



Research Article

A CLINICAL STUDY ON SAMVARDHAN GHRITA AND SARASWAT CHURNA IN CHILDREN SUFFERING FROM BALBUDDHIMANDYA W.S.R. TO MENTAL RETARDATION

Prashant Laxmanrao Patil^{1*}, Deokumar W. Raut²

¹Associate Professor, ²Assistant Professor, Dept. of Kaumarbhritya, Govt. Ayurved College, Nanded, Maharashtra.

ABSTRACT

In Ayurvedic classics, *Balbuddhimandya* have been used by Acharya's in the sense of mentally retarded. Many times the word *Jada*, *Abuddha*, *Nirbuddhi* used to mention the low intelligence. In modern world mentally retarded child consisting of below average intellectual functioning and impairment in adaptive skill. The impairments are influenced by genetic, environmental and psychosocial factor, here there are classification of mentally retarded child is also well explained in the form of educable, trainable and idiot.

Ayurvedic classics have been systematic etiological background of the problem causes hypofunction of *Dhee*, *Dhriti* and *Smriti*. The experiment is human based clinical trials in which *Samvardhan ghrita* in *Kashyap samhita* is clearly mention that this *Ghrita* is useful in the treatment of *Panguta*, *Mukata* and *Jadata*, where as *Acharya Bhavaprakasha* explained *Saraswat churna* is very much potent act as a *Medhya*, increases intellect against referred disease.

The *Ghrita* is well prepared according to procedure mention in *Bhaishajya kalpana* to be given orally, nasally as well as anally with *Anupan* taken as *Koshna jal* also *Churna* is to be given orally only.

Ayurveda the parental origin of all the pathies may have its proper solution both the corners preventive as well as curative. This science is having holistic approach were *Garbhadhan* is treated as a holy *Samskar*. Simultaneously *Punsavan*, *Simantonnayan* and *Jatkarm samskaras* are very pious in reference to healthy newborn.

As in Vedas also a special attention is given to increase the *Buddhi*. *Medhya rasayanas* and *Medhya yogas* explained in Ayurvedic classics improves the intelligence and memory also it is increasing the efficacy of *Manovaha srotas*. In the given study we found that *Samwardhan ghrita* and *Saraswat churna* together provided better results in mental retardation.

KEYWORDS: Mentally challenged, *Balbuddhimandya*, *Samvardhan ghrita*, *Saraswat churna*, *Dhee*, *Dhriti*, *Smriti* etc.

INTRODUCTION

Children are pillars of the nation. A healthy child can make a healthy nation but there is a global tragedy with children that the morbidity and mortality rate in children is gradually increasing inspite of several clinical scientific efforts².

A number of pediatric diseases are there which are still incurable and some of them make children physically as well as mentally handicapped. *Balbuddhimandya* or mental retardation is one of them which cover a group of mental diseases. In other words *Buddhimandya* is responsible to generate various mental disorders.

In modern pediatrics these above diseases are named as cerebral palsy, microcephaly, hydrocephaly, etc.

Children who suffering from these diseases are having short span of life or being handicapped³. They precede their lives as burden on the society. We don't

get directed references in Ayurvedic literatures so for this notorious pediatric problem is concerned, but symptomatic pictures of this burning problem has been mentioned in "*Balgrahas*" (a group of pediatric disorders simultaneously in certain chapters of *Kaashyapa samhita*⁴, *Laghutrai*^{5,6} and *Bruhatrai*^{7,8,9} of Ayurvedic science.)

Acharya Sushruta clearly declares if a pregnant woman is not satisfied from any corner of her demands when she becomes "*Daurhridini*" (During the 4th month of pregnancy), she may delivered an abnormal baby, with symptoms of mental retardation¹⁰.

The manifestations of mentally handicapped is also seen in the history of parents consanguinity marriages, faulty familiar environmental conditions, diet and conduct of parents before conception¹¹.

