

## Short Communication

# Nerve Activation to Improve Language Ability and Concentration on Children

Erna Marina Kusuma<sup>1</sup><sup>1</sup> Child Psychologist, Vier Psychology Services Owner, Speaker and Teachers Trainer, Indonesia.

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## Abstract

In Indonesia, for the last few years, children of 2-year-old play a lot of gadgets and watching TV in their daily activities. Busy working live and hectic schedules mean parents are often running out of time to spend with their children, so that children often just watching tv or playing video games to keep the child quiet. Anamnesis results show that on average, babies are played television shows for about 6 to 8 hours a day. This resulted in the interaction of children with the surrounding people to be reduced. Reduced interaction to the surrounding affects children's ability in communication, focus and socialization of children in the future.

Over the past 10 years, 80 percent of patients who have speech delay, hyperactivity and other developmental disorders are starting from the use of gadgets and televisions since they were infants. The most common development disorders are the lack of response to the surrounding and delayed 2-way communication. This shows the use of electronics such as gadgets and watching TV excessively since infants will affect the development of the cerebrum where the brain is very useful for language development and response to the surrounding.

A natural way that can help the brain become actively re-integrated is by activation of the nerves. Nerve activation is a combination of a variety of simple movements and light massage integrated into the head and inside the mouth. This movement and massage can be done passively or actively. Some of this nerve activation movement is simple and can be done at home

Since 10 years ago it was seen that patients who were given the method of nerve activation had increased 95 percent in speech ability compared with patients who were not given neural activation method. The categories of patients in this case are aged 3 to 5 years, experiencing speech delays and concentration disorders, have never tried any therapy, given the method of nerve activation in therapy for 4 months with a duration of once a week in the mouth activation and every day 3 hours of motion exercises in home, a 95 percent increase in speech and 2-way communication and focus.

## How to improve brain integration and reactivate speech nerves

A natural way that can help the brain become actively re-integrated is by activation of the nerves. Nerve activation is a combination of various techniques such as neuropsychology, speech pathology, craniosacral, acupressure and speech therapy. This neural activation is done by simple motion and light massage integrated into the head and inside of the mouth. This movement and massage can be done passively or actively. Some parts of this nerve activation movement are simple and can be done at home. However, for nerve activation in the mouth needs to be done in the clinic by professionals who understand the physiology so as not to be wrong and fatal. To know how this neural activation works, it is necessary to have an understanding in some developmental aspects, such as the development of the child's language, speech nerve and its location and the basics of the methods that are used in nerve activation.

## Language development

Based on the theory of language development so far, the development stage of child language is as follows:

0 - 1 th: babble

1 - 2 th: Short sentence

2 - 7 th: new words

7 - 12 th: perfect stringing of words

As we should know, a 2-year-old child should have entered the development stage of making short sentences. However, nowadays

many children aged 2 years are still in the babbling stage that the development should have been passed. In fact, there are still many cases where the children are already aged 3 years to 5 years, but their development of language is still equivalent to 1 year old children and even under. The decline in language development is very important to be noticed, especially for the preparation of children to enter school later.

## The location of the speech nerve

In order to be able to activate speech nerves in children, then we need to know physiologically about the speech nerve and where it lies.

The cranial nerve is a nerve located in the brain. The main function of this nerve is to regulate all the functions of organs that are in the area of the head ranging from consciousness include concentration, communication function, chewing function to swallow function. The cranial nerves have three functions that allow us to swallow and speak. To swallow and speak, the cranial nerves will cooperate with the nerves present in the mouth and tongue that include the delicate nerves and muscles in the tongue and mouth.

**\*Corresponding author:** Erna Marina Kusuma, Child Psychologist, Vier Psychology Services Owner, Speaker and Teachers Trainer, Indonesia, Tel: 0818522328; Fax: 0818522328; E-mail: ernamarina@gmail.com

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When food or drink passes through the posterior portion of the tongue, the muscles nerved by the vagus and glossopharyngeal nerve will push it down the back toward the hypopharynx to the esophagus. The muscle of the tongue that is nervous by the hypoglossal nerve plays a pivotal role in this.

To speak must go through several processes:

- Production of sound through the phonation, the sound of the vocal cords allows the air to directly produce sound. The muscles that move the vocal cords are innervated by the laryngeal recurrent nerves that are part of the vagus nerve.

- Making sounds can be understood with clear articulation, this articulation process depends on the pharyngeal muscles, tongue, facial excretion muscles, mandible movements and palatum

- pitch process. This pitch is modulated through cricothyroid muscle tension and relaxation of the vocal cords. All movements of the vocal cords are controlled by the ambiguous nucleus.

Damage to other nucleus or nerve lesions can cause abnormalities in the process of swallowing and speaking. This damage can be aided by activation of speech nerve located in the brain, mouth and tongue.

### Concentration Span

The concentration span of children from kindergarten to elementary school is about 15 - 20 minutes, junior high - school about 45 - 60 minutes and young adults upwards is 2 hours.

The problem often faced by children nowadays is their very low concentration span. There are still many cases of patients of 8 years old children, but his/her concentration span is only in 5 minutes. It would be very difficult for these children to take lesson in his/her classroom.

### Nerve activation

Nerve activation can increase awareness around and activate cranial function more optimally. In addition, the tongue and the inside of the mouth will also become active and the muscles of the mouth become supple.

Part of nerve activation:

The head where the cranial lies will be strengthened so as to activate the nerves affected by the cranial including the function that affects chewing and swallowing.

The part of the mouth, other than the cheeks and jaw, will also be activated inside the mouth, like tongue.

### Method of neural activation

**Massage:** Massage is given in the head and in the mouth. Massage on the head is given to activate the cranial and brain integration parts.

**Gymnastics movements:** Is a simple movement that needs to be done at home to maintain and strengthen the nerves that have been activated. Movement gymnastics performed depends on the child's problem. The movement to increase focus is different from the movement to activate the speech nerve

**Activation of facial muscles:** Children who are having speech delay are often followed by their way of eating those who do not chew. This resulted in the muscles of the jaw and the area around their mouth are still very stiff. The activation given in this area aims to flex back the rigid muscles.

**Activation in the mouth:** In addition to not chewing, a problem that is often experienced by children who are having speech delay is their difficulties in sucking or blowing. The activation in the mouth serves to help them to learn faster for blowing or sucking. This activation is given in the areas of the tongue, gum and inner cheek.

### The process of giving nerve activation

Nerve activation can be done with 2 periods, each day for 15 minutes or once a week with a duration of about 30-45 minutes.

The ideal process is the provision of activation once a week because generally every week can be seen positive changes from patients. Nevertheless, daily administration of activation also has a positive effect on the progress of the child. However, for the rapid permanent outcomes, tends to occur in patients that given nerve activation once a week.

Activation given every day can be done 5 days in a row. This activation should be repeated a month later with the same process. This activation process is usually used to help patients who come from out of town.

### The result of nerve activation

Since 10 years ago it was seen that patients who were given the method of nerve activation had increased 95 percent in speech ability compared with patients who were not given neural activation method. The categories of patients in this case are aged 3 to 5 years, experiencing speech delays and concentration disorders, have never tried any therapy, given the method of nerve activation in therapy for 4 months with a duration of once a week in the mouth activation and every day 3 hours of motion exercises in home, a 95 percent increase in speech and 2-way communication and focus. While patients were given daily activation for 5 days and performed once a month increased 80 percent in communication skills and their focus.

### Conclusion

Nerve activation helps speed up 95 % the therapeutic process of children with speech disorder and concentration disorder with the age between 3 - 5 years old.