



Review Article

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CRITICAL REVIEW ON EFFECT OF BRAHMI GHRITA IN PSYCHIATRIC DISORDERS

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ABSTRACT

The Ayurvedic literatures emphasize on imbalance in physical (vata, pitta, kapha) and mental (raja and tama) doshas leading to cause any kind of psychiatric disorder. The major categories of psychiatric disorders described are Unmada (Insanity), Apasmara (Convulsion Disorders), Madatyaya (Alcoholism), Mada-Murcha-Sanyasa (Altered state of consciousness) etc. In the ayurvedic literatures consumption of ghrita is highly recommended in the management of psychiatric disorders as it is having lipophilic action and it acts on brain so; it is well established that it can cross the Blood Brain Barrier (BBB). Multiple clinical and experimental studies have been conducted on Brahmi Ghrita which has shown its results in improved learning and memory, anticonvulsant action, CNS depressant activity, anti-amnestic actions, antinociceptive action, its effect on depression and in ADHD children and many are on its neurocognitive actions.

Keywords: Brahmi ghrita, Unmada, Apasmara, ADHD.

INTRODUCTION

The Ayurvedic literatures emphasize on imbalance in physical (vata, pitta, kapha) and mental (raja and tama) doshas leading to cause any kind of psychiatric disorder. The major categories of psychiatric disorders described are Unmada (Insanity), Apasmara (Convulsion Disorders), Madatyaya (Alcoholism), Mada-Murcha-Sanyasa (Altered state of consciousness) etc. Ayurveda have given systematic treatment for the psychiatric disorders and classified into three categories. Daivavyapasraya is the spiritual approach, Yukti vyapasraya is the rational approach and Satwavajaya is the psychotherapy. In Yukti vyapasraya system of treatment, along with Panchakarma therapy (the five-major body-detoxification treatment), various kind of herbal and herbo-mineral drugs are used. There are different forms of drugs; like choorna (powdered herbs), kashaya (Decoction), taila (medicated oil preparations), vati (tablets), kupipakva rasayana (heavy metal preparations) but the majority are in the form of ghrita (Clarified Butter) preparations for psychiatric disorders. In the ayurvedic literatures consumption of ghrita is highly recommended in the management of psychiatric disorders as it is having lipophilic action and it acts on brain so; it is well established that it can cross the Blood Brain Barrier (BBB). It is also among ketogenic

diet which is specially recommended in apasmara (epilepsy) patients.¹ Brahmi Ghrita is a polyherbal ayurvedic formulation that is widely used in the management of psychiatric disorders. If we consider major Ayurvedic literatures, there are dissimilarities in its preparation and in its indications. According to Charak Samhita it is mainly indicated for Unmada, alakshmi, apasmara and papjanya vikaras (diseases due to sinful acts). As per Sushruth Samhita it is mentioned for kustha, vishama jvara, apasmara, unmada, visha, bhutagrahavesha and according to Astanga Hrudaya it is recommended for unmada, kustha, apasmara, infertility, for enhancement of speech and memory. (Table 1)

Although there is dissimilarity among literatures in the preparation of Brahmi Ghrita but Brahmi (*Bacopa monnieri*) is one of the major ingredients as per all ayurvedic literatures. Brahmi is one of the medhya drug (nootropic action)² and is recommended for various psychosomatic and psychiatric disorders. Bacoside, Brahmi's active principle is responsible for improving memory related functions, attributed to the ability to enhance the efficiency of transmission of nerve impulses, there by strengthening memory and cognition. The constituents responsible for cognitive effects are Bacoside A and B.³⁻⁷

Table 1: Brahmi ghrita ingredients and indications as per major Ayurvedic literatures

Reference	Charak Samhita	Susruth Samhita	Astanga Hrudaya
	Charak Chikitsa sthana 10/25	Susrutha Chikitsa sthana 28/6	Ashtang Hrudaya Uttara sthana 6/25-26
Ingredients	*Brahmi Swarasa - <i>Bacopa monnieri</i> fresh extract, *Vacha - <i>Acorus calamus</i> , *Kushta - <i>Inula racemosa</i> , *Shankhapushpi - <i>Convolvulus pluricaulis</i> , *Purana Ghrita - Old clarified butter.	*Brahmi Swarasa, *Ghrita-Clarified butter, *Vidanga - <i>Embelia ribes</i> , *Tandula- <i>Amarantus spinosus</i> *Vacha,- <i>Acorus calamus</i> *Trivrut- <i>Operculina turpethum</i> , *Triphala- (<i>Amalaki-Emblia officinalis</i> , <i>Bibhitaki-Terminalia bellirica</i> <i>Haritaki-Terminalia chebula</i>).	*Brahmi Swarasa, *Ghrita, *Trikatu - (<i>Sonth-Zingiber officinale</i> <i>Pippali-Piper longum</i> <i>Maricha-Piper nigrum</i>) *Trivrut, <i>Operculina terpenanthum</i> *Brahmi - <i>Bacopa monnieri</i> *Shankhapushpi, <i>Convolvulus pluricaulis</i> *Sapthala- <i>Ophiorrhiza mungos</i> *Vidanga. <i>Embelia ribes</i>
Indications	Unmada, Alakshmi, Apasmara and Papjanya vikaras	Kustha (Skin diseases), Vishama Jvara (Fever), Apasmara, Unmada, Visha(Poison) , Bhutagrahavesha	Unmada, Kustha, Apasmara, Infertility, for enhancement of speech and memory

