Akalaja Jara* respectively as described in *Ashtanga Samgraha* (As.Sha8/22) before & after the therapy.

**Physiological Improvement:** The influence of *Rasayana* Therapy given was objectively assessed in each individual every month on following factors- weight, Blood pressure, pulse and respiration rate and breath holding time.

#### **Psychological improvement**

- a. Anxiety Level-in terms of State Anxiety, trait Anxiety & free-Floating Anxiety.
- b. Adjustment Level.
- c. Immediate Memory Span.

d. Sleep Pattern.

### Haematological Improvement

- Total Leucocyte Count/Comm.
- Differtial Leucocyte count /Cumn.
- E.S.R in mm for 1<sup>st</sup> hour.
- Hemoglobin gm%

### Biochemical Parameters

- Serum Cholesterol in mg/dl
- Serum triglyceride in mg/dl
- High Density Lipoproteins (HDL) in mg/dl
- Low Density Lipoproteins (LDL) in mg/dl
- Very Low density Lipoproteins(VLDL) in mg/dl

**Biological Age Scale (B.A.S):** A Fourteen Points age scale developed by Paul &Singh (1978) was used to assess gross biological changes related to ageing before &after the therapy.

**ADL&IADL:** ADL (Activities of Daily Living<sup>7</sup>) & IADL (Instrumental activities and daily living) were measured in Kalaja Jara group with the help of a scale developed by WHO regional office of South-East Asia.

### OBSERVATIONS &RESULTS

#### SUBJECTIVE IMPROVEMENT:

**Table No.1 Showing Pattern of Rasayana Effects of Ashwagandha in Akalaja Jara(Premature Ageing ) Group-A**

Sn. no.	Rasayana Effect	B.T (mean)	A.T (mean)	Mean diff./ Improvement	S.D+-	S.E	't'cal	P value
1	Smriti	1.80	2.06	0.26	0.461	0.119	2.18	P>0.02
2	Medha	1.93	2.26	0.33	0.794	0.20	2.61	P<0.05
3	Arogya	1.86	2.30	0.46	0.55	0.142	3.23	P<0.01
4	Prabha	1.53	1.93	0.4	0.507	0.131	3.03	P<0.01
5	Varna	1.66	1.92	0.26	0.457	0.118	2.20	P<0.05
6	Swara	1.73	1.99	0.26	0.703	0.181	1.43	P>0.10
7	Dehabala	1.73	2.59	0.86	0.83	0.216	3.98	P<0.01
8	Indriya	1.93	2.00	0.06	0.90	0.232	0.258	P>0.10

**Table No. 2 Showing the Pattern of Rasayana Effects of Ashwagandha in Kalaja Jara (Timely Ageing ) Group- B**

Sir no.	Rasayana Effect	B.T (mean)	A.T (mean)	Mean diff./ Improvement	S.D+-	S.E	't'cal	p value
1	Smriti	1.80	2.40	0.6	0.736	0.190	3.15	P<0.01
2	Medha	1.93	2.19	0.26	0.557	0.144	1.80	P>0.10
3	Arogya	1.46	2.32	0.86	0.83	0.216	3.98	P<0.01
4	Prabha	1.60	2.00	0.4	0.74	0.193	2.76	P>0.02
5	Varna	1.50	1.76	0.26	0.461	0.119	2.18	P<0.05
6	Swara	1.66	1.79	0.13	0.353	0.091	1.42	P>0.10
7	Dehabala	1.6	2.44	0.86	0.83	0.216	3.98	P<0.01
8	Indriya Bala	1.93	2.00	0.06	0.90	0.232	0.258	P>0.10

In Akalaja Jara, significant results were obtained in Medha, Arogya, Prabha Varna &Dehabala after the Therapy no result was found in Swara, Indriyabala in both the group. While no Result was found in Medha in Kalaja Jara, rest of the Factors

i.e. Smriti, Prabha & Dehabala Showed significant improvement.

