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Developmental Support to the Children with Disabilities through Japanese Psycho Rehabilitation Method (Dousa-hou) in Indian Special Schools and Educational Institutions

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# **Developmental Support to the Children with Disabilities through Japanese Psycho Rehabilitation Method (Dousa-hou) in Indian Special Schools and Educational Institutions**

**Surender KUMAR**

## **Introduction:**

A psychological rehabilitation technique *Dousa-Hou* was developed by Gosaku Naruse in 1973 for patients with cerebral palsy in Japan. It deals with the motoric movements in the body parts. It had been observed that stiff body parts of a patient with cerebral palsy move in sleeping state, but not in awaked state. It means that the stiff body parts have the potential for movements. It was the question that how it can be possible to move the stiff body parts in awaked state. Prof. Naruse suggested that it is possible in a psychological way through bodily movements, and Dousa-hou was developed for those processes and discovered many Dousa-hou patterns for the activation of mind through bodily movements. Nowadays, this method is widely used in Japanese schools as a part of the curriculum to facilitate daily life situations of children with cerebral palsy, mental retardation, autism, and other physical disabilities. It was found equally effective in both men and women to facilitate their daily life. For 15 years, Dousa-hou has been widely used in Asian countries such as Korea, Thailand, Malaysia, China, Iran and Cambodia as psychotherapy and to educate the children with cerebral palsy, mental retardation, autism, emotional disorders, behavior disorders and physical disabilities.

### Definition of Dousa-hou:

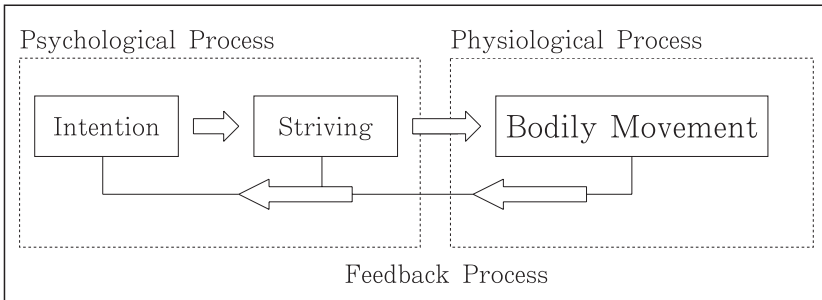
*DOUSA* means the process of motor action through inner psychic strivings to produce bodily movement, and *HOU* stands for the method.

*DOUSA* means Self-strivings on body parts to perform and realize a body movement.

*HOU* means Process of self-strivings on body parts to perform and realize a body movement.

When we intend to move a part of our body, we strive to perform the goal directed bodily movement due to our own intention. If the strivings are appropriate to the movement, the intended movement can be realized (Naruse, 1973). It facilitates the physiological as well as the psychological aspects. Therefore, it is being utilized as a psychotherapeutic treatment method.

### Working Process of Dousa-hou:



*Dousa-Hou* is comprised of two processes. One is psychological (e.g., intention and striving) and the other is physiological (such as bodily movements or body posture). In *Dousa-Hou*, we define these processes together as ‘intention-striving-bodily movement’.

**Intention:** These are the feelings and initial images of a patient to start a goal directed body movement task for realization of body movements as

imagined by a patient. For example, bend the upper body forward sitting in crossed legs position. A patient possesses some images and feelings how he can strive to move his upper body forward.

**Striving:** In the next step, a patient strives to perform body movements in a decided posture of sitting, kneeling, or standing for a goal directed task according to his *intentions*. Through strivings on the goal-directed tasks, the patient experiences bodily movements with therapist's (a veteran in *Dousa-Hou* psychotherapy) support, and such bodily movement experiences may activate patient's mind (Naruse, 1985, 1992).

**Body movement:** As a result of patient's efforts on goal-directed body movement task, the patient realizes some movements in his body parts that are called body movements. These movements may be visible or may not be clearly visible if perceived by others. The patient experiences whether these body movements pattern coincides with their intended movements or not. A patient gets some experiences of his body movements according to the initial intentions and strivings. There are more chances that these movements may not coincide with the initial intentions in one instance. Non-coincidental body movement pattern gives feedback to the patient and that helps to acquire corrected intentions. The patient strives again by the corrected intentions to get a desired body movement better than before. Repeatedly performing this process, a patient gets a very close coinciding pattern of body movements to his intentions.

In a *Dousa-hou* therapeutic session, a patient is asked to perform a desired body movement as imposed by the therapist. If the patient agrees with the therapist, then he strives to perform the imposed body task by himself. At this line, a patient realizes his present body movement patterns that are not coincident with his real images. The patient performs body movements repeatedly on a mutually accepted task imposed by the

therapist. Therefore, Dousa-hou activates patient's mind and body through bodily movements as a clinical tool.

### **Main Processes of Dousa-hou:**

Dousa-hou is usually performed in a group setup following one-on-one approach. In Dousa-Hou there are three main processes: (1) Relaxation, (2) A movement of arms, hands and legs, and (3) *Tate-kei* (straightening) -training.

**Relaxation:** Relaxation means to recover from the unwanted tension in different parts of the body that disturbs the intended pattern of body movements. It is usually noticed that children with disabilities have much stiffness in most of their body parts, mainly in the muscles surrounding joints, neck, shoulders, back, and hip joints. Due to unwanted tension, it becomes hard for a patient to move and use body parts freely. Relaxation is the control of unwanted tension in body parts. In Dousa-hou, the patient is asked to withdraw the strength of a tense part in body sitting in a (*Zai*) legs crossed position bending backward and forward by himself according to the directions of a therapist. The therapist supports on a specific tense part on the patient's back and asks to withdraw strength on that part by himself at bending in backward direction. Then return to the original sitting position. Repeating this process, a patient learns how to control the tension of a particular body part that hinders the proper body movements and correct body posture. Relaxation is usually done by several techniques in the positions of sitting, lying down by twisting trunk exercises, and standing.

