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Co-occurrences of Oral Motor Disability along with other Disorders: A Review and Prospective

Vinay Kumar Pandey[1] and Sudip Paul*[2]

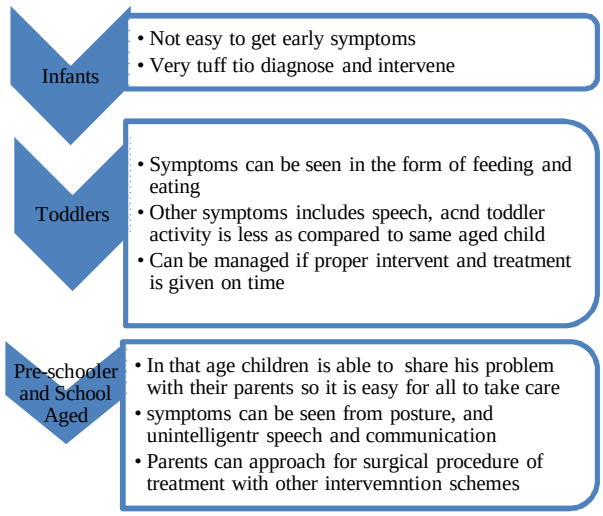
[1,2]Department of Biomedical Engineering, School of Technology, North-Eastern Hill University, Shillong- 793022, Meghalaya
E-mail: [1]ervinaypandeyec@gmail.com, [2]sudip.paul.bhu@gmail.com

Abstract—*In speech, swallowing and motor dysfunction; articulation, phonation and respiration plays important role in intelligible speech production. Minor deficit and neural structure are major causes of articulation and respiration impairment can create big issue. In this, either certain areas of brain are underdeveloped, undeveloped or through structural deformity that is sometimes known as developmental delay or neuro developmental dysfunction and can effect speech and cognitive ability of a child. The result shows that there is a strong relationship between speech and motor control. This relationship can be influenced by developmental delay as normal muscle strength growth is also a function of developmental process. Growth of speech articulator matures with time as we got the age of adulthood. The relationships among them are a new filed that attract focus in the recent years because development delays are more common that may lead to severe oral motor disorders. This type of disorders may come alone or it can occur along with cerebral palsy and other motor neuronal disabilities. This causes a child to be less expressive, intelligence and language ability that creates obvious differences in later adulthood stage in acquisition and communication. This restricts the child social and cultural participation along with various cerebral and cognitive functions. This intervention technique basically focuses on need and requirements of medicinal along with therapeutic motor control exercises associated with production and prevention of speech language skills that occurred due to developmental delay as well as acquired from accident.*

Keywords*: Oral motor disability, disorder, speech, swallowing, neuronal, therapy.*

Introduction

Oral motor disorders are known as the inability to oral musculature like jaw, tongue and lips effectively in speech production and communication, articulation, swallowing, chewing, biting, bolus formation and eating comes under this category. The major causes of these disorders are developmental delays, malfunctioning of brain due to impairment, infection and under growth of or undeveloped regions in our brain. It is very difficult to get some information of these disorders in very early stage of development. But at later stage it can be observed by posture, speech, feeding and swallowing, interaction with family members and other activities of the child.



The motor aspect of swallowing includes an integral part as how the jaw, lips and other parts of mouth functions. It involves muscle strength and their coordination, and integrates with sensory and mixed muscles in order to free movement of oral muscles to manipulate food in the mouth. The eating aspect of motor, sensory and mixed muscles involves chewing, biting and bolus formation to perceive taste, texture, temperature and other sensory information from the food items. Some children are having problems in either motor parts or in sensory parts or in both which may occurs with other disorders that is often overlap with cerebral palsy.

Many of the children may have hypersensitive to oral stimulus resulting in negative reaction towards the certain types of the food. Others may have under responsive to the given texture and may drop from their mouth without realizing it.

Oral motor and feeding disorder in infants are with mild and severe disabilities are having great importance in growth, nutrition, limb function, social interaction and day to day life. Oral motor and swallowing difficulties influences the normal growth and development of normal musculature for oral, occlusion and saliva control. Speech and swallowing skills are

very important for normal living such as interaction, sucking, lip rounding, lip closure, phasic biting, munching, speech and dental structure development.

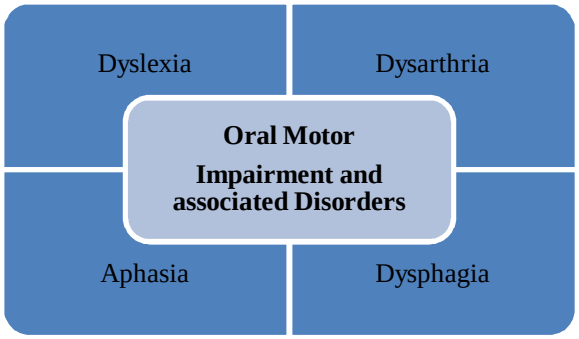
Many signs and symptoms can be seen if a person is watching closely the sucking and swallowing pattern of a child that may lead to oral motor function disorder. Some of the watchable things are open mouth posture, drooling, drooling, gagging, tongue thrusting forward and teeth grinding. Other symptoms that can be observed in the form of poor speech intelligence and poor articulation are having greater importance. In feeding and swallowing one may face hypersensitivity or hyposensitivity in eating, biting, drinking or inability to hold food items within mouth due to the lack of lip control. They face problems in propelling out or dropping out food material during feeding and swallowing. Other problems faced by them are tongue movement, pooling food from one side to another side, gagging, choking and nasal regurgitation during aspiration when feeding or swallowing.