Recent research updates on Brahmi Ghrita

Multiple clinical and experimental studies have been conducted on Brahmi Ghrita which has shown its results in improved learning and memory, anticonvulsant action, CNS depressant activity, anti-amnesic actions, antinociceptive action, its effect on depression and in ADHD children and many are on its neurocognitive actions some of them are listed below to critically understand its overall effect in psychiatric conditions.

Effect on learning and memory

Brahmi Ghrita was studied on rats for its effect on learning and memory. Research showed significant decrease in transfer latency in modified elevated plus maze test and increase in step through latency in passive avoidance test. It happened may be due to increase in learning and memory. It was also observed that prolonged use causing elevation of cerebral glutamic acid and transient increase in gamma aminobutyric acid, which may have enhanced the process of learning.⁸

Anticonvulsant effect in Epilepsy

Brahmi is one of the most commonly used herbs, the neurocognitive effects of which are well established. Epilepsy is a chronic neurological disorder characterized by recurrent seizures caused by imbalance in brain electrical activity which is commonly correlated to Apasmara (loss of consciousness or memory) in Ayurveda. Brahmi Ghrita has base as Ghrita i.e. Cow's ghee and acts as a beneficial therapeutic formulation by providing good absorption, assimilation and delivery to the target organs due to its lipophilic nature. Brahmi is a potent nootropic drug is also studied for its anticonvulsant activity in albino rats, using various convulsive models.⁹

Effect on CNS activity

Brahmi ghrita has shown significant CNS depressant actions, such as reduced alertness and locomotion, and diminished response to touch and noise. Brahmi Ghrita did not have any hypnotic action of its own but potentiated the pentobarbitone induced sleeping time. These kinds of effects are observed in antipsychotic medicines. Brahmi Ghrita also showed antinociceptive action by tail flick method. This study is suggestive of anticonvulsant action of the formulation is mediated by the chloride channel of benzodiazepine receptor complex. Brahmi Ghrita showed reduction in the tonic extensor phase in MES induced seizures and slightly prolonged the onset of action in PTZ induced convulsions.¹⁰

Anti-amnesic study

Brahmi ghrita was studied and it showed significant improved levels of both serum and brain MDA as compared to serum and brain MDA levels in the disease control group. Brahmi ghrita showed significant improvement in Conditioned Avoidance Response (CAR), at some interval of time which proved its memory protective effect. Brahmi ghrita improved the serum and brain MDA levels. Brahmi ghrita also decreased the ache activity (increased by scopolamine administration) emphasizing its memory protective effect. Piracetam was seen to increase the ache activity. Impairment of memory is an organic brain disorder defined as 'loss of intellectual ability of sufficient severity to interfere either with occupational functioning, usual social activities or relationship of a person in the absence of gross clouding of consciousness or motor involvement'. Decreased cholinergic firing in the brain, rise in oxidative stress, hypercholesterolemia and neuro inflammatory reactions have been demonstrated to play an etiological role in memory decline.¹¹

Study on Depression

A study was conducted on 35 patients those who have depressive symptoms included for study according to DSM-IV criteria and Hamilton Depression Rating Scale was used to assess the effect of therapy. After the completion of the treatment; results were moderate improvement in 50% patients and mild improvement in 35% patients in total. In overall effect, Brahmi Ghrita showed moderate improvement for 40% patients and mild improvement for 55% patients.¹²

Study on Attention Deficit Hyperactivity Disorder (ADHD)

Attention Deficit Hyperactivity Disorder (ADHD) is a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, has symptoms presenting in two or more settings (e.g. at home, school, or work; with friends or relatives; in other activities), and negatively impacts directly on social, academic or occupational functioning. Several symptoms must have been present before age 12 years. Study was conducted on children of either sex between the age group of 6 and 12 years diagnosed with mixed variety of ADHD as per DSM-IV criteria. Initially pilot study ($n = 10$) was conducted and further after fixation of potent dose study ($n = 27$) was carried out, wherein Brahmi ghrita was compared with methylphenidate. ADHD symptoms were assessed using Dupaul ADHD rating scale. In pilot, exploratory study, Brahmi ghrita has shown 66% decrease in ADHD score.