The zygote gets vitiated by *Tridosha*, *Saptadhatu* & *Trimalas* to form the production of abnormal systems

and organs. Past deeds in previous life also play a role in the referred diseases¹².

Balbuddhimandya is a disease which belongs to "Manovahastrotas". Ayurvedic philosophy deals with *Manna* as a supreme of *Indriyas* coordinating its specific role with *Indriyas* time to time as per various necessities¹³, e.g. physical, mental, psychological, physiological, emotional, spiritual, etc.

The manna is an inorganic phenomenon which contain three universal factor *Satva*, *Raja* & *Tama*, hence this manna is *Trigunatmak*.

In *Balbuddhimandya tamoguna* is found to be highly raised in comparison to *Raja guna*, where as *Satvaguna* is observed very negligible. That's why a child suffering from *Balbuddhimandya* doesn't functioning properly.

In this proposed study *Samvardhan ghrita* & *Saraswat Churna* have been selected for clinical trial against the referred disease. These both *Yogas* are *Medhya* and have been claimed to be highly effective in such type of disorders.

In *Sutrasthana lela adhaya* of *Kashayap samhita* the author confidently declares that *Samvardhan ghrita* is effective in the child suffering from the symptoms of *Panguta*, *Mukata*, *Jadata*, which are collectively seen in the mentally retarded child¹⁴. In the same context *Saraswat churna* described by Acharya Bhavprakash is also quite potent so for its efficacy in concerned against such type of pediatric mental abnormality¹⁵.

MATERIALS & METHODS

In this study 33 patients of age 3 to 16 years and their degree of retardation were taken randomly. These patients distributed into three groups as Group A, Group B and Group C.

Group A- In this group patients were treated with *Saraswat churna*.

Group B- In this group patients were treated with *Samwardhan ghrita*.

Group C- In this group patients were treated with *Samwardhan ghrita* and *Saraswata churna*.

Study Design: The study of clinical trials was conducted at Nandanvan matimanda mulanchi shala, sitabuldi, Nagpur, department of education for special children.

Selection of Patients

Inclusion Criteria: Hypothyroidism, malnutrition, behavioral problems, H/O prematurity, Poor environmental conditions, mild hypoxic ischemic encephalopathy, seizures disorder, LBW, sequels of meningitis & encephalitis, emotional deprivation, iron deficiency anaemia, vitamin deficiency, micronutrient deficiency.

Exclusion Criteria: Genetic disorder, CVS anomalies, head injury, history of severe birth asphyxia, Idiopathic, familial mental retardation, congenital physical birth defects.

Degree of Mental Retardation¹⁶

Mild MR: - 51% to 70%

Moderate MR: - 36% to 50%

Severe MR: - 21% to 35%

Trial Drug :- *Samvardhan ghrita* and *Saraswat churna*.

Dose

Samvardhan ghrita

Oral - 5 to 10 gms, nasally,

Nasal- 1 to 2 drops

Anal- 20 ml

Anupam- Koshna jala.

Sarashwat churna: 1 to 2 gms twice a day

Anupam- Koshna jala.

Criteria of Assessment

Children of age group 3 to 16 years diagnosed as mentally challenge or incapable. The diagnostic criteria for *Balbuddhimandya* was applied in accordance with signs and symptoms described in both Ayurvedic as well as modern literature duly supported by internationally approved parameters like IQ, SQ, MQ. Tests applied for appropriate age to assess the growth and development.

Wechsler preschool and primary scale of intelligence used to assess 3 to 7 years and also same scale for 6 to 16 years children¹⁷. Adaptive skills are generally tested using Vinland adaptive behavior scale.

Laboratory Investigation

- Skeletal scanning for bone age.
- Neuroimaging – CT/MRI
- Electrophysiological studies – EEG, EMG.
- Serological tests for intrauterine infections.
- Hormonal essay- Thyroid function test.
- Toxin screening - Karyotyping
- Enzyme assay- Neurodegenerative disorders.

Interventions at Different Levels of MR

Mild: No constant support needed.

