

A Comparative Clinical Study on the Efficacy of Yastimadhu Churna and Brahmi Churna on Attention Deficit Hyperactivity Disorder (ADHD) in School Going Children

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ABSTRACT: Attention deficit hyperactivity disorder (ADHD) is a neuropsychiatric disorder that affects millions of children, often continues into adolescence and adulthood and can cause a lifetime frustration and emotional pain. The incidence of ADHD is highest among all the developmental disorders in children. In Attention deficit hyperactivity disorder, the children with combined type have inappropriate restlessness, behavioral and cognitive impulsivity and difficulty paying attention. They have a hard time controlling their impulses and regulating their activity, attention, interaction to a degree consistent with relevant age and cultural norms. In brief this picture of the disease gives a glimpse of the defects in the volitional power of the *Manas (Buddhi* or the *Pragya* and its constituents, *Dhee, Dhriti and Smriti*) and its functions. For the utilization of the abundant pool of knowledge made available by our *Acharyas*, *medhya* drugs has been used to help these children who may otherwise go undiagnosed and to provide them with better treatment options

KEY WORDS: ADHD, Impulsivity, *Manas, Pragya, Dhee, Dhriti* and *Samriti*

I. INTRODUCTION

ADHD caused by the biological reasons mainly associated with dysfunction of brain generating a lack of ability in exercising self control for making one the victim of three major problems namely inattention, hyperactivity and impulsivity chronic enough for causing serious difficulties in one or more major life areas, home, school, work or social relationships[1]. The mean worldwide prevalence is between 5.29% and 7.1% in children and adolescents (<18 years) [2] Educational, cognitive behavioral and pharmacological interventions used in its management represent a complex and intricate balance of a variety of treatment strategies encompassing a multimodality approach [3]. Psycho stimulant drugs that are being used for the treatment are not fully safe as they can cause various unacceptable side effects and also they have potential for abuse and addiction. Keeping in view the present scenario of highest prevalence of ADHD among behavioral disorders, its ill outcomes in multiple areas of child's functioning and lack of safe and effective medication, the disease has been selected for the study under title "A Comparative Clinical study on the Efficacy of *Yastimadhu Churna* and *Brahmi Churna* on Attention deficit hyperactivity disorder (ADHD) in school going children".

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II. AIMS AND OBJECTIVES

To analyse the prevalence of ADHD in school going children.

To study the efficacy of *Yastimadhu Churna* and *Brahmi Churna* in management of ADHD.

To compare the efficacy of both the drugs with each other.

To evaluate the safety of both the drugs in children.

III. MATERIALS AND METHODS

Selection of the patients For the present study patients were selected from OPD of Department of Kaumarabhritya, R.G.G.P.G.Ayu.Hospital, Paprola and schools surrounding sub- division of Baijnath, Distt. Kangra, Himachal Pradesh. Total 33 patients were registered and divided into two groups. Out of 33 patients, 6 patients were dropped out from the study because they never turn up on subsequent follow ups.

Trial Drugs and method of preparation

Trial Group I - *Yastimadhu Churna*[4]

Formulation composition

Name	Botanical name	Family	Part used
<i>Yastimadhu</i>	<i>Glycyrrhiza glabra</i> Linn.	Fabaceae	Root

Drug Reference : *Charak Samhita Chikitsa 1-3/30*[5]

Trial Group II - *Brahmi Churna*[6]

Formulation composition:

Name	Botanical name	Family	Part used
<i>Brahmi</i>	<i>Bacopa monnerie</i> Linn.	Scrophulriaceae	Whole plant

Drug Reference: *Bhavaprakasha Guduchyadi varga / 280*[7]

IV. GROUPING OF PATIENTS

Selected 33 patients were randomly divided into following two groups:

- GROUP I–In this group 16 patients were given the trial drug *Yashtimadhu Churna* with milk. 13 patients completed the trial and 3 patients were dropped out.
- GROUP II – In this group 17 patients were given the *Brahmi churna* with *Madhu*. Out of those registered patients 14 completed the trial while 3 patients didn't turn up on subsequent follow up. **Total**

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Effect of Therapy

The obtained results were measured according to the grades given below:

Complete Remission	:	100% relief
Marked Improvement	:	≥75% relief
Moderate Improvement	:	50 % to 75 % relief
Mild Improvement	:	25 % to 50 % relief
Unchanged	:	<25 % or No relief

V. RESULTS

Intergroup comparison (Group I Vs GroupII)

Inattention

a. **In criteria** “Fails to give close attention to details or makes careless mistakes in school work or other activities”

Sr.	Criteria	%	SD#	SE#	t	p	Significance
No.		change					
1.	1a	23.83	0.466	0.427	1.439	>0.05	N.S.