The growth of feeding skills is developed by continuous care by parents and family members by day to day interaction. These skills are closely related motor activity, sensory integration, cognitive development and psychological functional development of the child and of great importance for the children having mental and functional disability. These children are mostly suffered from cerebral palsy or down syndrome having stiffed oral musculature or inefficient muscle strength for speech and swallowing and can be treated with either therapeutic procedure with long term tube feeding or by invasive medical procedures resulting new problems in the form of drooling and difficulty if swallowing if treated with surgical treatment.

Commonly the problem in feeding and swallowing in proper management of adequate nutrition and due to the physical disability is known as dysphagia. Feeding problems and dietary inefficiency is observed in maximum cases with severe or multiple disabilities. Early symptoms with swallowing and sensory stimulation are restricted in children with neurological and physical impairment. Another case in which a person may suffer from oral motor impairment is caused by suctioning the oral or nasal gastric tube placement that may lead to tactile defensiveness.

Oral Motor Disability and Associated Disorders

Motor and speech disorders create problems in communication and body language in interpersonal interaction. These are caused by malfunctioning of the brain and muscles associated with it due to the inability to control muscle movement. This can cause other associated problems along with the major problems in speech and swallowing. The primary and secondary causes of all these problems can be brain injury, developmental delays in early childhood stage, undeveloped areas of the brain, impaired motor and sensory portion, balance and coordination related issues. Some of the associated problems which occur with it are described in the following section.



Primary Conditions and issues:

Children having developmental disabilities exhibits an increased risk of speech and swallowing difficulties and this may tend to be more severe and problematic at the later stage. Face many problems from the birth to the death in different forms. It generally comes with cerebral palsy with impaired oral motor control. That signifies that the child is facing problem in control and coordination of mouth and throat muscles. This leads sucking and chewing problems in swallowing and commonly known as dysphagia. It also causes drooling problems in thirty percent of the cases which can be managed if proper treatment and therapeutic intervention is provided in early stage of impairment.

Dysphagia

Oral motor problems create difficulty in aspiration that is one of the major causes of childhood mortality and morbidity. There are many risk factors of childhood aspiration pneumonia that are yet to be compared with other risk factors having different categories like dysarthria. The assessment and treatment of it includes oropharyngeal status test and esophageal feeding status test.

Dysarthria

This term is basically characterized by poor articulation ability, inefficient respirationand unintelligible speech including slurred, prosody and abnormal speech. It is due to weak and abnormal muscle tone of oral musculature such as lips, tongue and jaw. It is caused by impairment in the developing or developed brain for motor function required for speech. Depending on the region and functionality, it is of different categories like progressive and non-progressive dysarthria, flaccid dysarthria, spastic dysarthria, ataxic dysarthria, hyperkinetic and hypokinetic dysarthria.

Aphasia

It is a language disorder affecting speech comprehension of reading and writing skills. Mostly it occurs in old aged peoples caused by stroke result the neurological injury. On the other hand, brain injuries of aphasia can be occurred due to trauma,

brain tumors and infections. It can be mild or severe restricting the pronunciation and retrieval of names and words or unable to form sentences. It is categorized into global aphasia (Most severe form in which speech is badly affected), Broca's aphasia, Wernicke's aphasia, anomic aphasia, conduction aphasia and transcortical aphasia.

Dyslexia

Children and adults with dyslexia are having problems in learning, reading and writing. It is a condition of neurological disturbance making hard to read to write and to learn. These people find difficult in matching the letters and making combination of letters. If it is diagnosed in early stages and proper treatment and effective intervention is given then it can be minimized to the maximum extent.

Secondary issues

The most common and defining elements of secondary conditions are closely related with the primary conditions. It involves physical and mental impairment such as social and relational problems. These conditions are part of mechanism relating primary and secondary issues. The social aspect of the barriers restricts the patients to access the medical facilities and other opportunities available for society. Occurrence of secondary condition along with primary condition is not necessary but it is seen in most of the cases in persons having severe level of disability. The commonly associated problems are as pain, balance, coordination, social isolation, depression etc.

Conclusion

It is not easy to handle a patient who is having speech related disability as it is very tuff to communicate with these people. These disabilities may occur due to the developmental lesion or acquired at later stage from accident. The early stage detection, diagnosis and intervention deserve consideration in proper treatment and management of oral motor and speech disorders. A commitment to active therapy involves active support and cooperation from family members and health professionals.

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