

RESEARCH ARTICLE

CAN HOMEOPATHY USED SIMULTANEOUSLY WITH REHABILITATION BE EFFECTIVE IN THE TREATMENT OF CHILDREN WITH CEREBRAL PALSY?

*F. Sajedi MD¹,
BS. Valizad²,
Mehrinejad MD³,
MR. Ashrafi MD⁴*

Abstract:

Objective

Different medical and rehabilitation interventions have been used for treatment of cerebral palsy (CP). In addition to conventional methods, complementary medicine such as homeopathy has been used in treatment of neurodevelopmental disorders. This study has been done to determine what effect homeopathic treatment would have on motor development (MD) of children with spastic CP, when added to rehabilitation normally used for such children.

Materials & Methods

This 2004 study was a double blind clinical trial, conducted on twenty-four subjects recruited from a developmental disorders clinic in Tehran. Using the minimization technique, subjects were divided to the case and control groups. Routine rehabilitation techniques were carried out for 4 months on both groups. In addition the cases were given homeopathy drugs, while the controls received placebos. Levels of gross and fine motor development were assessed with the Denver Developmental Screening Test II (DDST II). Data was collected by assessment forms, direct observations and examinations. Dependant variables in the two groups were compared at the beginning and at the end of the study.

Results

The average ages of the case and control groups were 28 and 28.4 months respectively. Gross and fine motor development and motor developmental quotient in the case group, compared to the controls showed no statistically significant differences.

Conclusion

Based on the results of this study adding homeopathy to rehabilitation had no significant effect on motor development of CP children. Considering the documented effects of homeopathy on the physical status of children with CP it would be better not to reject the possibility of effects of homeopathy on motor development of children with CP. As homeopathy is young in Iran, it is recommended to conduct further more extensive research on the effects of homeopathy on neurodevelopmental diseases.

Key Words: Spastic cerebral palsy, Motor development, Homeopathy.

1. Assisstant Professor ,University of Welfare & Rehabilitation.

2. Occupational therapist.

3. General Practitioner.

4. Pediatric neurologist, Associate professor, Tehran University of Medical Sciences.

Corresponding author:

F. Sajedi MD

Tel: +98 21 2242 9726

Fax : +98 21 2242 9726

Email : fisajedi@uswr.ac.ir

Introduction

Cerebral palsy (CP) is a common disorder with an estimated prevalence of 2-4/1000 population. Although its main causes are birth trauma, asphyxia, and prematurity, there has been virtually no change in the incidence of CP in spite of considerable advances in obstetric and neonatal care, during the last 2-3 decades (1). A team consisting of several specialists and therapists as well as parents worked together to implement various medical and rehabilitative interventions to treat CP. These interventions included physical and mental occupational therapy, physical therapy, speech therapy, use of muscle relaxants (dantrolen, baclofen, diazepam), botulinum toxin injections and different surgery techniques like neuronectomy, rhizotomy, crushing tenotomy, osteotomy, tendon lengthening and muscle sliding (1,2). Besides the above interventions complementary medicine like homeopathy, herbal medicine, aromatherapy, acupuncture and manual treatments have been used in treatment of pediatric neurodevelopmental disorders (3, 4). Complementary medicine use is widespread in children; professionals should be aware of the possible side effects/interactions and encourage adherence to effective conventional treatments where important (4). Complementary medicine like homeopathy, was used mainly following dissatisfaction with conventional medicine and fear of side effects of conventional treatments and word-of-mouth recommendation, (3, 4). The word Homeopathy (or Homoeopathy) is derived from the Greek words homoios, meaning like or similar, and pathos, meaning suffering or disease (5). The theory of homeopathy was developed by the Saxon physician Samuel Hahnemann (1755-1843) and first published in 1796 (6). Homeopathy is a system of medicine based on the principle that a disease with a given set of symptoms can be cured by a medicine (remedy) which is known to produce a similar set of symptoms in a healthy person. This principle where "like cures like" is called "The Law of Similars" and is the foundation of Homeopathic Medicine, meaning "Let like be treated by like" (7). To give an example of the simile principle, the symptoms and signs of acute arsenic poisoning are very similar to the symptoms seen in certain cases of gastroenteritis. And true to the principle of simile, Homeopathic potencies of Arsenicum (arsenic) are used to effectively treat gastroenteritis (8). Homeopathy is a kind of holistic

medicine, so the totality of signs and symptoms is the indication and guide to the selection of a remedy. Every patient is considered as an individual case and each time only one kind of remedy is prescribed.