### CLINICAL IMPROVEMENT (ANTI AGEING EFFECT)

**Table No.3 Showing the Pattern of Anti Ageing Effect in 15 Cases (Clinical Re-**

covery) of Akalaja Jara (Group-A)				Treated with Ashwagandha				
Sr no	Anti Ageing Effect	B.T (mean)	A.T (mean)	Mean diff./Improvement	S.D+-	S.E	't'cal	P value
1	Palitya	1.06	0.93	0.13	0.86	0.224	0.580	P>0.10
2	Khalitya	1.53	1.33	0.20	0.39	0.101	1.98	P<0.05
3	Shlthasar manasathisandhita	2.13	1.67	0.46	0.639	0.165	2.78	P>0.02
4	Twaka Parushya	2.46	1.93	0.53	0.63	0.165	3.21	P<0.01
5	Loss of Prabha	2.13	1.53	0.60	0.736	0.190	3.75	P>0.01
6	Loss of Varna	2.13	1.73	0.40	0.82	0.213	1.87	P<0.05
7	Medha Hani	2.06	1.80	0.26	0.461	0.119	2.18	P<0.01
8	<b>Utsaha Hani</b>	<b>2.2</b>	<b>1.6</b>	<b>0.6</b>	<b>0.738</b>	<b>0.190</b>	<b>3.15</b>	<b>P&lt;0.01</b>

Table No. 4 Showing the Pattern of Anti Ageing Effect in 15 Cases (Clinical Recovery) of Kalaja Jara (Group -B) Treated with Ashwagandha.

Sr no.	Anti Ageing Effect	B.T (mean)	A.T (mean)	Mean diff./Improv.	S.D+-	S.E	't'cal	P value
1	Palitya	2.60	2.60	0	0	0	0	-
2	Khalitya	2.73	2.33	0.4	0.721	0.186	2.15	P<0.05
3	Shlthasar manasathisandhita	2.13	2.03	0.1	0.259	0.066	1.96	P>0.10
4	Avanama	1.66	1.53	0.1	0.259	0.066	1.96	P>0.10
5	Vepathu	1.46	1.26	0.20	0.552	0.142	1.40	P>0.10
6	Kasa-Shwasa	2.46	2.06	0.40	0.57	0.169	2.68	P<0.05
7	Shlthasar manasathisandhita Kodeeran	2.80	2.40	0.4	0.721	0.186	2.15	P<0.05
8	Urinary incontinence	1.73	1.33	0.4	0.63	0.163	2.45	P<0.05
9	Depression	2.6	2.14	0.46	0.76	0.196	2.34	P<0.05
10	Falls	1.06	0.80	0.26	0.703	0.181	1.43	P>0.10
11	Immobility	2.3	1.87	0.26	0.457	0.118	2.20	P<0.05
12	Vision Impairment	2.13	1.93	0.20	0.47	0.107	1.86	P>0.10
13	Hearing Impairment	1.86	1.66	0.20	0.47	0.107	1.86	P>0.10
14	<b>Intellectual impairment</b>	<b>2.50</b>	<b>1.90</b>	<b>0.60</b>	<b>0.738</b>	<b>0.190</b>	<b>3.15</b>	<b>P&lt;0.01</b>

#### In Akalaja Jara (Group-A)

There was statistically significant improvement in Shlthasamamsasthi Sandhita (flabbiness of muscles & joint), *Twak Parushya* (dryness of skin), loss of Prabha, Medha Hani & Utsaha Hani after the therapy. No significant improvement was no-

ticed in Symptoms like *Palitya, Khalitya* & loss Of Varna.

#### In Kalaja Jara (Group -B)

Significant improvement was noticed in *Kasa, Shwasa, Shleshmasinghanakodeeran* (Increased sputum & nasal secretion), Urinary incontinence, Depression, intellectual impairment. No improvement

was noticed in *Palitya* (graying of hair), *Khalitya* (Baldness) & *Shlthasaramamsa-thisandhita*, *Avanama* (bending of Body), *Vepathu* (Tremors), Impairment of vision & Impairment of hearing.

