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# **Research Article**

# A COMPARATIVE CLINICAL STUDY OF *SHATAVARYADI* AND *GUDUCHYADI CHURNA* ON *RAJONIVRUTTI AVASTHA* WITH SPECIAL REFERENCE TO POSTMENOPAUSAL SYNDROME

# Utpal Deb Barma<sup>1\*</sup>, Sushila Sharma<sup>2</sup>, B.Pushpalatha<sup>3</sup>, Hetal H. Dave<sup>4</sup>

\*¹PG Scholar, ²Professor, ³Associate Professor, ⁴Assistant Professor, Dept. of Prasuti & Stree Roga, National Institute of Ayurved, Aamer Road, Jaipur, Rajasthan, India.

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#### **ABSTRACT**

The menopause is permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity. Shatavaryadi Churna and Guduchyadi Churna- both drugs are 6grams twice daily before meal with milk for 2 months in two groups has been given. Both are effective in the management of Postmenopausal Syndrome. Shatavarvadi Churna is more effective than Guduchyadi Churna in the management of Postmenopausal Syndrome but both are an effective, safe, promising and cost effective remedy. Vata-Pittashamaka, Rasayana, Dhatuvardhaka, Agnidipaka, Pachana, Medhya, Vedanasthapana, Hridya, Anidranash drug in Shatavaryadi Churna helped to deliver such promising results. Guduchyadi Churna had also delivered satisfactory results treating in Postmenopausal Syndrome due to its Tridoshahara & Vata-Kaphashamaka activity along with Rasayana, Dipana, Pachana, Dhatuvardhaka, Balya, Hridya, Nidrajanana, Medhya and Vedanasthapana properties. The age at menopause appears to be genetically determined and is unaffected by race, socioeconomic status, age at menarche, or number of prior ovulations. Factors that are toxic to the ovary often result in an earlier age of menopause; for e.g., who smoke experience an earlier menopause. Women who have had surgery on their ovaries, have had a hysterectomy, despite retention of their ovaries, may also experience early menopause.

# INTRODUCTION

The age at menopause appears to be genetically determined and is unaffected by race, socioeconomic status, age at menarche, or number of prior ovulations. Factors that are toxic to the ovary often result in an earlier age of menopause; for example, women who smoke experience an earlier menopause. Women who have had surgery on their ovaries, have had a hysterectomy, despite retention of their ovaries, may also experience early menopause<sup>[1]</sup>. In U.K. average age for menopause is 52 (National Health Service) while in the U.S.A, it is 51 (National Institute of Aging).



About 1/5<sup>th</sup> women in India experience menopause before the age in 41, but average age is 50 years<sup>[2]</sup> and about 10% women seek medical advice during menopause. Menopause is defined retrospectively as the time of the Final Menstrual Period (FMP), followed by 12 months of amenorrhoea.

In Ayurveda, this phenomenon is considered as a natural process due to aging and not associated with any serious health problems. Menopause is a state of *Vata* predominance and *Dhatukshaya* and it occurs at the age of 50 years<sup>[3]</sup>.

# AIMS AND OBJECTIVES

- 1. To ensure women welfare from Postmenopausal Syndrome.
- 2. Collect and commemorate the classical concept of *Rajonivrutti Avastha*.
- 3. Collect and commemorate the parallel concept of Menopause and Postmenopausal Syndrome.
- 4. To evaluate the role of *Shatavaryadi Churna* on Postmenopausal Syndrome.

5. To evaluate the role of *Guduchyadi Churna* on Postmenopausal Syndrome.

To compare the efficacy of "Shatavaryadi Churna" and "Guduchyadi Churna" in the treatment on Postmenopausal Syndrome.

# **Design of Study**

**Study type:** Interventional

• Interventional model: Two group assignment

• Allocation: Randomized

Masking: Open level

• Purpose: Treatment

Timing: 2 monthsEnd point: Efficacy

• Subjects: Minimum of 15 patients in each group

**Patients:** The cases were selected from the O.P.D/I.P.D. of P.G. Department of Prasuti & Streeroga, National Institute of Ayurveda (N.I.A.) Hospital, Jaipur.