Moderate: Require occupational support, has independent home life.

Severe: Require occupational support as well as support for daily activity.

Ayurvedic *Buddhiparikshan* & *Manas bhavas*

Dhee, *Dhiriti*, *Smiriti*, *Medha*, *Smiriti*, *Dhiriti*, *Vigyana*, *Krodh*, *Shoka*, *Priti*, *Bhaya*, *Sharaddha*, *Harsha*, *Moha*. These are measured by scoring system.

Subjective Parameters

The gradation of *Manas bhavas*

Objective Parameters

Assessment of IQ by S. Shukla, 1976 questionnaires carrying six questions each have prepared according to age¹⁸.

The gradation of *Manas bhavas* are as follows:

Score:**1. Medha grahanena**

- Can grasp the event at an instance on confusional status.- 3
- Can grasp the event at an instance but get confused. - 2
- Delayed grasping with frequent confusion. - 1
- Grasping and understanding is difficult with lack confusion. - 0

2. Smruti smaranena

- Both remote and recent memory are clear with easy retention and recall.- 3
- Both remote and recent memory are clear but retention and recalls are not seen.- 2
- Remote memory is impaired but recent memory is intact, power of retention and recall are not seen.- 1
- Both remote and recent memories are impaired with difficult retention and recall.- 0

3. Dhriti alaulayana

- Courageous in all occasions. - 3
- Courageous if supports are there. - 2
- Occasionally courageous 16 strong supporters are there. - 1
- No change at all. - 0

4. Vigyan vyavasayena

- Self efficient and sufficient to direct and do various activities himself.- 3
- Self efficient and sufficient to direct and do various activities with the help of others. - 2
- Not self efficient and sufficient guidance is required in each and every work. - 1
- Cannot do or direct any activities with loss of insight.- 0

5. Krodha abhidrohena

- No anger even for reasonable cause.- 3
- Gets angry only for reasonable cause - 2
- Gets angry even for not reasonable cause cannot control under limit but without body gestures. - 1
- Highly irritable for no cause and for silly cause and cannot control the feeling with full body gestures.- 0

6. Moha abimanena

- Good understanding and insight to the different situations and counseling not required.- 3
- Good understanding and insight to the different situations occasional counseling required.- 2
- Understanding and insight to the different situations are impaired and frequent counseling required.- 1
- Understanding and insight are lost and cannot effect by counseling. - 0

7. Shoka dainyena

- No sorrowfulness even for reasonable cause. - 3
- Sorrowful only for reasonable cause. - 2
- Sorrowful for non reasonable cause but without anybody gestures. - 1
- Mostly sorrowful for no cause or for silly cause and cannot control the feelings with full body gestures. - 0

8. Priti tosenena

- Always with an internal feeling of cheerfulness without any swing in mood and affect. - 3
- Mostly with an internal feeling of cheerfulness but occasional swings in mood and affect. - 2
- Rarely cheerful mood and affect swings are quite frequent. - 1
- Almost never cheerful and with cognitive functions. - 0

9. Shraddha abhirrayena

- Good attitude and interest to the different work situations are good but occasional motivation needed. - 3
- Attitude and interest to the different work situations are good but occasional motivation needed. - 2
- Attitude and interest to working condition are impaired and motivation can help. - 1
- Total impaired of sensorium and cognition. - 0

10. Harsham anodena

- Always joyful and enjoys the life. - 3
- Happy with particular enjoyable things and company. - 2
- Occasional happy with very enjoyable things and company.- 1
- No happiness by any sort of things. - 0

11. Bhaya visadena

- No fearfulness for any cause. - 3
- Fearful only in reasonable cause occasionally recovers by counseling.- 2
- Fearful even in non reasonable cause and rarely helped by counseling.- 1

- d) Always in fearful emotions and cannot helped by counseling. - 0

Subjective Parameters

Also questionnaires carrying six questions each have prepared according to the age which includes-

General information
General comprehension
Arithmetic
Similarity
Vocabulary
Digit span
Picture completion
Picture arrangement

Among these first four tests were done by the answer given orally, whereas last two were concerned with the performance tests, such as joining of cutting pieces of a diagram, etc.