Homeopathic medicine and the principle of simile was protected by law by the British Parliament, and later protected by the United States Congress as a practical and legitimate method of medical practice. Today, unlike nutritional substances, homeopathic substances are considered to be medicines, and recognized as powerful entities which allow specific medical claims to be made regarding their effectivity(5). Considering the effects of the homeopathy approach on the improvement of some children with neurological diseases, (9, 10), we decided to determine the effect of this unconventional treatment on gross and fine motor development (MD) of children with CP.

Materials & Methods

This study was a clinical trial-double blind-placebo-controlled study conducted during 2004. The subjects were recruited from a clinic (Developmental Disorders Center of Saba) in Tehran-Iran affiliated to the University of Social Welfare and Rehabilitation Sciences (USWR). The study had been approved by the Ethics Committee and the USWR and informed consent was obtained from the parents of each patient. Inclusion criteria were 1-5 years of age, spastic CP and family cooperation, whereas exclusion criteria were severe mental retardation (IQ<50), genetic disorders such as Down's syndrome, seizure disorders and sensory disorders such as blindness and deafness. Using the minimization technique, 24 subjects were divided to the two, case and control, groups; we lost 3 individuals from the controls and 5 from the case group, because of transpiration problems and aspiration pneumonia caused by water and other liquids drinking at home. The pre- and post treatment assessments of patients were done by a pediatrician and the occupational therapist blindly provided rehabilitation. The homeopath physician visited every patient, case by case, each month and based on totality of signs and symptoms, related or not related to CP, determined the most appropriate specific drug for each subject. Homeopathic drugs were prescribed for the controls group as well. Drugs used in this study were Silica, Lycopodium- Clavatum, Phosphorus (in many patients), Pulsatilla, Natrum-Muraticum, Opium,

Gelsemium, Causticum, Calcarea Phosphorica, and Calcarea Carbonica. At the first visit the homeopath physician determined the drug for individual patient. The prescription method was: 1 globule (0.05 gr) of the homeopathic drug or placebo dissolved in 5 cc of cold boiled water and added by 115 cc extra water; then 5cc of this solution were given to the patient orally. Also 15 cc of solution were given to the patient, to be used per week orally until the next visit. This method was repeated at each of the 3 following visits scheduled at 1-month intervals. Both groups were assessed before treatment, and one, two and three months later and received placebo or homeopathic drugs blindly. Both the case and control groups received routine occupational therapy for 4 months.

Levels of gross and fine motor development and motor developmental quotient in the beginning and at the end of four months were assessed with Denver Development Screening Test II (DDST II). Data was collected by physical examination, direct observation and assessment of subjects based on check lists.

According to distribution of variables parametric and

non-parametric tests were used in order to analysis data. The data were analyzed using SPSS statistical software (11th version), t-test, X² and Mann-Whitney tests. Statistical significance was set at $p=0.05$.

Results

Nine subjects in control group and 7 in case group were studied. Among cases, the average age was 28.0(SD=12.2) months, and in controls it was 28.4(SD=10.1) months (PV=0.470).

Although gross motor development in the case group in comparison to controls showed statistically significant difference to before treatment ($P=0.023$), the gross motor development showed no significant differences in the 2 groups ($P=0.918$) (Table1).

Even though fine motor development in controls improved after treatment, no significant difference was seen among cases in comparison (PV=0.299) (Table1). The motor developmental quotient in the case group compared to the controls showed no statistically significant differences (PV=0.456) (Table2).

Table 1. Levels of gross and fine motor development before and after treatment in the 2 groups.