#### **Inclusion Criteria**

- Patients aged between 45-60 years with the clinical features of postmenopausal syndrome.
- Patients attained menopause i.e., amenorrhea for last 12 consecutive months.
- Modified Kupperman menopause index score ≥15.
- Serum F.S.H. level > 25 mlU/ml.
- Serum oestradiol level ≤ 20 pg/ml

#### **Exclusion Criteria**

- Patients with bleeding per vagina in the postmenopausal period.
- Patients with surgical or premature menopause.
- Patients with cardiovascular diseases, endocrinal disorders like hypo & hyperthyroidism etc.
- Patients suffering from malignancy.
- Patients with prolong medication like corticosteroids, antidepressants, H.R.T. or any other drug that may influence on the outcome of study.

# Investigations

In both groups following investigations were carried out before starting of the study-

- Blood for CBC
- Complete urine examination including routine and microscopic examination to rule out any UTI or any other pathology.
- Random Blood Sugar (RBS)- To rule out preliminarily Diabetes Mellitus.
- ESR to rule out any severe infection.
- Serum Follicle Stimulating Hormone (FSH).
- Serum Oestradiol
- Serum Calcium level

 Other investigations like Renal Function Test (RFT), Liver Function Test (LFT), Thyroid Profile (T<sub>3</sub>,T<sub>4</sub>,TSH).

After 2 months i.e., after completion of the study following investigations were repeated to assess any changes or improvement-

- Blood for CBC
- Serum FSH
- Serum Oestradiol
- Serum Calcium level
- ESR
- RBS

**Follow up and Assessment:** After every 15 days.

# Ethical Committee Clearance and informed Consent

As this was a clinical research, Institutional Ethics Committee (IEC) approved was taken prior to initiation of research vide its letter No. IEC/ACA/2016/44 dated on 26-05-2016.

# **Grouping of the Patients**

Group A- *Shatavaryadi Churna*<sup>[4]</sup> group.

Group B – *Guduchyadi Churna*<sup>[5]</sup> group.

**Administration of the Drug:** 30 patients registered for the study were randomly divided into following two groups

• **Group A** (*Shatavaryadi Churna*): 15 clinically diagnosed patients of the Postmenopausal Syndrome were administered.

Drug: Shatavaryadi Churna

Dose: 6 grams twice a day

*Anupana*: Milk Duration: 2 months

 Group B (Guduchyadi Churna): 15 clinically diagnosed patients of the Postmenopausal Syndrome were administered.

Drug: Guduchyadi Churna

Dose: 6 grams twice a day

Anupana: Milk

Duration: 2 months

**Counselling:** Each visit counselling has been carried out.

# Pathyapathya

#### Pathva: Aahara

- Nutritious diet
- Milk, milk made products, butter milk, green vegetables, soya beans
- Calcium rich food
- Fruits/fruit juices/fibre rich vegetables.

#### Vihara

- Spending time with family and friends
- Night sleep for at least 6 hrs.
- Weight bearing exercises, brisk walking.
- *Yoga*, meditation.

#### Apathya: Ahara

- Caffeine drinks, alcoholic drink and tobacco.
- Spicy, fatty and fermented food.

# **Criteria of Assessment**

# **Subjective Parameters**

- Non-vegetarian diet.
- White sugar, potato, excessive use of rice etc.

#### Vihara

- Vata-pitta vardhaka karma.
- Mental stress, needless worry, over exertion and day sleep.
- Hot bath, fireside seat, hot weather and places.

1.	Hot flush & sweating
2.	Paresthesia
3.	Insomnia
4.	Nervousness
5.	Melancholia
6.	Vertigo
7.	Fatigue
8.	Arthralgia, Myalgia
9.	Headache
10.	Heart, Palpitation
11.	Formication
12.	Sexual complaints
13	Urinary tract infection

# **Objective Parameters (haematological & biochemical parameters)**

1.	Hemoglobin %
2.	ESR
3.	TLC
4.	R.B. Sugar
5.	Serum FSH
6.	S. Oestradiol
7.	S. Calcium level

#### **RESULTS**

Effect of the drugs was assessed on Modified Kupperman's Index (KI); Menopausal Rating Scale (MRS) and some haematological and biochemical investigations. The obtained results were statistically analyzed by means of various parameters like 'Mean', 'Difference of Means', percentage of relief from symptoms, S.D., S.E. and by adopting Wilcoxan Matched Pairs Signed Rank Test in case of non-parametric parameters & Paired t- test in case of parameters, p values and significance of results was evaluated. Graphpad In stat – Version 3.10.