Questions were different according to the age level

For the age group of five years

1. Picture completion
2. Paper folding
3. Aesthetic comparison
4. Obeying simple commands
5. Discriminate between left and right
6. Identifying coins

For age group of Six years

1. Repeating digits 4
2. Divided cards
3. Number concept
4. Opposite analogy
5. Pictorial identification
6. Repeating syllables

For the age group of Seven years

1. Missing features
2. Identifying coins
3. Repeating digits in reverse order
4. Naming days of a week
5. Counting backward twenty to one
6. Giving difference from memory

For the age group of Eight years

1. Finding the values of coins
2. Repeating digits five
3. Copying a diamond
4. Reading and reporting
5. Detecting absurdist
6. Similarities and differences

For the age group of nine years

1. Repeating digits in reverse order 4
2. Making change
3. Similarities two things
4. Sentence building using three given words

5. Reading and reporting
6. Free association

For the age group of Ten years

1. Arranging of weights
2. Repeating syllables
3. Naming the months
4. Testing the memory to designs
5. Findings rhymes
6. Reading and reporting

For the age group of Eleven years

1. Paper cutting
2. Detecting absurdist
3. Defining abstract words
4. Repeating digits six
5. Comprehension
6. Repeating syllables

For the age group of Twelve years

1. Detecting absurdist
2. Construction puzzle
3. Interpretation of fable
4. Repeating digits in reverse order
5. Pictorial identification
6. Mink completion

For the age group of Thirteen years

1. Defining abstract words
2. Dissected sentences
3. Copying a bead chain from memory
4. Repeating syllables 30
5. Arithmetical reasoning
6. Plan for search

For the age group of Fourteen years

1. Induction test
2. Reasoning
3. Orientation
4. Problems of enclosed boxes
5. Similarities three things
6. Proverb

For the age group of Fifteen years

1. Interpretation of table
2. Reversing hands of clock
3. Free association
4. Repeating digits in reverse order
5. Problems of facts
6. Repeating digits 7

For the age group of Sixteen years

1. Use of code
2. Ingenuity
3. Difference between abstract words
4. Benet's paper cutting test
5. Finding reasons



6. Reversing triangle in imagination

Scoring of IQ

If one is able to answer all questions of a particular age group, he will be jumped to the questionnaires of above age groups. Each question carries two month mark with the total score IQ. IQ was measured as dividing mental age by chronological age and multiplied by one hundred.

Scoring of IQ.

$$IQ = MA/CA \times 100$$

Criteria of Assessing Total Effect

After completion of the treatment given to the patients of 3 groups the Group A, Group B, and Group C, of mental retardation were finally assessed and evaluated in terms of cured, markedly improved, improved, and unchanged. The same procedure or methods of assessment and evaluation was applied to the patients of both group of study described as below.

Cured: In this category, total relief in the cardinal symptoms and signs of *Buddhimandya*.

Markedly Improved: Improvement or relief more than 50% in signs and symptoms of *Buddhimandya*.

Improved: Improvement within 25% to 50% in signs and symptoms were regarded as improved.

Unchanged: The patients who do not got any relief in their signs and symptoms remain unchanged and also those who showed the improvement in signs and symptoms up to 25 % were put in this category.

Duration of Drug Administration: - 12 months.

Follow Ups:- All the groups were studied for 12 months, during which patients were observed and observations were recorded after the interval of each month up to 12 months.

Patients from all the groups were advised follow up after each month, after the completion of 12 months of treatment.

Statistical Analysis

All the observation obtained were analyzed statistically and the inference was drawn according to the mean, median, SD, SEM and P value of the parameter.

Observations and Result

After the study, the observation found in both the groups was calculated statistically to find out the significance of result.