**Movement:** A patient is asked to try for goal-directed bodily movements by himself in a particular sitting, kneeling or standing posture. These movements are of arms, neck, shoulders, fingers, wrists, upper body at different

points on back, hip joints, ankle joints and legs are activated by self-strivings in backward, forward, left, right or in a circulatory or spherical motion according to the natural movements of that particular body part.

***Tate-kei (Straightening):*** *Take-kei* means straightening the body in a vertical line from deviated positions. It is performed in sitting, Kneeling and standing posture. In *Take-kei* training, it tries to put sitting or standing body posture straight or in a vertical position. This straight vertical posture is also known as the confirmation of *jiku* in the body from different deviated positions. Application of the techniques differs from client to client. In Dousa-hou, different body portions labeled by nos. from 1 to 13, and the trunk is labeled from 1 to 6 nos. as shown below in figures.

Neck is no. 1

Scapula is no. 2

Breast is no. 3 (portion between scapulas)

Back is no. 4 (just below no. 3 in both sides of backbone)

Waist is no. 5 (portion between no. 4 & no. 6)

Hip joint is no. 6

Knee is no. 7

Ankle is no. 8

Toe is no. 9

Shoulder is no. 10

Elbow is no. 11

Wrist is no. 12

Hand is no. 13

Figure. Psychological Schema of body for Dousa (motor action)

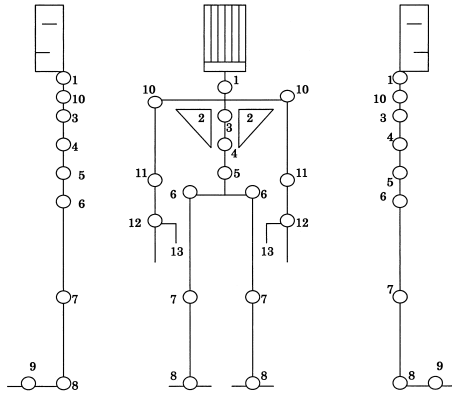
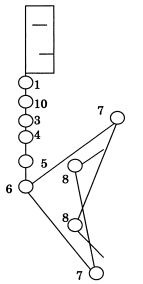
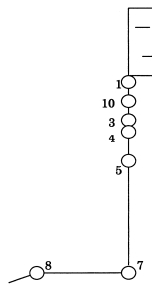


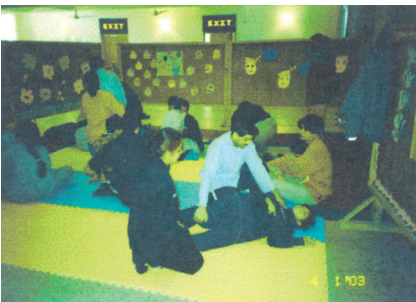
Figure. Therapeutic posture of *Zai* and *Hizatichi*



*Zai* Posture



*Hizatichi* Posture





### **Patterns of Dousa-hou Training:**

Dousa-hou training consists of six body movement patterns (Naruse, 1997):

1. *Ude-aage* (lifting arm up)
2. *Zai* (sitting legs crossed)
3. *Hizatachi* (Kneeling)
4. *Litsui* (Standing)
5. *Hokou* (Walk/Gait)
6. *Shisei* (Posture making)
7. *Body axis* (Straight axial body posture)

Above seven patterns are used as main Dousa-hou training tasks. When a patient attained a *Zai* pattern tasks through his body movements, the next step is *Hizatachi* task, *Litsui*, and *Hokou* tasks, sequentially. *Relaxation*, *Shisei*, and *Body axis* tasks are performed in *Zai*, *Hizatachi*, *Litsui* and *Hokou* tasks. Dousa-hou training is performed in the processes of relaxation, body movements and *Tate-kei* training in the patterns of *Zai*, *Hizatachi*, and *Litsui*. In addition, according to the present body movement patterns of a child, *Yottsunbai* (crawling pattern) for (1) control of: the



hip joints for use, waist, hands, wrists, elbows, and fingers; **(2)** movement of: the hip joints, and body parts; **(3)** relaxation of: the hands by natural body weight, waist, and back portion. In some cases, relaxation tasks are also performed in lying down position by twisting trunk or by lifting up the arms.

### **1) *Ude-aage* (lifting arm up) Dousa-hou training:**

Lifting arm up is exercised as a unit Dousa task in lying down position. In this task, the patient can learn more how to concentrate on a single body movement task, keeping other body parts relaxed. Under a single body movement task of performing arm uplifting, the other body parts are in relaxed condition and patient need not to apply strength for supporting the other body parts, and can clearly feels the bodily movements. These movements are *Dousa* (motor action of body) experiences for the patient and those ultimately activate the patient's mind for performing bodily movements further. *Ude-aage* exercises are the lifting arm up Dousa exercises. *Ude-aage* means lifting arm up, and *Ude-mage* means downing the lifted up arm.