# **Improvement in Subjective Parameters**

Table 1: Effect of Shatavaryadi Churna (Group A) on Modified Kupperman's Index

C no	Cumptoms		Mean		0/ Dolinf	S.D.	S.E.	W	P	Result
S. no.	Symptoms	BT	AT	Diff.	% Relief	ა.ს.	S.E.	VV	P	Result
1.	Hot flush & sweating	8.800	3.733	5.067	57.5795	1.486	0.3838	120.00	< 0.0001	Extremely significant
2.	Paresthesia	0.1333	0.06667	0.06667	50.0150	0.2582	0.06667	1.000	> 0.9999	Not significant
3.	Insomnia	5.600	2.333	3.267	58.3392	0.9612	0.2482	120.00	< 0.0001	E.S
4.	Nervousness	1.867	0.9333	0.9333	49.9892	1.033	0.2667	28.000	0.0156	S
5.	Melancholia	0.1333	0.06667	0.06667	50.0150	0.2582	0.06667	1.000	> 0.9999	N.S
6.	Vertigo	0.1333	0.06667	0.06667	50.0150	0.2582	0.06667	1.000	> 0.9999	N.S
7.	Fatigue	2.333	0.8000	1.533	65.7093	0.7432	0.1919	91.000	0.0002	E.S
8.	Arthralgia, Myalgia	2.267	1.000	1.267	55.8888	0.7037	0.1817	91.000	0.0002	E.S
9.	Headache	0.4000	0.2000	0.2000	50	0.4140	0.1069	6.000	0.2500	N.S
10.	Heart, Palpitation	1.467	0.5333	0.9333	63.6196	0.7037	0.1817	66.000	0.0010	E.S
11.	Formication	0.1333	0.06667	0.06667	50.0150	0.2582	0.06667	1.000	> 0.9999	N.S
12.	Sexual complaints	0.2667	0.1333	0.1333	49.9812	0.5164	0.1333	1.000	> 0.9999	N.S
13	Urinary tract infection	0.4000	0.1333	0.2667	66.675	1.033	0.2667	1.000	> 0.9999	N.S

Table No.2: Effect of Guduchyadi Churna (Group B) on Modified Kupperman's Index

C no	Cromantoma		Mean	A A	0/ Dalief	C D	S.E.	W	D	Dogult
S. no.	Symptoms	BT	AT	Diff.	% Relief	S.D.	S.E.	VV	P	Result
1.	Hot flush & sweating	11.200	5.600	5.600	US50HA	2.530	0.6532	105.00	0.0001	Extremely significant
2.	Paresthesia	2.267	1.000	1.267	55.8888	1.335	0.3446	36.000	0.0078	Very significant
3.	Insomnia	5.333	2.733	2.600	48.753	0.9103	0.2350	120.00	< 0.0001	E.S
4.	Nervousness	3.600	1.867	1.733	48.1388	1.100	0.2840	78.000	0.0005	E.S
5.	Melancholia	0.4000	0.06667	0.3333	83.325	0.8997	0.2323	3.000	0.5000	N.S
6.	Vertigo	0.5333	0.1333	0.4000	75.0046	0.8281	0.2138	6.000	0.2500	N.S
7.	Fatigue	1.467	0.4667	1.000	68.1663	0.9258	0.2390	45.000	0.0039	V.S
8.	Arthralgia, Myalgia	2.933	1.400	1.533	52.2673	0.6399	0.1652	105.00	0.0001	E.S
9.	Headache	0.8000	0.1333	0.6667	83.3375	0.8997	0.2323	21.000	0.0313	S
10.	Heart, Palpitation	2.200	0.8000	1.400	63.6363	0.6325	0.1633	105.00	0.0001	E.S
11.	Formication	0.1333	0.06667	0.06667	50.0150	0.2582	0.06667	1.000	> 0.9999	N.S
12.	Sexual complains	1.867	1.200	0.6667	35.7096	0.9759	0.2520	15.000	0.0625	N.S
13.	Urinary tract infection	1.067	0.2667	0.8000	74.9765	1.821	0.4701	6.000	0.2500	N.S