## PHYSIOLOGICAL ASSESSMENT

**Table No.5: The pattern of Physiological changes in 15 cases of *Akalaja Jara* (Premature Ageing) (Group -A) Treated with *Ashwagandha*.**

Sr no.	Physiological Parameters	B.T (mean)	A.T (mean)	Mean Diff/Improv.	S.D+-	S.E	't'cal	P value
1	Body Weight in Kg	62.80	63.90	1.1	0.54	0.14	7.85	<b>P&lt;0.001</b>
2	Systolic Blood Pressure in mm Hg	116.26	113.20	3.73	3.29	0.85	4.388	<b>P&lt;0.001</b>
3	Diastolic Blood Pressure in mm Hg	78.26	76.93	1.33	2.99	0.77	1.72	<b>P&gt;0.10</b>
4	Pulse Rate per min	80.93	81.23	0.30	2.12	0.547	0.47	<b>P&gt;0.10</b>
5	Rate of Respiration per min	19.46	18.33	1.13	0.99	0.256	4.414	<b>P&lt;0.001</b>
6	<b>Breath Holding Time In Seconds</b>	<b>33.20</b>	<b>38.40</b>	<b>5.2</b>	<b>1.20</b>	<b>0.311</b>	<b>16.72</b>	<b>P&lt;0.001</b>

**Table No.6 The pattern of Physiological changes in 15 cases of *Kalaja Jara* (Timely Ageing) (Group -B) Treated with *Ashwagandha***

Sir no.	Physiological Parameters	B.T (mean)	A.T (mean)	Mean Diff/Improv.	S.D+-	S.E	't'cal	P value
1	Body Weight in Kg	63.0	64.46	1.46	0.398	0.103	14.17	<b>P&lt;0.001</b>
2	Systolic Blood Pressure in mm Hg	121.33	118.00	3.33	2.89	0.748	4.45	<b>P&lt;0.001</b>
3	Diastolic Blood Pressure in mm Hg	77.73	76.93	0.80	1.527	0.39	2.03	<b>P&gt;0.10</b>
4	Pulse Rate per min	82.80	85.30	2.53	2.329	0.601	4.02	<b>P&gt;0.10</b>
5	Rate of Respiration per min	19.73	18.60	1.13	0.961	0.248	4.55	<b>P&lt;0.001</b>
6	<b>Breath Holding Time In Seconds</b>	<b>30.66</b>	<b>36</b>	<b>5.33</b>	<b>1.496</b>	<b>0.386</b>	<b>13.80</b>	<b>P&lt;0.001</b>

The observation reveals that there was significant improvement in Body Weight, Systolic blood pressure. Respiratory rate & Breath Holding time in both the group after a course of *Ashwagandha Rasayana*. No significant change in Diastolic Blood pressure was noted in either group.

#### PSYCHOLOGICAL CHANGES

It was observe that was highly significant improvement in all the psycholog-

ical parameter in both the group after *Ashwagandha* therapy viz in Anxiety level, Immediate Memory Span, Adjustment Level and Sleep Pattern.

**Table No. 7 Showing the Pattern of Psychological Changes in 15 cases of Akala-Jara (Premature Ageing) (Group -A) Treated with *Ashwagandha***

Sir no.	Psychological Parameters	B.T (mean)		A.T (mean)	Mean diff./Imp. Reduct.	S.D+-	S.E	't'cal	P value
1	Anxiety Level	S.A	59.26	45.06	14.20	4.54	1.175	12.08	P<0.001
		T.A	70.33	52.33	18.00	7.76	2.007	8.96	P<0.001
		F.A	65.20	40.10	25.10	6.89	1.78	14.10	P<0.001
2	Immediate Memory Span	IMS	12.60	20.40	7.8	2.539	0.56	11.80	P<0.001
		Di.	12.30	17.60	5.5	1.4	0.36	15.32	P<0.001
		Indi.	5.13	9.26	4.13	1.356	0.35	11.80	P<0.001
3	Adjustment Level	50.80		32.66	18.10	5.44	1.40	12.92	P<0.001
4	Sleep Pattern	3.13		1.46	1.73	0.70	0.182	9.50	P<0.001

**Table No.8 Showing Pattern of Psychological Changes in 15 Cases of Kalaja Jara (Timely Ageing) (Group -B) Treated with *Ashwagandha*.**

