

# **Effect of some psychotropic Ayurvedic Drugs and Intensive special coachi on the Psychological Development of Mentally Backward Children**

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Received on april 18 Revised on may 30,1988

## **ABSTRACT**

A Study with 72 mentally backward children given psychotropic.Ayurvedic drugs single or in combination with special educational shows that special educational without drugs produces beneficial effect in academic scores only .The combination of druhs plus special education is more effective than drugs alone in many of the parameters. The combination, mandookaparni plus special education group has show a consistently promising response.

## **INTRODUCTION**

The present day treatment of mentally retarded and backward children is not wholly satisfactory . From a PSYCHIATRIST’S point view (1), “proper treat-ment of mental retardation relives symptoms, reduces morbidity and allows the individual sufferer to operate the best way he can within the limits of his permamnent disability”. Especially in the field of mental retardation as Blackman (2) pointed out, “any drug which makes a just noticeable difference’ in a positive direction should be considered to be effective” since total cure is ruled out .

Various drugs have been tried with mental retardation to improve their intelligence and adaptive behaviours . glutamic acid (3) , vitamin (4) , L-glutavite (5) tranquillizers (6) encephabol (7) , etc..., are some of the drugs widely prescribed by doctors dealing with mental deficiency . in general , these studies are ambiguous. Whereas some studies have shown a positive therapeutic effect, subsequent studies haven not stood the test of scrutiny . maney of these studies lack controls thus precluding the advantage of doduble blind trials.

Scientists all over the world, are presently turning to other systems of medicine in fields where allopthy has failed to make a dent , with the hope of finding new therapeutic measures. Ayurvedic, medicines have the advantages of being cheaper, easily available, with least adverse reactions. A number of drugs

Have been mentioned in ancient classic (8) for their rasayana property and medhya effect (intelligence promoting property).Of these, a single drugs mandookaparni (centella Asiatic linn) and 2 combinations viz Brahmi Gritham and sarasvatha churnam were taken up for investigation in this study .the main drugs in Brami Gritham and sarasvatha churnam are brahmi (Bacopa Munneri ) and vacha (Acorus Calamus ) respectively. The drugs were procured from the Indian Median Practitioners cooperative pharmacy Ltd, Madras.

Any remedial therapy for mental backwardness does not stop with drugs. It must inevitably include special education also , as the problem of the mentally retarded and backward, require different emphasis and careful handling which only special education can give.

Hence, it is decided to combine the 2 variables and conduct a systematic study.

### MATERIALS AND METHODS

Seventy two children of both sexes in the age range of 5-13 year and I.QS ranging from 50 to 90 were selcted from a local home (Bala Mandir, Madras) for destitutes and allocated randomly to the folloeing groups.

- Group 1 special coaching alone
- Group 2 a. sarasvatha churnam alone  
b. Mandookaparni alone  
c. Brahmi gritham alone
- Group 3 a. sarasvatha churnam + special education  
b. Mondookaparni + special education  
c. Brahmi gritham + special education
- Group 4 Control group

The drugs were administered twice a day in the following dosages:

|                       | Below 8 yrs         | Above 8yrs         | Administration |
|-----------------------|---------------------|--------------------|----------------|
| 1. Mandookaparni      | 1gm/day             | 2gms/day           | with milk      |
| 2. Brahmi gritham     | 1/2teaspoon per day | 1 teaspoon per day | with milk      |
| 3. Sarasvatha churnam | 1/2teaspoon per day | 1 teaspoon per day | with milk      |

Special education was provided by 4 teachers who are specially trained in teaching slow learners. The needs and capacities of each child were taken into account in preparing for the remedial lessons which are school-based. The concept of "special education" is modified, with the basics of education taught in the morning and some crack or skill taught in the afternoon. The overall idea is to make the child self-sufficient at the end of the project.

The following were the parameters of assessment:

1. Intelligence quotient as assessed by Binet-Kamat test (9)
2. Academic score in the various examinations .
3. Matron's assessment of behaviour problem (10)
4. Rutter's behaviour rating scale.

- a. General behaviour – as assessed by the matrons.
- b. Classroom behaviour – as assessed by the teacher.

The project tenure was 3 years. This paper presents the result of the analysis at the end of one year .

## **RESULTS**

The effect of special education alone (table 1): the control group shows a decline in I.Q and special education group shows a numerical increase in I.Q. Though it is not statistically significant. In academic score, the special education group shows a significant increase  $p (< 0.05)$  at the end of one year . In all other parameters, decrease in the values is taken as a positive response as they all relate to behaviour problem . As seen from the table the special education group has registered a greater numerical decrease in all the behaviour problem (even though not significant whether assessed by matron or teacher .

The effect of drugs alone :The groups with drugs alone do not differ much from the control group in any of the parameters. Probably the treatment period of one year is not adequate for the drugs to show their action . Subsequent assessments may bring to light the effects of drugs alone.