Intergroup comparison showed that for criteria “1a” % change is 23.83, S.D. is 0.466, S.E. is 0.427, t value is 1.439 and p value is >0.05, which is non-significant.

b. **In criteria** “Difficulty in sustaining attention in tasks or play activities”

Sr.	Criteria	%	SD#	SE#	T	p	Significance
2.	1b	5.46	0.493	0.452	0.170	>0.05	N.S.

Intergroup comparison showed that for criteria “1b” % change is 5.46, S.D. is 0.493, S.E. is 0.452, t value is 0.170 and p value is >0.05, which is non-significant.

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c. In criteria “Does not seem to listen to what is being said to him/her”

Sr. No.	Criteria	% change	SD#	SE#	T	p	Significance
3.	1c	3	0.493	0.452	0.170	>0.05	N.S.

Intergroup comparison showed that for criteria “1c” % change is 3,

S.D. is 0.493, S.E. is 0.452, t value is 0.170 and p value is >0.05, which is non-significant.

d. In criteria “Does not follow through, on instructions and fails to finish school work, chores or duties at the work place”

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
4.	1d	1.96	0.512	0.469	0.164	>0.05	N.S.

Intergroup comparison showed that for criteria “1d” % change is

1.96, S.D. is 0.512, S.E. is 0.469, t value is 0.164 and p value is >0.05, which is non-significant.

e. In criteria “Difficult in organizing tasks and activities Intergroup comparison showed that for criteria “1e” % change is 7.24 , S.D. is 1.697, S.E. is 1.555, t value is 0.098 and p value is >0.05, which is non-significant.

Sr. No.	Criteria	% change	SD#	SE#	T	p	Significance
5.	1e	7.24	1.697	1.555	0.098	>0.05	N.S.

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f. In criteria “Avoids, expresses reluctance about or has difficulties in tasks that require sustained mental effort”

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
6.	1f	16.81	1.563	1.433	0.304	>0.05	N.S.

Intergroup comparison showed that for criteria “1f” % change is 16.81 , S.D. is 1.563, S.E. is 1.433, t value is 0.304 and p value is >0.05, which is non-significant.

g. In criteria “Uses the things necessary to the tasks or activities”

Sr. No.	Criteria	% change	SD#	SE#	„t“	„p“	Significance
7.	1g	3.38	0.547	0.367	0.272	>0.05	N.S.

Intergroup comparison showed that for criteria “1g” % change is 3.38 , S.D. is 0.547, S.E. is 0.367, t value is 0.272 and p value is >0.05, which is non-significant.

Hyperactivity

a. In criteria “Fidgets with hands to feet or squirms in his/her seat”

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
8.	2a	9.04	0.728	0.393	0.323	>0.05	N.S.

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Intergroup comparison showed that for criteria “2a” % change is 9.04 , S.D. is 0.728, S.E. is 0.393, t value is 0.323 and p value is >0.05 , which is non-significant.

b. In criteria “Leaves seats in classroom or in other situations in which remaining seated is expected”

Sr. No.	Criteria	% change	SD#	SE#	T	p	Significance
9.	2b	5.55	0.540	0.291	1.579	>0.05	N.S.

Intergroup comparison showed that for criteria “2b” % change is 5.55 , S.D. is 0.540, S.E. is 0.291, t value is 1.579 and p value is >0.05 , which is non-significant.

c. In criteria “Runs about, or climbs excessively, in situations where it is inappropriate”

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
10.	2c	0	0.622	0.336	0.377	>0.05	N.S.

Intergroup comparison showed that for criteria “2c” % change is 0 , S.D. is 0.622, S.E. is 0.336, t value is 0.377 and p value is >0.05 , which is non-significant.

d. In criteria “Has difficulty in playing or engaging in leisure activities quietly”

Sr. No.	Criteria	% change	SD#	SE#	T	p	Significance
11.	2d	11.41	0.504	0.281	0.317	>0.05	N.S.

Intergroup comparison showed that for criteria “2d” % change is 11.41 , S.D. is 0.504, S.E. is 0.281, t value is 0.317 and p value is >0.05 , which is non-significant.

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e. In criteria “Is always „on the go” acts as if „driven by a motor activities

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
12.	2e	1.31	1.287	0.695	0.090	>0.05	N.S.