Sr no	Psychological Parameters	B.T (mean)		A.T (mean)	Mean diff./Imp. Reduct.	S.D+-	S.E	't'cal	P value
1	Anxiety Level	S.A	55.26	46.93	8.3	6.44	1.664	4.98	P<0.001
		T.A	75.26	60.00	15.26	12.04	3.11	4.90	P<0.001
		F.A	64.33	49.13	15.20	14.62	3.78	4.02	P<0.001
2	Immediate Memory Span	IMS	16.26	23.80	7.8	3.505	0.90	8.66	P<0.001
		Di.	12.20	18.26	6.1	2.086	0.539	11.31	P<0.001
		Indi.	6.13	10.86	4.6	0.80	0.207	22.22	P<0.001
3	Adjustment Level	31.53		47.53	15.46	5.95	1.53	10.10	P<0.001
4	Sleep Pattern	1.60		2.93	1.33	0.48	0.126	10.55	P<0.001

Where **S.A** =State Anxiety, **T.A**=Trait Anxiety, **F.A** =Free Floating Anxiety, **IMS**=Immediate Memory Span, **Indi**= Indirect Test for Memory, **DI**= Direct Test for Memory.

## HAEMATOLOGICAL IMPROVEMENT

**Table No.9 Showing the Pattern of Hematological Changes in 15 cases of Akalaja Jara (Premature Ageing) (Group - A) Treated with Ashwagandha**

Sir no.	Hematological Parameters	B.T (mean)	A.T (mean)	Mean Diff/Improv.	S.D+-	S.E	't'cal	P value
1	Erythrocyte Sedimentation Rate	9.0	7.4	2.53	1.726	0.446	5.60	P<0.001
2	Hematological Gm%	11.94	13.43	0.62	0.607	0.156	3.95	P<0.01
3	<b>Total Leucocytic country/cu.mm</b>	<b>6346</b>	<b>5853</b>	<b>493.3</b>	<b>332.66</b>	<b>85.96</b>	<b>5.738</b>	<b>P&lt;0.001</b>

**Table No.10 Showing the Pattern of Haematological Changes in 15 cases of Kalaja Jara (Timely Ageing) (Group -B) Treated with Ashwagandha**

Sir no.	Hematological Parameters	B.T (mean)	A.T (mean)	Mean Diff/Improv	S.D+-	S.E	't'cal	P value
1	Erythrocyte Sedimentation Rate	11.66	6.66	5.0	3.422	0.884	5.65	P<0.001
2	Hematological Gm%	12.60	13.44	0.62	0.607	0.156	3.95	P<0.01
3	<b>Total Leucocytic country/cu.mm</b>	<b>6746</b>	<b>5920</b>	<b>826.66</b>	<b>100.83</b>	<b>103.57</b>	<b>7.98</b>	<b>P&lt;0.001</b>

It was observed that there was significant reduction in T.L.C& E.S.R with significant improvement in Hb gm% in both, the groups after the therapy with Ashwagandha.

\*No biochemical changes in lipid profile were observed in either group

## BIOLOGICAL AGE SCALE

**Table No.11: Showing the pattern of improvement in the factors of Biological Age Scale in 15 cases of Akalaja Jara (Premature Ageing) which shows significant improvement in 5 factors treated with Ashwagandha.**

Sir no.	Biological Age Scale	B.T (mean)	A.T (mean)	Mean Diff/Improv.	S.D+-	S.E	't'cal	P value
1	General Feeling	2.00	1.13	0.86	0.351	0.090	9.55	P<0.001
2	Activities	2.00	1.33	0.66	0.487	0.124	5.32	P<0.001
3	Sex Life	2.06	1.73	0.33	0.487	0.126	2.75	P<0.02
4	Sleep Pattern	1.66	1.13	0.53	0.516	0.133	4.076	P<0.01
5	<b>Adjustment to Weather</b>	<b>1.40</b>	<b>1.20</b>	<b>0.26</b>	<b>0.457</b>	<b>0.118</b>	<b>2.36</b>	<b>P&lt;0.05</b>

**Table No.12: Showing the pattern of improvement in the factors of Biological Age Scale in 15 cases of Kalaja Jara**

**(Timely Ageing) which shows significant improvement in 6 factors treated with Ashwagandha.**

Sir no.	Biological Age Scale Factors	B.T (mean)	A.T (mean)	Mean Diff/Improv. /Reduct	S.D+-	S.E	't'cal	P value
1	General feeling	1.60	0.86	0.73	0.457	0.118	6.18	P<0.001
2	Activities	1.20	0.86	0.40	0.507	0.131	3.053	P<0.01
3	Sex Life	1.06	0.66	0.46	0.516	0.133	3.45	P<0.01
4	Sleep Pattern	1.86	1.53	0.33	0.487	0.126	2.75	P<0.02
5	Adjustment to weather	1.06	0.73	0.33	0.487	0.126	2.75	P<0.02
6	Memory	1.46	1.20	0.26	0.457	0.118	2.36	P<0.05