Table 1: Selection of patients regarding to degree of mental retardation

Degree of Mental Retardation	Group A	Group B	Group C	Total	
Border Line	3	2	2	7	21.22%
Mild	4	3	3	10	30.31%
Moderate	3	3	4	10	30.31%
Severe	1	3	2	6	18.19%

Maximum (30.31%) patient were distributed under mild & moderate Category each followed by severe 18.19% & borderline 21.22%.

Table 2: Effect of Therapies (A.T.) on IQ of 33 Patients

Total Effect	Mean		%	SD	d	t	P value
	BT	AT					
Total Effect							
Group A	52.00	52.12	09.09	0.13	0.12	02.95	>0.05
Group B	46.18	46.31	18.18	0.14	0.13	03.13	>0.05
Group C	45.64	45.09	36.36	0.17	0.26	05.18	>0.05
Borderline							
Group A	75.33	75.04	18.18	0.08	0.07	02.86	>0.05
Group B	78.33	78.44	27.27	0.09	0.11	03.90	>0.05
Group C	79.00	79.16	45.65	0.10	0.16	05.08	>0.05
Mild							
Group A	60.25	60.03	18.18	0.06	0.05	02.75	>0.05
Group B	63.33	63.04	27.27	0.07	0.08	04.02	>0.05
Group C	62.00	62.15	45.45	0.09	0.15	05.32	>0.05
Moderate							
Group A	29.00	29.07	09.09	0.09	0.75	02.92	>0.05
Group B	40.33	40.43	27.27	0.09	0.10	03.42	>0.05
Group C	32.05	32.45	36.36	0.11	0.15	04.28	>0.05
Severe							
Group A	18.00	18.12	09.09	0.14	0.12	02.83	>0.05
Group B	17.13	17.44	18.18	0.09	0.11	03.90	>0.05
Group C	14.00	14.13	27.27	0.10	0.13	04.27	>0.05

In borderline group A provided statistically significant ($P > 0.50$) improvement 18.18% were as group B also provided statistically significant ($P > 0.50$) improvement 27.27% in IQ and with group C IQ increased 45.45% after complication of course which is also statistically highly significant.

Group A provided statistically ($P > 0.05$) improvement (18.18%) in IQ in mildly retarded and Group B also showed statistically significant ($P > 0.05$) improvement 27.27% in improving the IQ of mild where as Group C provided 45.45% which is highly significant statistically.

Group A showed (09.09%) in moderately retarded which is statistically significant where as Group B provided statistically significant ($P > 0.05$) improved (27.27%) in moderately retarded and in Group C the improvement (36.36%) in IQ which is statistically highly significant.

Group A provided significant improvement in severely retarded (09.09%) where is Group B also provided statistically significant ($P > 0.05$) by 18.18% and in Group C also provided statistically highly significant by improvement (27.27%) in IQ.

Overall effect on IQ: Group A provided statistically significant ($P > 0.05$) improvement by 09.09% where as Group B also provided statistically significant ($P > 0.05$) improvement by (18.18%) and Group C the overall IQ is increased by (36.36%) in severely retarded which is statistically highly significant.

Table 3: Overall Effect of Therapies on 33 Patients

	Group A		Group B		Group C		Total	
	No. of Pt.	%	No. of Pt.	%	No. of Pt.	%	No. of Pt.	%
Cured	0	0	0	0	0	0	0	0
Markedly Improved	2	18.18	2	18.18	5	45.45	7	21.21
Moderately Improved	2	18.18	2	18.18	2	18.18	5	45.45
Improved	01	9.09	5	45.45	3	27.27	10	30.30
Unchanged	06	54.54	2	18.18	01	9.09	11	33.33

Out Of 33 Patients (11 Patients in Each Group) 72.72% were Reported. 18.18%, memory recent 27.27% memory immediate 36.36% improvement.

In Group A 18.18 % (2) patients were reported marked improved 18.18% (2) patients were reported moderately improved and 9.09% (1) patients was improved and 54.54% (6) patients were reported unchanged. No one was cured.