Table 3: Effect of Shatavaryadi Churna on (Group A) Menopausal Rating Scale

_	_		Mean							_
S. no.	Symptoms	BT	AT	Diff.	% Relief	S.D.	S.E.	W	P	Result
1.	Hot flushes & sweating	2.467	0.9333	1.533	62.1402	0.5164	0.1333	120.00	< 0.0001	E.S
2.	Heart discomfort	1.867	0.8000	1.067	57.2505	0.4577	0.1182	105.00	0.0001	E.S
3.	Sleep problems	2.333	1.133	1.200	51.4359	0.4140	0.1069	120.00	< 0.0001	E.S
4.	Depressive mood	1.933	0.8667	1.067	55.1991	0.2582	0.06667	120.00	< 0.0001	E.S
5.	Irritability	1.800	0.8000	1.000	55.5555	0.6547	0.1690	78.000	0.0005	E.S
6.	Anxiety	1.867	0.8000	1.067	57.1505	0.2582	0.06667	120.00	< 0.0001	E.S
7.	Physical and mental exhaustion	1.867	0.7333	1.133	60.6855	0.5164	0.1333	105.00	0.0001	E.S
8.	Sexual problems	0.6000	0.2667	0.3333	55.55	0.4880	0.1260	15.000	0.0625	N.S
9.	Bladder problems	0.5333	0.06667	0.4667	87.5117	0.9155	0.2364	10.000	0.1250	N.S
10.	Dryness of vagina	0.6667	0.2667	0.4000	59.9970	0.5071	0.1309	21.000	0.0313	S
11.	Joint and muscular discomfort	2.467	0.8667	1.600	64.8561	0.5071	0.1309	120.00	< 0.0001	E.S

Table 4: Effect of Guduchyadi Churna (Group B) on Menopause Rating Scale (MRS)

C ma	Crymantonia		Mean	1	0/ Delief	C D	C.E.	W	P	Dogula
S. no.	Symptoms	BT	AT	Diff.	% Relief	S.D.	S.E.	VV	P	Result
1.	Hot flushes	2.867	1.333	1.533	53.4705	0.5164	0.1333	120.00	< 0.0001	E.S
2.	Heart discomfort	2.133	1.000	1.133	53.1176	0.6399	0.1652	91.000	0.0002	E.S
3.	Sleep problems	2.800	1.133	1.667	59 <mark>.</mark> 5357	0.4880	0.1260	120.00	< 0.0001	E.S
4.	Depressive mood	2.067	0.9333	1.133	54.8137	0.3519	0.09085	120.00	< 0.0001	E.S
5.	Irritability	1.800	0.8667	0.9333	51.85	0.2582	0.06667	105.00	0.0001	E.S
6.	Anxiety	2.067	0.8667	1.200	58.0551	0.5606	0.1447	120.00	< 0.0001	E.S
7.	Physical and mental exhaustion	1.800	0.8667	0.9333	51.85	0.4577	0.1182	91.000	0.0002	E.S
8.	Sexual problems	1.133	0.5333	0.6000	52.9567	0.6325	0.1633	36.000	0.0078	V.S
9.	Bladder problems	0.5333	0.1333	0.4000	75.0046	0.9103	0.2350	6.000	0.2500	N.S
10.	Dryness of vagina	1.333	0.6667	0.6667	50.0150	0.4880	0.1260	55.000	0.0020	V.S
11.	Joint and muscular discomfort	2.933	1.133	1.800	61.3706	0.4140	0.1069	120.00	< 0.0001	E.S

Table 5: Comparative Analysis of Effect of *Shatavaryadi Churna* & *Guduchyadi Churna* on Modified Kupperman's Index