### **2) *Zai* Dousa-hou Training:**

*Zai* is a *Dousa-hou* training in sitting legs crossed position. Dousa-hou training starts from *Zai* position because our aim is the attainment of independent walking by a patient. It is quite difficult for a patient to walk independently controlling the whole body and body movements from starting as those parts have stiffness and are not in use by the patient. Therefore, it is better to divide the tasks in sitting position, kneeling position, and in standing position, etc. It becomes easier for a patient to control the upper of the body and related body movements in *Zai* tasks. Next step is, *Hizatachi* tasks. In *Zai* position, a patient learns how to control his trunk, hands, neck and hip joints to control the unnecessary tension and how to

make correct sitting posture using relaxation, body movement tasks, and posture making activities posed by the therapist and accepted mutually by therapist and patient. It is good to remember that the patient should perform all the tasks by his own intention and strivings using least strength for movement. When a patient performs the imposed task, he should always use the least strength for movements, and other body parts should be relaxed at that time. The therapist helps the patient to control occurrence of unnecessary tension in the body parts. The therapist should always provide least and sufficient support to the patient.

**Practice of *Relaxation* task in *Zai* Position:**

- i) Bending forward and backward in *Zai* position: When a patient moves his trunk forward, to the side, and in backward directions with the help of therapist, and relaxes at breathing. At that moment, the patient feels stretch or extension in the back, at the supported parts or in other body parts. The patient gets awareness of the stiff part in the body and learns how to control the unnecessary tension at bending in a suitable direction of forward, backward or to the side. When bending backward with therapist's support on back part, patient learns how to withdraw his strength at the supported stiff part and how to apply strength on that part to produce a desired body movement. This way, Dousa-hou relaxation activities for tense body parts are performed in sitting position.
- ii) Shoulders movement in backward direction: The relaxation exercises are also performed at moving the shoulders together slowly in the backward direction by therapist's holding at patient's shoulders starting from a straight sitting posture; relax there, and return to original position. It should be noticed that the patient should use his least strength to move the shoulders and to support the sitting posture. Other body

parts should be relaxed at that time. In most of the cases no. 5 of patient's body becomes curvy and stomach appears outward and it seems that he is applying strength for pushing the shoulders in backward direction, which is a wrong way. The patient should just move the shoulders in backward direction and therapist should hold the shoulders for maximum movement in backward direction. Repeat the activity 4-5 times. At this, patient feels relaxation around the shoulders.

iii) Shoulders movement in upward direction: The relaxation activities are also performed at moving the shoulders together slowly in the upward direction by the therapist's holding at shoulders starting from a straight sitting posture; relax there, and return to original position slowly. It should be noticed that the patient should use his least strength to move the shoulders and to support the sitting posture. Other body parts should be relaxed at that time. It should be noticed that the patient should not apply strength in neck or in chest portions. The patient should move the shoulders in upward direction and therapist should hold patient's shoulders for maximum movement in upward direction. At maximum raising, the therapist should hold the shoulders with full support and ask the patient to withdraw his total strength. At patient's full confidence on therapist's hold, the patient may withdraw the strength in shoulders and rely on therapist. The situation of relying on therapist is also an important part of Dousa-hou therapy and is called *omakase* (patient's relying on therapist) means full belief in therapist's support. At this, patient feels relaxation around the shoulders and in neck portions. It is a good point to remember that all the movements should be performed very slowly, and for awareness to the patient of his bodily movements, which activates the mind to produce the same movements onward with awareness.

### **3) *Hizatachi* (kneeling) Dousa-hou training:**

In *Zai* Dousa-hou training, it is expected that a patient is able to make stable and correct sitting postures and proper body movements using different body parts of back, neck, shoulders, arms, and fingers. In *Zai* exercises, they patient may not get mastery of hip joints' movements properly and body control. *Hizatachi* (kneeling) Dousa-hou tasks are imposed by the therapist for the hip joint control and balancing the body vertically in a larger extent from knees to head, which were controlled only from hip portion to the head in *Zai* training. A patient efforts more for holding the body straight in *Hizatachi* position than in *Zai* position. It is because center of gravity in the body raised little higher than in the sitting positions. Patient starts the training in kneeling position on the therapist's imposed Dousa-hou tasks through body movements.

### **4) *Litsui* (Standing) Dousa-hou training:**

In *Hizatachi* Dousa-hou training, it is expected that a patient is able to make stable, straight, and correct kneeling postures and proper body movements on back, neck, shoulders, arms, and hip joints. Next step is *Litsui* Dousa-hou training. In it, a patient acquires straight and balanced standing posture. Patient stands and tries to stand straight with or without the support of the therapist depending upon the condition of his body movements. It is usually reported by a patient that he could stand but he does not feels that he is standing. He does not feel the involvement of feet for standing or balancing the body weight for standing. In *Litsui* Dousa-hou exercise, a patient stands using his feet. It may not be a correct and straight standing posture. Then, the patient is asked to stretch the hip joints and knees together with support or with little support of the therapist to straighten the bended posture. Then again fold a little the hip joints and knees. Repeatedly practicing this, a patient may feel the involvement of

his feet for standing and will come to know at which portion of foot/feet he is shifting the body weight for straightening the standing posture. Repeat this exercise of folding and stretching knees and hip joints together forward and then backward 4-5 times. When bending in forward direction, the patient should start it from a slightly forward leaning position than in a straight standing posture. The hips should not go behind the straight line of heels and hips when practicing folding the knees and hip joints together. In stretching the knees and hip joints to achieve standing position, the hip joints should move in a spherical way as in *Hizatachi*.