The combined effect of drugs plus special education as compared to control the group with mandookaparni plus special education shows a statistically significant increase in I.Q at the end of one year .the control group shows a decline in I.Q .in academic scores the group a ) sarasvatha churnam plus special education and b) Brahmi gritham +special education have registered a significant increase . in the behaviour problem, the group with mandookaparni +special education shows a significant decrease and overall, this combination seems to be more beneficial than other .

Table 1. Analysis with regard to the effect of special education

| SI. NO. | Parameter  | Control group       | special education group |
|---------|--|---------------------|-------------------------|
| 1.      | Intelligence quotient                            | -2.80 +-3.67        | 1.31+-3.51              |
| 2.      | Academic scores                                  | 7.83 +- 10.10       | 35.00 +- 7.98           |
| 3.      | Matron's assessment of behaviour Problem         | -4.56 + 4.22<br>(9) | -11.67+-3.88<br>(9)     |
| 4.      | Rutter's behaviour scale                         |                     |                         |
| 5.      | a. General behaviour(as                          |                     |                         |
| 6.      | assessed by matron)                              | -3.33 + 1.91<br>(9) | -4.45+- 3.88            |
|         | b. classroom behaviours (as assessed by teacher) | -2.89+-1.68         | -3.56+-1.39             |

Values are mean difference +-standard error. Figures in the paranthesis represent sample size.

\*P<0.05

Table 2. Analysis with regard to the combined effect of drug + special education as compared to drugs alone, Values are mean differences + standard error

| Sl. No. | Parameter  | Sarasvatha Churnam+sp education | Sarasvatha Churnam alone | Mandookapar Ni + special education | Mandooka Parni alone | Brahmi Gritham + sp education | Brahmi Gritham alone |
|---------|--|---------------------------------|--------------------------|------------------------------------|----------------------|-------------------------------|----------------------|
| 1.      | Intelligence Quotient  | 0.80 + 4.01<br>(9)              | -1.28 +2.81<br>(9)       | 3.80 + 2.17<br>(9)                 | 1.19 + 2.74<br>(9)   | 2.43 +1.74<br>(9)             | -0.19 + 2.58<br>(9)  |
| 2.      | Academic Scores  | 26.60+1.90<br>(5)               | 4.85+12.69<br>(7)        | -                                  | 9.80+2.24<br>(5)     | 38.66+6.12<br>(3)             | -1.14+9.15<br>(7)    |
| 3.      | Matron's Assessment of behavior problems                           | 0.11+2.56<br>(9)                | -3.11+2.59<br>(9)        | -9.22+2.39<br>(9)                  | 0.33+1.80<br>(9)     | -5.89+1.32<br>(9)             | -2.44+9.15<br>(9)    |
| 4.      | Rutter's behavior scale<br>(a)General behavior(assessed by Matron) | -2.55+1.03<br>(9)               | 1.22+1.24<br>(9)         | -6.78+2.30<br>(9)                  | 0.00+1.86<br>(9)     | -1.12+1.72<br>(9)             | -3.23+1.61<br>(9)    |
|         | (b)Classroom behavior (assessed by teacher)                        | -2.36+1.72<br>(9)               | -2.11+1.72<br>(9)        | -1.56+2.25<br>(9)                  | -3.89+1.11<br>(9)    | -4.33+1.58<br>(9)             | -1.56+1.18<br>(9)    |

The combined effect of drugs plus special education as compared to drugs alone (Table 2) : in I.Q among the drugs alone groups, only the group with mandookaparni shows a numerical increase while the other two groups show decrease. In the combination (drugs + special education ) group too, the group with mandookaparni + special education registers an increase in I.Q Which is greater than the other 2 group . in academic scores, the combination seems to be more effective than drugs alone. Again, the combination seems to be more effective in reducing the behaviours problem than the drugs alone and among the combinations, mandookaparni + special education, is more beneficial in its effect consistently.

## DISCUSSION

Among the Indian medican , centella asiatica (Mandookaparni), celastrus paniculata (jyotishmati), convolvulus plurica (sankapushpi) are some of the drugs subjected to experimentation. Appa rao et al (11) found significant increase in the general mental ability at the end of 6 months with mandookaparni in 30 mentally retarded children. Thought in the present study, the drugs without special education have not shown any substantial improvement in the parameters so far , prolonged administration is expected to bring the desired results.

The superiority of the special curriculum over the normal classes for the mentally backward children is well established in this study .educationists prefer q special curriculum for the educationally handicapped persons as the order of priority takes into account the disadvantages of each child (12).

The combination of drugs and special education is found to be more effective in this study as the problem is approached from two angles \_drugs on the physiological plane and special education on the psychological line among the combination , mandookaparin +special education show a consistently better result . this corroborates the study by appa et al (11) which also found a promising action by mandookaparin. A review of the first year progress of study in this paper has become imperative to take stock of the situation viz , change in the dosage of medicines , introduction of special dite to increase the potency of the drug, changes in teaching methods , etc.

### **ACKNOWLEDGEMENTS**

The authors are thankful to the honorary general secretary , bala mandir for providing the basic facilities . they are also thankful to the psychologist, V.H.S for the assistance in psychometry . the financial assistance by the arogya Ashram Samithi , madras is gratefully acknowledged.

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