In the therapeutic confirmatory study, only 16% improvement was seen with Brahmi Ghrita, which was similar to methylphenidate, standard treatment for ADHD that was used as a comparator in the study. No side effects were reported in both studies.¹³

DISCUSSION

Cure of cognitive disorders such as Amnesia, Attention Deficit and Alzheimer's disease is still a nightmare in the field of medicine. Nootropic agents such as Piracetam, Aniracetam and choline esterase inhibitors like Donepezil are used to improve memory, mood and behaviour, but the associated side effects have limited their long-term use.¹⁴ Against this background, Ayurveda describes many formulations to improve memory and have neuroprotective effects. After ghrita paka with medicinal herbs ghrita carries the therapeutic components along with the qualities of ghrita where it acts on BBB and through various studies it has been well established.

CONCLUSION

Brahmi ghrita is extensively used in most of the psychiatry disorders internally and externally both which has been already proven through various researches. Along with ghrita preparation the medicine will be having more effect on BBB due to its lipophilic nature. There is lack of potent research at the level of neuroplasticity, nootropic and neuroprotective effect of Brahmi ghrita which will be a revolution in psychiatry medicine as this medicine is having no side effects and easy palatability.

REFERENCES

1. Archana M, Savitha HP, Suhas KS, Arun CH, Gazala H. A critical review on the usage of ghrita in unmada. *J Biol Sci Opin* 2016; 4(4):148-152.
2. B.N. Dhawan. Experimental and Clinical Evaluation of Nootropic Activity of *Bacopa monniera* Linn. (Brahmi). *Ann Natl Acad Med Sci* 2014; 50:20-33.
3. Kapoor LD. Handbook of Ayurvedic medicinal plants. Boca Raton FL: CRC Press Inc; 1990:61.
4. Chakravarty AK, Garai S, Masuda K, Nakane T, Kawahara N. Bacopasides III—V: Three new triterpenoid glycosides from *Bacopa monniera*. *Chemical and Pharmaceutical Bulletin*. 2003; 51(2):215-7.
5. Hou CC, Lin SJ, Cheng JT, Hsu FL. Bacopaside III, bacopasaponin, and bacopasides A, B, and C from *Bacopa monniera*. *J Nat Prod* 2002; 65:1759-63.
6. Mahato SB, Garai S, Chakravarty AK. Bacopa saponins E and F: Two jujubogenin bisdesmosides from *Bacopa monniera*. *Phytochemistry* 2000; 53:711-4.
7. Chakravarty AK, Sarkar T, Masuda K, Shiojima K, Nakane T, Kawahara N. Bacopaside I and II: Two pseudojujubogenin glycosides from *Bacopa monniera*. *Phytochemistry* 2001; 58:553-6.
8. Yadav KD, Reddy KR, Kumar V. Beneficial effect of Brahmi Ghrita on learning and memory in normal rat. *Ayu*. 2014; 35(3):325.
9. Giramkar SA, Kulkarni OP, Jagtap SD, Kuvalekar AA, Mukherjee S, Jagtap RR et al. Anticonvulsant potential of commonly practiced formulations of Brahmi (*Bacopa monnieri* Linn.) in Wistar rats. *Journal of Pharmacy Research*. 2013; 7(9):787-91.
10. Achliya GS, Wadodkar SG, Dorle AK. Evaluation of CNS activity of Brahmi Ghrita. *Indian Journal of Pharmacology*. 2005 Jan 1; 37(1):33.
11. Yadav KD, Reddy KR, Kumar V. Encouraging effect of Brahmi Ghrita in amnesia. *International Journal of Green Pharmacy*. 2013; 7(2).
12. Deole YS, Chandola HM. A clinical study on effect of Brahmi Ghrita on depression. *AYU* 2008; 29(4):207.
13. Bhalerao S, Munshi R, Nesari T, Shah H. Evaluation of Brahmi ghritam in children suffering from Attention Deficit Hyperactivity Disorder. *Ancient science of life*. 2013; 33(2):123.
14. Munshi R, Bhalerao S, Nesari T. Evaluation of the efficacy of Brahmi ghrita in scopolamine induced amnesia in rats using Cook's pole apparatus. *International Journal of Basic & Clinical Pharmacology*. 2016;5(3):829-33.
15. Joshi H, Parle M. Evaluation of nootropic potential of *Ocimum sanctum* Linn. In mice. *Indian J Exp Biol*. 2006; 44:133-6.

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