In Group B 18.18% (2) patients were reported markedly improved 18.18% (2) patients were reported moderately improved 45.45% (5) patients were improved and 18.18% (2) patients reported unchanged. No one was cured.

Group C 45.45% (5) patients were reported markedly improved 18.18% (2) patients were reported moderately improved and 27.27% (3) patients were improved and 9.09% (1) patients reported unchanged. No one was cured.

Comparison of Overall Effect of Therapies

Group A provided good result on some *Mano bhavas* during the treatment but after the completion of the treatment overall result of group B was better and Group C provided best result than Group A and Group B.

Group A provided 27.27%, improvement in *Medha* 27.27%, in *Smriti* 36.36%, in *Dhriti* 18.18%, in *Vigyana* 27.27%, in *Shraddha* 27.27%, *Krodha* improvement *Shoka* 27.27%, relief *Priti* 36.36%, *Harsha* 27.27% and *Bhaya* 27.27%, consciousness 27.27%, communication 18.18%, Attention 36.36%, behavior 27.27%, concentration 27.27%, emotion 27.27%, information 18.18%, judgment 18.18%, orientation 18.18%, perception 27.27%, thinking 18.18%, memory remote

Group B provided 45.45%, improvement in *Medha* 54.54%, in *Smriti* 63.63%, in *Dhriti* 45.45%, in *Vigyana* 54.54%, in *Shraddha* 54.54%, *Krodha* improvement *Shoka* 45.45%, *Priti* 63.63%, *Harsha* 54.54% and *Bhaya* 45.45%, improvement in *Moha* 54.54%, it also showed better relief and behavior 45.45%, concentration 45.45%, consciousness 45.45%, communication 36.36%, emotion 45.45%, information 27.27%, judgment 36.36%, orientation 45.45%, perception 54.54%, thinking 27.27%, memory remote 45.45%, memory recent 63.63%, memory immediate 54.54% improvement.

Group C provided 72.72%, improvement in *Medha* 72.72%, in *Smriti* 81.81%, in *Dhriti* 54.54%, in *Vigyana* 63.63%, in *Shraddha* 72.72%, *Krodha* improvement *Shoka* 63.63%, *Priti* 72.72%, *Harsha* 72.72%, and *Bhaya* 72.72%, improvement *Moha* 63.63%, it also showed better and highly significant improvement on mental status examination i.e. Attention 81.81%, behavior 63.63%, concentration 72.72%, consciousness 72.72%, communication 54.54%, emotion 54.54%, information 45.45%, judgment 45.45%, orientation 72.72%, perception 63.63%, thinking 45.45%, memory remote 63.63%, memory recall 82.82%, memory intermediate 72.72% improvement.

In this way group C provided highly significant improvement in *Medha*, *Smriti*, *Harsha*, *Moha* and recent and immediate memories on *Manasika bhavas* and also found highly significant in *Dhriti*, *Vigyana*, *Krodha*, *Shoka*, *Priti*, *Bhaya* and *Sharaddha*.

Probable Mode of Action of Medhya Drugs

The understandings of mode of action of Medhya drugs are very difficult but Acharya bhadanta nagarjuna is *Rasa vaisheshika sutra* clearly mentioned that the Medhya drugs are having Achintya virya prabhava.

If the action of Medhya drugs is unpredictable then we can assess the action of such drugs up to some extent on the basis of rasa Panchaka and action at the level of Strotasa and Agni by the ultimate effect.