C No	Cromptoms	Grou	ір А	Group B			
S. No.	Symptoms	% Relief	Result	% Relief	Result		
1.	Hot flushes & sweating	57.5795	E.S	50	E.S		
2.	Paresthesia	50.0150	N.S	55.8888	V.S		
3.	Insomnia	58.3392	E.S	48.753	ES		
4.	Nervousness	49.9892	S	48.138	ES		
5.	Melancholia	50.0150	NS	83.325	NS		

6.	Vertigo	50.0150	NS	75.0046	NS
7.	Fatigue	65.7093	ES	68.1663	NS
8.	Arthralgia, Myalgia	55.8888	ES	52.2673	ES
9.	Headache	50	NS	83.375	S
10.	Palpitation	63.6196	ES	63.6363	ES
11.	Formication	50.0150	NS	50.0150	NS
12.	Sexual complaints	49.9812	NS	35.7096	NS
13.	Urinary tract infection	66.675	NS	74.9765	NS

Table 6: Comparative Analysis of Effect of *Shatavaryadi Churna* & *Guduchyadi Churna* on Menopausal Rating Scale (MRS)

S. No.	Symptoms	Group A		Gro	up B
5. NO.	Symptoms	% Relief	Result	% Relief	Result
1.	Hot flushes and sweating	62.1402	ES	53.4705	ES
2.	Heart discomfort	57.2505	ES	53.1176	ES
3.	Sleep problems	51.4359	ES	59.5357	ES
4.	Depressive mood	55.1991	ES	54.8137	ES
5.	Irritability	55.5555	ES	51.85	ES
6.	Anxiety	57.1505	ES	58.0551	ES
7.	Physical and mental exhaustion	60.6855	ES	51.85	ES
8.	Sexual problems	55.55	NS	52.9567	VS
9.	Bladder problems	87.5117	NS	65.0046	NS
10.	Dryness of vagina	59. <mark>9</mark> 970	S	50.0150	VS
11.	Joint and muscular discomfort	64.8561	ES	61.3706	ES

# Table 7: Total Effect of Shatavaryadi Churna (Group A)

Criteria of	Mean			%	C.D.	C.F.	¥47	D	D 1.
Assessment	BT	AT	Diff.	Relief	S.D.	S.E.	W	P	Result
Modified Kupperman's Index	23.933	9.600	14.333	59.8880	3.792	0.9791	120.00	< 0.0001	E.S
MRS	18.600	7.600	11.000	59.1397	2.360	0.6094	120.00	< 0.0001	E.S

# Table 8: Total Effect of Guduchyadi Churna (Group B)

Criteria of	Mean			0/ D 1: 6	C.D.	C.F.	¥47	n	D 1:	
Assessment	BT	AT	Diff.	% Relief	S.D.	S.E.	W	P	Result	
Modified Kupperman's Index	33.733	14.733	19.000	56.3246	4.840	1.250	120.00	< 0.0001	E.S	
MRS	21.000	9.533	11.467	54.6047	2.416	0.6239	120.00	< 0.0001	E.S	

Table 9: Effect of Shatavaryadi Churna (Group A) on Haematological & Biochemical Investigations

			_							
S. no.	T	. Mean			0/ D-11-6	C D	C.F.	TD.	D	D14
	Investigation	BT	AT	Diff.	% Relief	S.D.	S.E.	T	P	Result
1.	Hemoglobin %	12.240	12.987	-0.7467	6.1004	1.912	0.4936	-63.000	0.0730	N.S
2.	ESR	18.800	10.667	8.133	43.2606	5.730	1.480	105.00	0.0001	E.S
3.	TLC	7040.0	7046.7	-6.667	0.0947	825.03	213.02	8.000	0.8077	N.S
4.	R.B.Sugar	95.267	92.467	2.800	2.9391	7.803	2.015	48.000	0.1876	N.S

5.	Serum FSH	61.339	63.815	-2.477	4.0382	13.121	3.388	84.000	0.0151	S
6.	S. Oestradiol	13.499	12.881	0.6187	4.5833	1.725	0.4453	4.000	0.5000	N.S
7.	S. Calcium level	8.891	8.972	-0.08142	0.9157	0.3216	0.08303	-66.000	0.0637	N.S