#### **5) *Hokou* (Walk/Gait) Dousa-hou training:**

After the standing task, we reach at the final aim of *Hokou* (walk/-gait). Now, The patient can control his body properly and could stand straight. The patient can stand straight but many times fell down at trying to uplift his either foot. In *Hokou*, the patient learns how to step forward to produce walk and proper gait. For proper walking, a patient learns some steps in *Hokou* Dousa-hou training. These are: (a) standing straight, (b) shifting body weight to the left leg completely, (c) uplifting the right leg, (d) step forward the uplifted right leg, (e) shift the body weight to the right leg completely, and (f) uplifting the left leg completely, and step forward and shift the body weight to the left leg.

#### **Practice of *Movement* task in *Hokou* Position:**

The movement task in *Hokou* is performed in several steps as below:

a) Standing straight: A patient stands straight first and then shifts his whole body weight on whole foot and to both legs equally. There should be no tension in other body parts such as: chest, neck, hands, legs, ankle joints, and in shoulders. He should look forward at keeping the neck straight.

- b) Shifting body weight to the left leg completely: After confirmation of straight standing posture, the patient is asked to shift his body weight completely to the left leg. In that case his right leg should feel light, and the therapist can judge it at touching the right leg or by perception that the right leg is tension free.
- c) Lifting the right leg up: After shifting the whole body weight to the left leg with balance, the patient is asked to uplift his right leg slowly. At this stage, it is expected that the patient had good control of his neck, trunk, hip joints movement, knees, and of ankle joints. It is not necessary to uplift the leg high, slightly above the ground is sufficient. Sometime, the patient raises the leg much higher and loses the standing balance.
- d) Step forward by uplifted right leg: At uplifting the right leg and maintaining body balance, next step is to step forward the uplifted right leg touching heel first to the ground. It has been observed that the children with cerebral palsy for stepping forward, they first touch the ground at toe, and that is a wrong way.
- e) Shift the body weight to the right leg completely: Next, patient is asked to shift forward his total body weight on right leg. The patient will feel lightness to the left leg and would be easier to uplift the left leg for stepping forward.

### **Practice of *Relaxation* task in a *Lying sideways (kukanno hineri)***

#### **Position:**

There are some other processes also for body relaxation in Dousa-hou. These are twisting the trunk in lying sideways position, raising hands, bending and stretching the ankle joints, hip joints, and wrists portions. Relaxation of neck portion is also a step of relaxation in lying sideways

position. The main tasks are described as below:

i ) Twisting trunk in a lying sideways position: A patient is asked for lying sideways to the left. Then, the therapist supports the patient's hip joints portion straight by his right knee, legs straight by right hand, and the right shoulder of the patient by his left hand.

The patient is asked to move his right shoulder backward as much as possible and by his own intentions and strivings. The therapist just coordinate with the patient's shoulder movements and hold the shoulder not to return by undesirable body tension which prevents the patient in moving further backward. As a result, the patient feels a twist in the trunk. The therapist's support for stopping at shoulders also works for resting to the patient and to prepare for further backward movement. The patient stays there for comfortable moments, and then returns to original sideways lying position slowly. At this, the patient feels relaxation in his right shoulder, neck, and in waist portions. The therapist should never apply the strength to push the patient's shoulder backward. It may create an accident and may become a cause for patient's anxiety for Dousa-hou training and may quite the training in between. If the other body parts are not relaxed, the patient may not feel the movement and relaxation in his shoulder and may not get a proper experience of his bodily movement at his strivings and as shoulder movement images. The same Dousa-hou activity should be performed to the right side for the patient lying sideways in right. It is important that the twisting trunk activity should be performed for both sides otherwise, it may create imbalance in different body postures. If the hip joints of the patient are quite stiff, the patient should perform the twisting trunk Dousa-hou activity keeping legs straight. If it is not, the activity can be performed with bending the upper leg in forward direction up to the extent the patient can feel easy and uses no strength to

support his legs. Twisting trunk Dousa-hou relaxation activity is widely used for all children with disabilities. It is a very effective way of relaxation in a lying-down position. The patient does not need to apply strength for controlling the movements, and supporting his other body parts. In a lying down position, the patient needs least energy to support the body parts because the center of gravity in the body is at least height from the ground.

***Yotsunbai shisei* (Crawling posture) Dousa-hou task:**

Dousa-hou training in crawling position (*Yotsunbai Shisei*) is mainly used for four purposes. First is for control of hip joints portion to hold the body straight in crawling posture using desirable strength for supporting. Second is, for tuning the strength for moving the body forward, keeping the knees and palms stable and for returning to original straight crawling posture. Forward and backward movements are also useful for independent movements of shoulders from trunk and neck. It is also useful for neck control as it is easy for a patient to hold the body straight horizontally from head to hip joints. The patient could move his neck easily and better than in sitting or kneeling, etc. In some cases, a patient may need therapist's support for holding the hip joints portion to prevent from falling. Third is, for relaxation of shoulders, and wrists at folding both the arms together from elbow and then return to straight crawling posture at stretching. The patient should keep stable his hip joints portion and therapist may help to support his hip joints applying a little strength downward, if necessary. The fourth purpose is, the relaxation of hip joints at stretching and folding the hip joints maintaining the crawling posture stable. At folding from hip joints, the patient's body shape appears little curvy on back and neck seems in little upward direction from horizontal straight



posture. When stretching the hip joints, the patient's body shape looks as a half circle like a cat's yawning pose. This activity is much effecting for relaxation of stiffness in hip joints portion.