It was observed that there was significant improvement in both the group in several factors of fourteen point B.A.S after the therapy with *Ashwagandha Rasayana*

**ACTIVITY OF DAILY LIVING (ADL)**  
Table No.13 showing the pattern of Activities of Daily Living (ADL) in 15 cases of *Kalaja Jara* (Timely Ageing) (Group - B) treated with *Ashwagandha*.

Sir no.	Parameters	B.T (mean)	A.T (mean)	Mean	S.D+-	S.E	't'cal	P value
1	Activities of Daily Living	12.86	15.46	2.6	0.92	0.238	10.92	P<0.001

Table No.14 showing the pattern of different factors of Activities of Daily Living (ADL) in 15 cases of *Kalaja Jara*

(Timely Ageing) (Group -B)Treated with *Ashwagandha*.

Sir no	Activates of daily Living	B.T(mean)	A.T(mean)	%of Reduction /improvement
1	Bowel	1.00	1.66	66.00
2	Bladder	1.06	1.73	63.20
3	Grooming	0.93	1.26	35.48
4	Toilet use	0.80	0.86	7.5
5	Feeding	1.6	1.6	0.0
6	Dressing	1.53	1.66	8.49
7	Stairs	0.93	1.33	43.01
8	Bathing	0.66	0.86	30.30
9	Transfer	2.06	2.33	13.10
10	Mobility	2.06	2.46	19.41

ADL is applicable only to the subjects of *Kalaja Jara* (Timely Ageing) i.e. in Group B since the scale has been designed by WHO, only for those subjects who have obtained the age of 60 years or more. ADL showed significant improvement in *Kalaja Jara* (Timely Ageing) group.

## DISCUSSIONS

After reviewing overall results in 30 subjects, it was observed that the quantum

*Rasayana Prabhava* of *Ashwagandha* produced in *Akalaja Jara* group was more than *Kalaja Jara* group since in *Kalaja Jara* (Timely Ageing), certain irreversible changes take place in the body, which can't be corrected by any medications. Improvement in Body weight after *Ashwagandha* therapy suggestive of anabolic effect of *Ashwagandha* & Improvement in physiological factors like systolic Blood



Pressure, Respiration Rate & Breath Holding time indicates improved cardio-respiratory status of the subjects after *Ashwagandha Rasayana* Therapy. Improvement in State Anxiety, Trait Anxiety & Free floating anxiety indicates marked tranquility of mind produced by *Ashwagandha*. Improvement in immediate Memory Span suggests improvement in mental function. *Ashwagandha* also induced sound sleep by improving sleep pattern of all the Subjects. Hematological studies conducted showed significant improvement in Hb gm% level and significant decrease in E.S.R these strongly support immunomodulatory effect of *Ashwagandha*. Similarly it was observed that there was statistically significant improvement in various factors of Biological Age scale and activities of daily living after a course of therapy with *Ashwagandha Rasayana*. The clinical studies conducted on *Ashwagandha* revealed significant anabolic, immunomodulation, Anxiolytic, psychotropic effect. Various scientific parameters in the present study confirm its properties like *Balya*, *Vrishya* (Aphrodisiac), *Brihana* (nourishing), *Medhya* (cognitive improvement) & *Vatahara* properties as described in *Ayurvedic* classics. Thus various *Rasayana Prabhava* & anti-ageing effects of *Ashwagandha* described in *Ayurveda* are significantly supported by the finding of current research present.

### CONCLUSION

*Ashwagandha* (*Withania somnifera*) may prove to be a potent anti-ageing agent particularly in subjects of *Akalaja Jara* (Premature Ageing). *Ashwagandha* can be used in elderly person for improving mental function & Physical strength. *Ashwagandha* is a potent immunomodulator drug, which strengthens the immune system of Human Body. Thus, *Ashwagandha*

(*withania somnifera*) is a classical *Rasayana* drug especially for elderly person.

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