1. By Rasa Panchaka

Each drug is composed of Panch mahabhutas the various combination of Mahabhutas is responsible for its rasa, Guna, Virya, Karma, etc.

a) Rasa

Among rasa the Tikta and Madhura rasa are said to be Medhyas and Katu, Amla and Lavana rasa are having least Medhya effect. Tikta rasa is predominant with Akasha and Vayu mahabhutas, hence Tikta rasa because of Laghu guna, Dipana, Pachana, Sroto vishodhona karmas acts as Medhya.

b) Virya

Medhya drugs are available having Ushna and Sheeta virya. Ushna virya medhya drugs having direct action on Sadhaka, Alochaka pitta and dispels the tames and Kaphas from Hridaya and Manovaha strotas. Thus improves the Grahana shakti and Smriti of the individual. Sheet Virya drugs are Mana prasada and also increase the Avalambaka and Tarpak kapha and Dosha dhatu vriddhi, Avalambak and Tarpak kapha gives Bala to Hridaya and Indriyas. Thus improves the Dharana shakti.

c) Guna

Satva guna is predominantly in Akashiya, Taijasa and Appya drug only Satva guna improves the Medhas, Rajas & Tamas aggravates the Vikaras in Manas.

Among Samanya guna, Laghu, Ushna and Tikshna increases Sadhaka pitta, Snigdha, Drava, Manda, Slakshana and Picchila guna increases the Avalambaka and Tarpak kapha. Sara, Sukshama and Vishada are Strotovishodhaka and Vyavayi is Asusrotogami. The Gunas mentioned here are related with Sattvika guna. Hence, these Gunas increases the Dhi, Dhriti, Smriti and Medha.

d) Vipaka

As mentioned earlier in Rasa. The Medhya drugs are of Madhura and Katu vipaka predominantly.

e) Prabhava

Achintya shakti or Achintya virya is the main Guna of the Medhya drugs. We tried to explain the action ultimately ends in Prabhavas.

2. Agni Level

The Medhya drugs increases the Sadhaka and Alochaka pitta mainly and also the other Pittas. As the Pachaka pitta is responsible for Subh-ashubha of other Pitta so the correction of this Pitta is also important which most of the Medhya drugs acts at the level of Dhatvagni.

3. Srotas Level

The Medhya drugs are mainly Sukshama strotogami and Srotovishodhaka, hence through Nasya it reaches the Buddhi, Indriyas and Mastishka which improves the Buddhi and Medha. Here an effort to done to explain the probable mode of action of Medhya drugs.

CONCLUSION

1. Balbuddhimandya is absolutely fresh and new subject in addition to Balrogas (pediatric disorders) described in Ayurvedic classics. No direct reference pertaining to this disease are available in Ayurvedic literature, hence the referred pediatric diseases titled as Balbuddhimandya seems to be justified research in area of fundamental part of this clinical study.
2. Factors responsible for Balgrahas may be included to the etiological background of this burning pediatric issue.
3. Asamayak aahar vihar (inadequate diet & conduct) of the parents influencing to the genetic structures also may be included to causative lines of present study. Even modern etiological ground of the referred disease cannot be ignored.
4. The delayed cry and respiration, meconium aspiration (mild and low apgar score) were also noticed in some of the patients.
5. In majority of the patient symptoms like convulsions, abnormal social behavior, growth retardation, enuresis and indication of delayed milestones were observed.
6. Mental retardation is observed in all socio economic status but the children of lower and middle income groups were observed slightly more affected in comparison to children belonging to higher income group.
7. Majority of the affected patients were observed physically handicapped associated with poor IQ, MQ as well as inadequate adaptation of social behavior.
8. In majority of the mentally retarded Avara samhanana, Pramana, Saram satva, Satmya bala are seen. The borderline group and some of the mild are exception for this.
9. Sanvardhan ghrita and Saraswat churna is proved better in the improvement of all Manasa bhavas and mental status as, Medha, Smriti, Dhriti, Shoka, Priti, Harsha, attention, emotion orientation, perception and memory of all types.

10. *Samvardhan ghrita* and *Saraswat churna* can be a boon for the mentally retarded especially for mild and borderline and they can lead almost normal life in the society.
11. Present scientific study has been proved satisfactorily with significant result of the proposed drugs. Even then period of this study may be extended to find out the minute efficacy of the drugs in order to standardize the parameters adopted in existing scientific work.