### **Dousa-hou for Children with Cerebral Palsy:**

Cerebral palsy is generally defined as a group of disorders present at birth and arising from brain damage, which may be caused by lack of oxygen or nutrition before or during childbirth, birth trauma, jaundice, and brain hemorrhage. Cerebral palsy may also be caused by prolonged convulsions or coma in infancy or severe disease such as meningitis. The effects of cerebral palsy are dependent on the site and extent of brain damage. Spastic paralysis such as hemiplegia, diplegia, paraplegia, or quadriplegia is common; athetosis, ataxia, muscle weakness, increased muscle tone, and contractures may also occur. Other symptoms include involuntary movements of the face, hands, and tongue; auditory and visual impairment; and persistent dribbling with difficulty in speaking and swallowing. The first sign is commonly the failure to achieve normal developmental milestones. Learning difficulties are common. Assessment of the intellectual ability of a child with cerebral palsy is of great importance, but is often rendered difficult by the child's difficulty in expressing itself (*Paperback encyclopedia, Oxford university press, 1998*).

In a simple definition, cerebral palsy is a developmental disorder of body movements, control of muscle tension, and body postures due to the brain hemorrhage. The severity depends upon the hemorrhage amount and parts in brain. Birthrate of cerebral palsy is 2 children in per 1000 children. In Japan, there was a little decrease in number of children with cerebral palsy between 1970' and 1980' but again the number is slightly increasing.

Cerebral palsy is usually develops before birth, during birth, and after birth. Before birth, it develops because of some fertilization disorders for the development of brain. The child gets birth with abnormal brain causing for cerebral palsy. It is also possible that the brain of a child before birth may get some viruses caused by food poisoning. Insufficient oxygen before birth and during birth, lack of nutrition, radiations, use of alcohol, and nicotine at the excess use of tobacco or coffee are also some important factors for the brain disorders. Lack of oxygen before and during birth is a main cause. It may cause blood blocking in veins and cells. 40-50% cause of cerebral palsy is low birth weight, and it becomes the cause of insufficient developments of brain cells. Abnormality occurred in the process of birth, e.g., reverse birth, suck in birth, and caesarean birth, are also certain factors during birth, which may also be the cause for the abnormal brain. The factors for abnormality in brain responsible for cerebral palsy after birth occurred in early infantile stage are, brain injuries, food poisoning, radiations, and disorder of digestion systems causing less supply of nutrition and imbalance in blood cells. It may be a cause for mental retardation too. The next factor is the accident in early infant stage that may cause for brain hemorrhage.

Spastic paralysis is a paralysis with increased tendon reflexes and muscle tone. The extent of paralysis depends on the site of damage, and the area normally innervated by the damaged nerve supply. Monoplegia (hemiplegia), double hemiplegia (diplegia), paraplegia, and quadriplegia are common types. Monoplegia is complete paralysis of one side of the body, and may occur following a stroke. Diplegia is paralysis of matching body parts such as, in both hands or in both legs. Upper of the body appears more paralysis. Paraplegia is paralysis of the lower of the body, including the legs, which may occur following spinal cord damage caused by

injury, cancer, or other diseases. Quadriplegia is paralysis of the arms and legs. Tetraplegia is paralysis in three parts of body. Patient has stiffness in different portions of body and a patient has less control body tension.

‘Athetosis’ is the next familiar type of cerebral palsy of muscle weakness, increased muscle tone, and contractures. It is the voluntary movements of body parts without intention. Even in quite sitting, uncontrolled and involuntary movements are seen, and that hinders the natural body movements for walking or in hand use activities. Other symptoms include involuntary movements of the face, hands, and tongue; auditory and visual impairment; and persistent dribbling with difficulty in speaking and swallowing. ‘Rigidity’ is also a type of cerebral palsy that has the characteristics to resist the body movements, speech, and have dullness and slow body movements. Most of the patients of this type have mental retardation too. It is quite difficult to maintain their daily life by self. This type is quite similar to spasticity. The other type is ‘Ataxia’ in this, a patient has the problem of body balance, and that causes for muscle weakness and improper eye movements.

For children with cerebral palsy of spastic paralysis type, it is desirable to use relaxation, straightening, and posture Dousa-hou activities. The child will learn control of body movements. In the case of athetosis, a child learns how to control his involuntary movements with awareness. The main Dousa-hou asks are motor control of neck, hands, legs and trunk using straight posture making exercises as below. *Zai* Dousa-hou activities for motor movements and motor control. *Hizatachi* for relaxation at hip joint portion, balance in straight and sideways position with neck control. *Litsui* for straight standing, use of ankle joints for balancing, and use of whole foot for stable standing shifting body weight on all portions of foot. *Hokou* Dousa-hou training for correct and stable walking. *Shisei* tasks in

*Zai*, *Hizatachi*, and *Litsui* for confirmation of whole body in straight axial form. Relaxation in lying down positions through twisting trunk, active horizontal relaxation, and lifting the arms upward, downward and to the sides.

### **Cross-cultural examination of social interactions during a one-week Dousa-hou (Japanese psycho-rehabilitation) camp**

A study was conducted to measure social interactions among therapists and patients' mothers in a Dousa-hou camp in Japan, Korea, and India as below (Kumar & Kim, 2004)

In an international and cross cultural study of Dousa-hou, it was found effective to support the patient's first degree relatives for child care, and useful for promotion of social interaction of a child with disabilities at participating in one-week Dousa-hou camp as reported by child's therapist and mothers.