Table 10: Effect of Guduchyadi Churna (Group B) on Haematological & Biochemical Investigations

C	Investigation	Mean			%	C.D.	C.F.	т	ъ	Result
S. no.		BT	AT	Diff.	Relief	S.D.	S.E.	T	P	Kesuit
1.	Hemoglobin %	12.653	12.680	-0.02667	0.2107	0.4250	0.1097	0.2430	0.8115	N.S
2.	ESR	24.867	11.867	13.000	52.2781	13.099	3.382	3.844	0.0018	V.S
3.	TLC	8346.7	7553.3	793.33	9.5047	1688.8	436.05	1.819	0.0903	N.S
4.	R.B.Sugar	90.000	87.800	2.200	2.4444	12.202	3.151	0.6983	0.4964	N.S
5.	Serum FSH	63.064	64.147	-1.083	1.7173	7.259	1.874	0.9608	0.3542	N.S
6.	S. Oestradiol	14.103	13.436	0.6667	4.7273	2.582	0.6667	1.000	0.3343	N.S
7.	S. Calcium level	8.951	9.225	-0.2740	3.0611	0.2038	0.05262	5.207	0.0001	E.S

Table 11: Effect of Shatavaryadi Churna and Guduchyadi Churna on Heamatological & Biochemical Change

	Mean		C	D.	C	<u>Е.</u>			
Parameters	A	В	A A	В	A A	В	T	P	RES.
** 11.04							4 40 4	0.4655	N. C
Hemoglobin %	-0.7467	-0.02667	1.912	0.4250	0.4936	0.1097	1.424	0.1655	N.S
ESR	8.133	13.000	5.730	13.099	1.480	3.382	1.318	0.1981	N.S
TLC	-6.667	793.33	825.03	1688.8	213.02	436.05	0.1104		N.S
R.B.Sugar	2.800	2.200	7.803	12.202	2.015	3.151	0.1604	0.8737	N.S
S.F.S.H	-2.477	-1.083	13.121	7.259	3.388	1.874	0.3599	0.7216	N.S
S.Oestradiol	0.6187	0.6667	1.725	2.582	0.4453	0.6667	0.05987	0.9527	N.S
S.Calcium level	-0.08142	-0.2740	0.3216	0.2038	0.08303	0.05262	1.959	0.0601	N.S

Table 12: Effect of Shatavaryadi Churna on Change in Weight and Blood Pressure

	*	Mean			%	C.D.	C.F.	m	D	D 1
S. no.	Investigation	BT	AT	Diff.	Changes	S.D.	S.E.	T	P	Result
1.	Weight	56.247	56.400	-0.1533	0.2725	0.6791	0.1754	-10.000	0.5703	N.S
2.	Systolic BP	117.07	111.47	5.600	4.7834	5.962	1.539	45.000	0.0039	V.S
3.	Diastolic BP	72.000	67.867	4.133	5.7402	5.317	1.373	34.000	0.0156	S

Table 13: Effect of Guduchyadi Churna on Change in Weight and Blood Pressure

	C	Parameters	Mean			%	C D	C.F.	Tr.	D	D14
5. no	5. no.		BT	AT	Diff.	Changes	S.D.	S.E.	T	P	Result
	1.	Weight	57.787	57.640	0.1467	0.2538	0.8651	0.2234	2.000	0.9515	N.S
	2.	Systolic BP	118.00	113.87	4.133	3.5025	6.069	1.567	21.000	0.0313	S
	3.	Diastolic BP	75.333	72.000	3.333	4.4243	4.880	1.260	15.000	0.0625	N.Q.S

Table 14: Effect of Shatavaryadi Churna and Guduchyadi Churna on Change in Parameters

Danamatana	Mean		S.D.		S.E.		т	D	Result		
Parameters	A	В	A	В	A	В	1	Г	Result		
Weight	-0.1533	0.1467	0.6791	0.8651	0.1754	0.2234	1.056	0.2998	N.S		
Systolic BP	5.600	4.133	5.962	6.069	1.539	1.567	0.6677	0.5098	N.S		
Diastolic BP	4.133	72.000	5.317	4.140	1.373	1.069	9.006	0.0001	E.S		