REFERENCES

1. Agnihotri A., Bhaishyajya kalpana vigyan, Hindi commentary, 1st edition 1991, Chaukhambha Sanskrit sansthan, Varanasi, India, Page no. 263-264.
2. Sharma P.H., Kaashyap Samhita Vimansthana, Hindi commentary, Chaukhambha Sanskrit Sansthan, Varanasi, India, 10th edition, 2005, Page no.61.
3. Sharma P.H., Kaashyap Samhita Indriyasthana, Hindi commentary, Chaukhambha Sanskrit Sansthan, Varanasi, India, 10th edition, 2005, Page no.90.
4. Sharma P.H., Kaashyap Samhita Indriyasthana, Hindi commentary, Chaukhambha Sanskrit Sansthan, Varanasi, India, 10th edition, 2005, Page no.98-105.
5. Tripathi B., Madhav Nidan, Hindi commentary, Reprint 2007, Chaukhambha surbharati prakashan, Varanasi, India, Page no. 522-528.
6. Mishra S., Shaarangdhar samhita purwardha, Hindi commentary, Reprint 2009, Chaukhambha Orientaliya, Varanasi, India, Page no. 45.
7. Joshi Y.G., Charak samhita, Hindi commentary, Vaidyamitra publication, Pune, India, 2nd Edition 2005, Page no. 233.
8. Shastri Kaviraj A., Susruta samhita uttarsthana, Hindi commentary, Reprint 2006, Chaukhambha Sanskrit Sansthan, Varanasi, India, Page no. 141-156.
9. Gupt Kaviraj A., Ashtangsangraha uttarsthana, Hindi commentary, Reprint 1993, Chaukhambha Sanskrit series office, Varanasi, India, Page no. 195-202.
10. Shastri K.A., Susruta samhita purwardha, Hindi commentary, Chaukhambha Sanskrit Sansthan, Varanasi, India, Reprint 2007, Page no. 24.
11. Kunte A.M., Shastri K.R., Asthangahridaya uttarsthana, Hindi commentary, 6th edition Reprint 1935, Chaukhambha surbharati prakashan, Varanasi, India, Page no. 786-790.
12. Shukla A.V., Tripathi R.D., Charak samhita sharirsthana, Hindi commentary, Chaukhambha Sanskrit pratisthan Delhi, Reprint 2006, Page no. 723-724.
13. Desai R.R., Ayurvediya kriyasharir, Hindi commentary, Kadambari Printers, Baidyanath Ayurved Bhawan Ltd. Nagpur, India, 1st edition reprint 2010, Page no. 838.
14. Sharma P.H., Kaashyap Samhita Vimansthana, Hindi commentary, 10th edition, 2005 Chaukhambha Sanskrit Sansthan, Varanasi, India, Page no. 6.
15. Vaidya L., Bhavaprakasha madhyam khand, Hindi commentary, 3rd edition 1970, Motilal Banarasidas prakashan, Delhi, India, Page No. 190.
16. Ghai O.P., Gupta P., Paul V.K., Essential Pediatrics, 8th edition 2013, CBS Publishers & Distributors, New Delhi, India, Page no. 584.
17. www.testingmom.com, Practice Test Questions for Wechsler preschool and primary scale of Intelligence.
18. Shukla S., www.ncert.nic.in, Mother tongue tests and questionnaires.

Cite this article as:

Prashant Laxmanrao Patil, Deokumar W. Raut. A Clinical Study on Samvardhan Ghrita and Saraswat Churna in Children Suffering from Balbuddhimandya w.s.r. to Mental Retardation. International Journal of Ayurveda and Pharma Research. 2015;3(11):39-46.

Source of support: Nil, Conflict of interest: None Declared

*Address for correspondence

Dr. Prashant Laxmanrao Patil

Associate Professor,
Dept. of Kaumarbhritya, Govt.
Ayurved College, Nanded,
Maharashtra.

Email:

madhaveepatil1982@gmail.com

Phone- 9822185261