Relaxation, movements of body parts, and *Tate* (holding straight body postures during sitting, kneeling, and standing) training are the three main training processes of Dousa-hou (Naruse, 1997a). In this, a patient (trainee) with disabilities performs trainer (therapist) guided body movement tasks in different postures of *Zai* (sitting), *Hizatachi* (kneeling), *Litsui* (standing) and *Hokou* (gait) by his own strivings under the supervision of a senior therapist having a supervisor's license in the Dousa-hou psycho-rehabilitation method. In the one-on-one training process of Dousa-hou, a trainee experiences objective judgment of body movements and develops communication skills for responding to a trainer (therapist/school teacher) in attempting a desired body movement task with self awareness (Tokunaga, 2002). In other rehabilitation therapies, such performances are more mechanical than by self-intention and self-awareness and extinguish

faster than Dousa-hou training (Naruse, 1997a). This way, Dousa-hou training sessions in awareness during a bodily movement task create a mutual social interaction between a trainee and a trainer, affecting the patient's psychological health (Naruse, 1997b). This may provide relatively better support for a patient to improve in social interactions with others in one-week Dousa-hou training sessions. Also, such interaction with child's trainer may differ from that with a supervisor or with other trainers in the trainer's or the mother's perception and this trend may be tested across three distinct cultural groups: Japanese, Korean, and Indian.

## Method

### *Participants*

Sixty-four children with cerebral palsy, autism, or mental retardation (Japanese:  $n = 21$ ,  $\bar{M}$  age = 13.6 yr.,  $\bar{M}$  education = 7.1 yr., Indian:  $n = 9$ ,  $\bar{M}$  age = 14.3 yr.,  $\bar{M}$  education = 8.2 yr., Korean:  $n = 34$ ,  $\bar{M}$  age = 12.8 yr.,  $\bar{M}$  education = 6.3 yr.) studying in elementary and junior high integrated and special schools, their mothers, 64 special educators and some masters course students (as trainers) were subjects for the study. Subjects were specified as to their disabilities only. Disabilities ranged from mild to severe; none were profoundly disabled.

**Materials:** The Social Interaction Questionnaire was developed to measure the types and degrees of social interaction in Dousa-hou training amongst therapists, mothers, supervisors and other therapists. The split-half reliability of the Social Interaction Questionnaire was  $r = .69$ .

**Procedure:** Children with disabilities, trainers, mothers and supervisors participated in a one-week Dousa-hou camp organized in their respective countries. Dousa-hou training was organized in small groups of 4 to 5 trainer-trainee pairs under a supervisor, 3 times a day and for one hour

each. In between, there were recreational activities involving active interplay of trainers, trainees, mothers and supervisors. Each National language was the medium of instruction during Dousa-hou training. Japanese, Korean and English (for Indian subjects) versions of 12-item Social Interaction Questionnaire (Kumar & Harizuka, 2001) were administered on the last camp day of Dousa-hou training to trainers and mothers to assess the interactions of trainers with children's mothers, supervisors, and other trainers, and of the mothers with the children's trainers, supervisors, and other supervisors.

### Results & Discussion

Social Interaction Total scores (*Table 1*) of trainers ( $n = 64$ ) and mothers ( $n = 64$ ) were analyzed using one-way ANOVA. It showed that Social Interaction Total scores of mothers and trainers differed significantly ( $F_{1,127} = 11.97, p = .001$ ).

A separate analysis of variance was done with the Social Interaction scores of trainers and mothers rated for social interaction with each other, supervisors and other trainers using a 2 (Group: Trainer, Mother) x 3 (Country: Japan, India, Korea) x 3 (Rating: for social interaction with Trainers, Mothers, Supervisors, Other trainers) mixed factorial design with repeated measures on rating. The main effect of group was significant ( $F_{1,122} = 11.71, p = .001$ ). Social interaction was rated better by trainers than mothers. The main effect of rating was also significant ( $F_{1,122} = 46.38, p = .001$ ). Trainers and mothers rated social interaction with each other most followed by social interaction with supervisors and other trainers (see *Table 1*). The main effect of country was also significant ( $F_{2,122} = 10.33, p = .001$ ). Social interaction was rated most by Indian subjects followed by Japanese and Korean (see *Table 1*). The interaction of group x rating

( $F_{1,122} = 9.643$ ,  $p = .002$ ) and interaction of group x country ( $F_{2,122} = 10.37$ ,  $p = .001$ ) were significant but not the three-way interaction of group x country x rating ( $F_{2,122} = .43$ ,  $p > .05$ ).

Trainers and mothers interacted more with each other than with a supervisor or other trainers and thus mothers rated better the social support in caring for their child's health after participating in a one-week Dousa-hou camp. During the one-on-one interaction process of Dousa-hou in body movement activities and in associated recreational activities, mothers reported relatively more social skills support to care for their child better in the areas of child's health, daily life activities, improvements in body movements, feelings, improvements in usual eating habits, further education plans, and continuation of Dousa-hou activities after the camp.

At the cross cultural level, Dousa-hou camp activities were found to provide strong social support to the mothers and first-degree relatives of the child patient, most being interactions with their child's trainer while participating in the camp. The social interactions were rated as more frequent in the Indian context than in Korea and Japan and trainers were reported to be more interactive with the children across the three countries than mothers, and more interactive with mothers than with supervisors and other trainers.