Table 15: Overall Clinical Effect of Trial

Criteria	Shatavaryadi (	Churna (Group A)	Guduchyadi Churna (Group B)			
Criteria	No. of Patients % of Patients		No. of Patients	% of Patients		
Marked Improvement (76 -100% relief)	01	6.6666%	00	00%		
Moderate Improvement (51 – 75% relief)	14	93.3334%	12	80%		
Mild Improvement (26- 50%)	00	00%	03	20%		
No Improvement (0 - 25%)	00	00%	00	00 %		

#### DISCUSSION

Extremely significant results on hot flushes and sweating (57.5795%) with *Shatavaryadi Churna* support the oestrogenic activity of *Shatavari, Gokshur, Punarnava, Nagabala* and *Mushali* as they hadphytosterol, sitosterol, stigmasterol, diosgenin, saponin and hypothermic activity of *Ashwagandha* which was expected.

Very encouraging and extremely significant relief on insomnia (58.3392%), fatigue (65.7093%), and arthralgia and myalgia (55.8888%) might be due to anti-stress and sedative activity of *Ashwagandha* and adaptogenic effect of *Ashwagandha* and *Shatavari*; anti-fatigue activity of *Shatavari*; analgesic and anti-inflammatory activity of *Ashwagandha*, *Gokshur*, *Punarnava*, *Nagabala* and *Mushali* present in *Shatavaryadi Churna*.

It is also found that extremely significant effects on heart and palpitation (63.6196%), may be due to hypotensive and bradycardiac, cardiotropic and cardioprotective activity of *Shatavari, Ashwagandha, Punarnava* and *Nagabala*.

So, *Shatavaryadi Churna* is having *Vata-Pitta shamaka* property.

On the other hand, *Guduchyadi Churna* has also found extremely significant on hot flushes and sweating, may be due to antipyretic effects of *Guduchi* and *Vidanga*; vasodilator effects of *Apamarga*, oestrogenic effects of *Shatavari & Vidanga*, antioxidant effects of *Shankhapushpi*, hypothermic effects of *Vacha*, hypotensive effects of *Haritaki* and antipyretic & antioxidant effects of *Shunthi*.

In insomnia (48.753% relief) and arthralgia and myalgia (52.2673% relief)- anti-stress and adaptogenic effects of *Guduchi;* analgesic, anti-inflammatory effects of *Guduchi* & *Shunthi;* sedative effects of *Shankhapushpi;* tranquilizer and sedative effects of *Vacha* and anti-stress effects of *Haritaki* might be the cause of relief which is present in *Guduchyadi Churna*.

On heart and palpitation (63.6363% relief) and nervousness (48.1388% relief) was also found extremely significant in *Guduchyadi Churna* and it may

be due to hypotensive effects of *Guduchi, Vidanga, Shankhapushpi, Haritaki* and vasodilator effects of *Apamarga*. Cardiotonic activity of *Haritaki* and hypolipidemic effects of *Shunthi* may also helps to relief the symptom.

Guduchyadi Churna showed that it is also very significant on paresthesia (55.8888% relief) and fatigue (68.1663% relief). It may be due to antibacterial, antimicrobial activity of Guduchi, Vacha, Haritaki, Shunthi; anti-allergic effects of Guduchi, Shunthi; anti-fungal activity of Vidanga, Apamarga, Shunthi, Shankhapushpi; antioxidant properties of Guduchi, Vidanga, Shankhapushpi; antileprotic effects of Apamarga; hepatoprotective activity of Guduchi, Vidanga and antihyperglycemic & immunosuppressive effects of Guduchi.

Significant result shows in headache (83.3375% relief) and it is clear that anti-stress activity of *Guduchi & Haritaki*; sedative and tranquilizer effects of *Vacha*; anti-depressant and sedative activity of *Shankhapushi* relief the symptom.