Intergroup comparison showed that for criteria “2e” % change is 1.31 , S.D. is 1.287, S.E. is 0.695, t value is 0.090 and p value is >0.05, which is non-significant.

f. In criteria “Talk excessively”

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
13.	2f	15.4	1.287	0.695	0.090	>0.05	N.S.

Intergroup comparison showed that for criteria “2F” % change is 15.4, S.D. is 1.287, S.E. is 0.695, t value is 0.090 and p value is >0.05, which is non-significant.

Impulsivity

g. In criteria “Blurts out answers to questions before the questions have been completed”

Sr. No.	Criteria	% change	SD#	SE#	t	p	Significance
14.	2g	10.22	0.468	0.283	0.975	>0.05	N.S.

Intergroup comparison showed that for criteria “2g” % change is 10.22 , S.D. is 0.468, S.E. is 0.283, t value is 0.975 and p value is >0.05, which is non-significant.

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h. In criteria “Has difficulty in waiting in lines or in games or groups situations”

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
15.	2h	7.7	0.277	0.154	1.245	>0.05	N.S.

Intergroup comparison showed that for criteria “2h” % change is 7.7, S.D. is 0.277, S.E. is 0.154, t value is 1.245 and p value is >0.05, which is non-significant.

i. In criteria “Interrupts or intrudes on other”

Sr. No.	Criteria	% change	SD#	SE#	T	P	Significance
16.	2i	8.2	0.256	0.142	1.000	>0.05	N.S.

Intergroup comparison showed that for criteria “2i” % change is 8.2, S.D. is 0.256, S.E. is 0.142, t value is 1.000 and p value is >0.05, which is non-significant.

Effect of therapy on Objective Criteria

Intergroup comparison (Group I Vs Group II)

Table No.58					
Objective	%change difference	SD#	SE#	t value	p value
IQ	3.512	1.332	1.132	0.289	>0.05

Intergroup comparison showed that for IQ level % change is 3.512, S.D. is 1.332, S.E. is 1.132, t value is 0.289 and p value is >0.05, which is non-significant

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Overall Effect of Therapy

Results	Group I (<i>Yashtimadhu Churna</i>)		Group II (<i>Brahmi churna</i>)	
	No.of Patients	%	No.of Patients	%
<i>Complete Remission</i>	00	00	00	00
<i>Markedly Improved</i>	00	00	00	00
<i>Moderately Improved</i>	01	7.6	05	35.71
<i>Mildly Improved</i>	09	69.23	07	50.00
<i>No Improvement</i>	03	23.07	02	14.28

On evaluating overall effect of therapy above data shows that 3 (23.07%) patients in Group I and 2 (14.28%) patients in group II have no improvement followed by 9 (69.23%) patients in group I and 7 (50.00%) patients in group II having mild relief and 1 (7.6%) patients in group I and 5 (35.71%) patients in group II having moderate improvement in their symptoms.

VI. DISCUSSION AND CONCLUSION

The incidence of psychiatric disorders in children is on a rise and demands more attention. ADHD is the most common psychosomatic neurobehavioral disorder of childhood and the core symptoms render the child being compromised on emotional and intellectual fronts. The disease though not mentioned in our classics but can be explained by the basic principles of *Ayurveda*. Various regimes mentioned in the classical texts should be followed before conception, during antenatal period and after child birth to prevent the disease. Total 33 patients were registered for the study; out of them 6 patients did not turn up for follow up. Hence clinical study was carried out on 27 patients. The outcome of clinical study was significant statistically on subjective as well as objective criteria in both groups. Although on comparison between two groups result were insignificant.

REFERENCES

1. Barkley RA, Fischer M, Edlebrock CS et al. The adolescent outcome of Hyperactive children diagnosed by research criteria: J. An. 8 year prospective follow up study. J. Am. Acad. Child. Adolescent Psychiatry; 29: 546. 1990.
2. <http://www.adhd-institute.com/burden-of-adhd>
3. American Academy of Child and Adolescent Psychiatry, Practice parameters for the assessment and treatment of children, adolescents, and adults with attention deficit hyperactivity disorder. J. Am. Child. Adolesc. Psychiatr. 36:85S.1997.
4. P.V Sharma book of Dravyaguna (vol-II), Page no.253, Reprint year-2005.
5. Dr.KashinathShashtri, editors, Charak-Samhita, Reprint 2009, p. 730. Varanasi, ChaukhambhaSanskritSansthan,2009
6. P.V Sharma book of Dravyaguna(vol-II),Page no.3 .Reprint year-2005.
7. *Bhavaprakash Nighantu*, Page no.280, Reprint year -2002