### **Related Studies on Dousa-hou:**

Dousa-hou was found helpful for borderline children to improve the overeating, vomiting, and necessary conduct in daily life with consciousness, and could improve in emotional expressions (Nakane, 1997). Dousa-hou was applied to a 15 years old child with mental retardation having epileptic seizures (Lennox-syndrome). The child could not achieve the control in atonic seizures by medication. After one year's weekly training of

**Table 1. Mean Score and Standard Deviation of Social Interaction Questionnaire**

Country	Group	Interaction with (Each other)										
		Trainers			Mothers		Supervisors		Other-trainers		Total	
		<u>N</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
INDIA	Trainers	9			44.78	8.80	44.00	9.15	47.11	4.7	135.89	20.53
	Mothers	9	41.44	6.61			41.44	7.13	39.00	7.79	121.89	20.60
JAPAN	Trainers	21			42.33	10.44	39.33	10.85	36.00	12.68	117.67	31.20
	Mothers	21	38.05	12.18			28.85	10.62	25.00	8.80	91.90	24.14
KOREA	Trainers	34			41.23	8.71	31.59	7.76	32.67	8.22	105.50	17.91
	Mothers	34	42.94	10.38			28.35	10.97	24.82	9.8	96.12	23.60
	Total	128	41.61	(M)	9.98	(SD)	33.12	11.00	31.36	11.39	106.06	26.25

Note. Social Interaction Total scores ranged from 12 to 60.

Dousa-hou, the child improved in degree of atonic seizures, motor action, postures, and interpersonal relationship (Arai, 1997).

In other study, Dousa-hou was found effective to improve in panic attack disorder and in motor actions (Ikeda, 2001). In a study on 52 college students by peer-exercises of Dousa-hou relaxation, it was investigated that the students could feel better in sense of their body. They could recognize the mind of peer-therapist better, and realized better adjustment in relaxation exercises. It also helped them to reduce the mind tension (Inoue, 2001). For children with autism, Dousa-hou exercises were found effective to breathe deeply, imitate the shape of others' mouth, and vocalizing the vowels. At acquisition of vocalization, the child could communicate better (Toshimitsu, 2001). In a study of aged person with depression, anxiety, exhaustion, and emptiness, Dousa-hou was found useful for relaxation of body tension, and better body movements in the patients (Koga, 2001).



## References

- Corsini, R. (2002). *The dictionary of psychology*. London: Brunner-Routledge.
- Elfenbein, H., Mandal, M. K., Ambady, N., Harizuka, S., Kumar, S. (2002). Cross-cultural patterns in emotion recognition: highlighting design and analytical techniques. *Emotion*, **2**, 75-84.
- Harizuka, S. (1986). Application of Dousa-hou to the children with autistic disorder and hyperactivity. *Journal of Rehabilitation Psychology*, **14**, No. 1, pp. 41-52.
- Harizuka, S. (1992). Dousa-Hou for making a sitting posture with legs crossed. *Journal of Rehabilitation Psychology*, **19**, 27-33.
- Harizuka, S. (1993). Dousa-hou as a counseling for the aged people with physical disability. *Journal of Rehabilitation Psychology*, **20**, No. 1, pp. 15-22.
- Harizuka, S. (1998). Historical overview and prospect about practical usage of psychological rehabilitation (Dousa-hou). *Research Bulletin of Education and Psychology, Faculty of Education, Kyushu University*, **Vol. 43**, no. 1, pp. 63-70.
- Ichibangase, Y. (199). *Psychology for person with disabilities*. Tokyo: Ichibashi
- Ikeda, Y. (2001). Application of Dousa-hou for patients with panic attack disorder. *Journal of Rehabilitation Psychology*, **29**, pp. 1-10.
- Imura, O. (2002). Schizophrenia and perspective taking: A comparison of schizophrenic and transient psychotic disorder patients. *Japanese Journal of Psychology*, **Vol. 73**, No. 5, 383-390.
- Katsuto, S. (1997). DOHSA-HOU, *The Journal of Rehabilitation Psychology*, **Vol. XXV**, pp. 43-54.
- Ki, H. (2000). Validity of Dousa-hou for community support. *Journal of Rehabilitation Psychology*, **28**, pp. 1-12.
- Kim, Y. S., Ou, K. S., Harizuka, S., Kumar, S. (2003). Development of Dousa-hou Assistive System (DAS) and its distribution for the person with disabilities. *Journal of Rehabilitation Psychology*, **30** (2), 59-64.
- Koga, S. (2001). Application of Dousa-hou to aged person with depression. *Journal of Rehabilitation Psychology*, **29**, pp. 45-52.
- Koide, S. (2000). *Treatment dictionary for developmental disorders*. Tokyo: Gakken.
- Konno, Y. (1978). Motor-control method lifting up arm for behavioral changes of a hyperactive child. *Bulletin of Tokyo University of Education*, **24**, 187-195.
- Konno, Y. (1993a). Jiritsu taiken to dousa kunlen o toushita jiko imeji no henkou [Modification of self-image through autogenic training and Dousa training]. *In Proceedings of the 20th Congress of the Japanese Association of Behavior*, July 26-30, Tokyo.