Phytoestrogenic. antioxidant. immunomodulator, anti-stress, sedative, memory enhancing, cardio-tonic and analgesic, anti-inflammatory effects of both the drug collectively seems responsible for such good results in both scales adopted for the analysis i.e., modified KI and MRS. When seen with Ayurveda point of view inclusion of Vata-Pittashamaka. Rasavana. Dhatuvardhaka, Agnidipaka, Pachana. Medhya, Vedanasthapana, Hridya, Anidranash drug in Shatavaryadi Churna helped to delivered such promising results. Guduchyadi Churna had also delivered satisfactory results treating Postmenopausal Syndrome due to its Tridoshahara & Vata-Kaphashamaka activity along with Rasayana, Dipana, Pachana, Dhatuvardhaka, Balya, Hridya, Nidrajanana, Medhya and Vedanasthapana properties.

Effect of Shatavaryadi Churna and Guduchyadi Churna on hematological and biochemical Investigations: Anti-inflammatory, immunomodulator, antioxidant, antimicrobial, antibacterial, antifungal and hepato-protective activities of various

drugs involved seems to be the reason behind fall of ESR in both drugs. Moreover, *Srotoshudhi* with *Rasayana* drugs in both groups could also be the fact.

The drug *Shatavaryadi Churna* and *Guduchyadi Churna* showed statistically not significant on Total Leucocyte Count (TLC) but percentage of relief was more in *Guduchyadi Churna* (9.5047%) than *Shatavaryadi Churna* (0.0947%). Antioxidant, immunemodulatory and anti-inflammatory activity of the drug seems responsible for this change, especially drugs like *Guduchi, Vidanga, Shankhapushpi* and *Shunthi* present in *Guduchyadi Churna* might be played a leading role to produce this effect.

Once again both the drugs showed statistically not significant in Random Blood Sugar (RBS) level but a little bit reduced (2.9391% & 2.4444% relief) in both drugs and it may be effects of hypoglycaemic activity which is present in both groups. Hypoglycemic effect in *Shatavaryadi Churna* may be due to *Shatavari* and in *Guduchyadi Churna* may be because of *Guduchi, Shankhapushpi* and *Shunthi.* 

But Shatavaryadi Churna was showed statistically significant result i.e., fall of 4.0382% in serum FSH values as compared to not significant 1.7173% decreased with Guduchyadi Churna. There are possibilities of oestrogenic activity of Shatavari, Gokshur, Punarnava, Nagabala and Mushali in Shatavaryadi Churna and oestrogenic effects of Vidanga Shatavari in Guduchyadi Churna. It is not necessary for them to increase oestrogen level and decrease FSH level but the fact should be confirmed with further research.

Shatavaryadi Churna and Guduchyadi Churna have not shown statistically significant result in serum oestradiol and further research with long duration may change the result.

In serum calcium level study it was found that *Guduchyadi Churna* has showed extremely significant results (p value 0.0001) whereas *Shatavaryadi Churna* has showed not significant result on it.

The observed fall of B.P. in the *Shatavaryadi Churna* group may be due to hypotensive effects of *Shatavari, Ashwagandha, Punarnava* and diuretic effects of *Gokshur, Nagabala* and *Mushali*. In short, *Shatavaryadi Churna* has got better results over *Guduchyadi Churna* in relieving the symptoms of Postmenopausal Syndrome.

#### **CONCLUSION**

- Shatavaryadi Churna is a good drug in the management of Postmenopausal Syndrome with hypertension.
- *Guduchyadi Churna* would be better choice than *Shatavaryadi Churna* in Postmenopausal Syndrome with osteoporosis.
- Both the drug can be used in the management of Postmenopausal Syndrome with Diabetes Mellitus.
- Shatavaryadi Churna is more effective than Guduchyadi Churna in the management of Postmenopausal Syndrome but both are an effective, safe, promising and cost effective remedy.

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# \*Address for correspondence Dr. Utpal Deb Barma

PG Scholar.

Dept. of Prasuti & StreeRoga, National Institute of Ayurved, Aamer Road, Jaipur, Rajasthan. Email:

<u>utpaldebbarma0@gmail.com</u> Contact no. 9862212051

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