		Controls Mean (SD)	Cases Mean (SD)	PV
Level of gross motor development	Before treatment	9.4 (±2.7)	6.4 (±2.0)	0.023
	After treatment	10.6 (±2.5)	7.6 (±1.5)	0.008
	Pre & post treatment differences(<i>improvement</i>)	1.1 (±1.2)	1.1 (±1.2)	0.918
Level of fine motor development	Before treatment	15.0 (±5.4)	11.9 (±5.0)	0.252
	After treatment	17.1 (±6.6)	11.3 (±1.9)	0.016
	Pre & post treatment differences(<i>improvement</i>)	2.1 (±6.4)	-6 (±5.1)	0.299

Table 2. Motor developmental quotient before and after treatment in the 2 groups.

MDQ	Controls Mean (SD)	Cases Mean (SD)	PV
Before treatment	48.1 (\pm 13.6)	36.1 (\pm 18.4)	0.128
After treatment	41.2 (\pm 13.6)	37.4 (\pm 18.8)	0.805
Pre & post treatment differences(<i>improvement</i>)	-6.9 (\pm 16.9)	1.3 (\pm 8.4)	0.456

Discussion

Studies on complementary and alternative medicine (CAM) in neurological disorders have focused on the adult population with less data documented regarding its effects among pediatric neurology patients. In one study the use of CAM was common among pediatric neurology patients. The study, conducted between February and May 2004, was a cross-sectional survey of patients and families attending the Alberta Children Hospital neurology clinic Edmonton (Canada). Patients were considered eligible if they were between two and 18 years of age and had a known history of neurological disorders. Forty-six (44%) out of 105 patients received one or more types of CAM, with the most common types being chiropractic manipulations (15%), dietary therapy (12%), herbal remedies (8%), homeopathy (8%), and prayer/faith healing (8%). Fifty-nine percent of CAM users reported benefits, and only one patient experienced side effects. This study concluded that over half of the families reported benefits with CAM, and side effects were perceived to be few. Physicians should initiate discussions on CAM during clinic visits so that the families and patients can make informed decisions about using CAM (10).

Some studies have shown the positive effects of homeopathic approaches on motor developmental criteria of children with CP. Dr Ketan Patel in Amish hospital (India) has studied the effect of homeopathic drugs like Silica, Lycopodium-Clavatum, Phosphorus, Pulsatilla, Natrum-Muraticum, Opium, Gelsemium, Causticum on

neuromuscular abilities of children with CP (9). He discussed the positive effects of this approach on flaccidity and spasticity of limbs muscles, but he did not measure MDQ with a standard test such as the DDST II test. He believes that homeopathy improves the early appearance of motor milestones. He also believed that homeopathy improves IQ, by improving the understanding, calculating and schooling capacities of the child, in addition to stopping recurrent infections (9).

In our study we tested the influence of adding homeopathy to occupational therapy on levels of gross and fine motor development and motor developmental quotient of children with spastic cerebral palsy (assessed with Denver Development Screening Test II). Based on the results of this study there were no significant differences in gross and fine motor development and motor developmental quotient in the two groups. There were some important limitations affecting this study. First, the drop-out rate primarily affected the case group. This was due to the complications of CP (like aspiration pneumonia) and transport problems, especially for patients coming from remote areas. Second, since homeopathy is a relatively young science in Iran, many parents have no information about it, and hence do not trust it, fearing side effects. Third, motivating patients to come for regular visits was very difficult during the 4 months.

On the other hand in homeopathy references, the effect of different medicines on spasticity in children due to convulsion are mostly mentioned; while the effects of *cicuta*, *zincum*, *belladonna*, *gelsemium*, *Cuprum aceticum*,

Plumbum, Cocculus, Kali phosphoricum and stramonium on neonatal and infantile seizures are mentioned, nothing in regard to improvement of MD in cerebral palsy is cited (11,12).

Conclusion

Based on the results of this study adding homeopathy to rehabilitation in children with spastic cerebral palsy, showed no statistically significant difference; more studies with larger numbers of cases are needed. Further studies are suggested to determine:

- The effect of homeopathic approach on other types of cerebral palsy (extra pyramidal, atonic and ataxic).
- The effect of homeopathic approach on associated disorders of cerebral palsy such as seizures, mental and behavioral disorders, speech and swallowing disturbances.
- The effect of different complementary medicine methods such as herbal medicine, acupuncture, manual treatment, breathing therapy, aromatherapy, neurofeedback, on improving function in children with CP.

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