- Konno, Y. (1993b). Kinkincho no relaxation keiken to tasha ninchi to no kankei [The relation between the experience of muscular tension, tension-relaxation, and perception of other person]. In [*Proceedings fo the 57th Annual Convention of the Japanese Psychological Association*]. pp. 235.
- Kouno, T. (2001). Task introduction to the subjects in Dousa-hou. *Journal of Rehabilitation Psychology*, **29**, pp. 11-22.
- Kumar, S., Harizuka, S., & Koga, S. (1999a). Interaction of learning awareness and task-difficulty in single-solution anagrams performance. *Perceptual and Motor Skills*, **88**, 1203-1209.
- Kumar, S., Harizuka, S., & Kim, Y.S. (1999b). Responses of low-IQ students on the learning awareness questionnaire compared to students matched on mental and chronological age. *Psychological Reports*, **85**, 433-437.
- Kumar, S. & Harizuka, S. (2001). An introduction of Dousa-hou: A Japanese psycho-rehabilitation process for children with cerebral palsy. *Korean Journal of Psychological Rehabilitation*, **Vol. 8**, No. 2, 1-10.
- Kumar, S., & Kim, Y.S. (2004). Social Interaction among Child, Therapist and Mother using a Japanese Psychological Rehabilitation Method (Dousa-hou). *Psychological Reports*. **95**, 1050-1054.
- Lerner, R. M. et al. (2003). *Handbook of Psychology: Developmental Psychology*. New Jersey: John Wiley & Sons, Inc.
- Nakane, M. (1997). Application of Dousa-hou in boarderline case: especially, acquisition of subjectivity. *Journal of Rehabilitation Psychology*, **25**, pp. 31-42.
- Nakashima, K. (1986). The aged person with mutism: "feel" the feelings of body. *Clinical Symposium for Disabled Children*, **1**, pp. 79-85.
- Nakashima, K. (1988). A psychological approach for speech therapy: a case study of Dousa-hou for aphasia. *Archiver of Psychological Clinic*, **7**, pp. 31-36.
- Naruse, G. (1973). *Psychological rehabilitation*. Tokyo: Seisin Shobo.
- Naruse, G. (1985). *Theoretical approach to Dousa-training*. Tokyo: Seishin Shobo.
- Naruse, G. (1985). *Basics of Clinical Dousalogy*. Tokyo: Gakuensha
- Naruse, G. (1992). Recent development of Dousa-Hou in Japan. *Journal of Rehabilitation Psychology*, **19**, 7-11.
- Norman, W.B. (1997). *International Review of Research in Mental Retardation*. San Diego: Academic Press.
- Ohba, N. (1992) An application of Dousa-hou to the anxiety neurosis patient. *The Journal of Rehabilitation Psychology*, **XVII, XVIII, XIX**, 179-186.
- Ono, K. (1983). Dousa kunren o toshita tadoji no henka no bunseki [Analysis of change on a hyperactive child through the motor action exercise]. In the

Association of Japanese Clinical Psychology: II. Case study of clinical psychology.  
Tokyo: Seishin Shobo.

- Ono, K. (2001). *Handbook of Dousa-hou*. Tokyo: Keiouguyutsudaigaku.
- Park, Y. C. (2000). Efficient Tools for Power Annotation of Visual Contents: A Lexicographical Approach, *ACM Multimedia*, LA, USA.
- Satoh, S., & Tanaka, S. (1986). Trail of psychological rehabilitation camp to Down's syndromes. *Research Bulletin of Faculty of Education, Oita University*. **8(1)**, pp. 69-79.
- Smith, J. R. (1996). Visual SEEK: A Fully Automated Content-Based Image Query System, *ACM Multimedia Conference*, Boston, MA.
- Smith, J. R. (1997). *Integrated Spatial and Feature Image Systems: Retrieval, Analysis and Compression*. Ph. D. Dissertation, Department of Electrical Engineering, Columbia University.
- Souma, T. (1997). *Education and treatment for the children with emotional disorders*. Tokyo: Taken.
- Stricker, G., & Widiger, A. T. (2003). *Handbook of Psychology: Clinical Psychology*. New Jersey: John Wiley & Sons, Inc.
- Takahashi, S. (2001). *Quick Reference to the Diagnostic Criteria from DSM-IV*. Tokyo: Igakusyoin.
- Tokunaga, Y. (2001). An approach to establish the interactions between caregivers and children with profound and multiple disabilities based on Japanese psychological rehabilitation (Dousa-hou). *The Journal of Rehabilitation Psychology*, **30**, 75-84.
- Toshimitsu, M. (2001). Vocalization guidance for the children with autism. *Journal of Rehabilitation Psychology*, **29**, pp. 37-44.
- Tsuru, M (1982). Improvement in motor action and changes for social action on schizophrenic patients. In Naruse, G. (Ed.) *Development of psychological rehabilitation, the institute of psychological rehabilitation*, Fukuoka, Japan.
- Umenaga, Y (2000). *Education for self-dependency to the children with disabilities*. Tokyo: Fukumura.
- Yamamoto, Y. (1993). A case study of "Dousa-hou" for autistic child. *Journal of Rehabilitation Psychology*, **17**, 103-110.

### Conference Presentations

- 1 ) Kumar, S(2004). Social interaction during Dousa-hou: A Japanese Psycho rehabilitation method and cross-cultural evidence. (*Paper presented in International Congress of Psychology, Beijing, China; Augusto 8-13, 2004*)

- 2 ) Kumar, S. (2003). Social interaction among the children with disabilities in a Dousa-hou camp. (*Paper presented in VIIIth European Congress of Psychology, Vienna; July 6-13, 2003*)
- 3 ) Kumar, S (2002). Learning awareness and achievement of the students with intellectual impairments in mathematics. (*Paper presented in 25th International Congress of Applied Psychology, Singapore; July, 2002*)
- 4 ) Kumar, S (2001). Learning interaction and learning awareness of the students with mental retardation. (*Paper presented in VIIth European Congress of Psychology, London; July, 2001*)
- 5 ) Kumar, S., & Harizuka, S. (2000). Learning interaction, learning awareness and achievement of the students with intellectual impairments in mathematics. (*Paper presented in VIIth International Congress of Psychology, Stockholm, Sweden; July 23-29, 2000*)

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