



Role of Ayurveda in Delayed Speech in Children – A Case Series

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ABSTRACT:

Developmental delay in speech is a common occurrence among young children in India with a prevalence of up to 17%. If left undiagnosed and untreated, speech delay can lead to other adverse developmental and health outcomes. The purpose of this paper is to present unusual cases that showed the uncommon role of Ayurveda in the treatment of speech delay among three separate patient case studies of children aged 24 to 29 months who presented with the inability to formulate words. The ayurvedic concept of speech formation involves the initiation of sound waves from the umbilicus, which travels upward and then eventually gets manifested through vocal cords. Understanding the health of the umbilicus and surrounding anatomical structures in the abdomen was critical in the diagnosis and treatment of the three case studies. The cleansing treatment provided is similar to that given for worm infestation, which has distant similarities in the mechanism of disease as speech delay. In all three cases, the treatments provided led to a gradual increase in word formation and verbalization including the number of words and the sentences spoken. One of the patients demonstrated significant improvement by speaking full sentences and expressing words distinctly, 30-day post-treatment. The other two patients started speaking complete sentences and expressing words by month three post-treatment. The presentation of the three cases provides a unique lens on the use of Ayurveda principles and may provide an alternative approach to treating speech delays that focus more on lifestyle and individual constitution.

Keywords: Delayed speech, ayurveda, *Kleda*, *Krumimudgar rasa*

INTRODUCTION

Delay in speech development can be seen as a common observation in certain children in comparison to other children of the same age. This prevalence ranges from three to ten percent of the children. In India, the prevalence has been reported to be as high as 17%. Male children are dominant about three to four times that of females.^{1,2} Delay in addressing these problems could be a hindrance in the

diagnosis of developmental delay. Such delay in the milestones of the development can have serious implications. The Western approach to speech delays is assessed and diagnosed by trained specialists. Trained specialists include speech-language pathologists, audiologists, occupational therapists, social workers, to name a few. Speech milestones are assessed to determine possible pathology and treatment options. Indirect therapy



is usually carried out with parents or caregivers and with teachers in later years. Law et al, 2019, reviewed interventions carried out across a variety of cultures, which highlighted the importance of cultural contexts in relation to practice. Based on their survey research, indirect intervention along with parent-child interaction training is a relatively common approach with children with developmental language delay across the age spectrum.

Ayurveda for Developmental Language Delays –

Ayurveda understands human physiology on the basis of dosha, dhatu, and mala primarily. Any pathology afflicting body or mind is treated keeping these bodily constituents in mind. The purpose of this article is to provide three separate case studies of children in India who presented with developmental language delay, where they could not speak as they crossed 24 months of age. The present article outlines the perspective and treatment model using the philosophy and practices of Ayurveda to provide common pathogenesis that was identified using the Ayurveda system based on outcomes received. The article provides a summary of the diagnosis, treatment, and outcomes for language delay.

MATERIALS AND METHODS:

Patient Information:

Three patients A, B, & C aged about 24 months were experiencing difficulty in the onset of speech. They were brought to the clinic by their parents for ayurvedic support exclusively.

Apart from the delay in onset of the speech process, they did not have any other symptoms to present or any specific history.

Table 1 – Patients Information

Past history –

All three patients neither exhibited any kind of ill health nor relevant medical history since birth apart from the fact that all kids were borne by C-section. Patients did not show any kind of deficit in developmental milestones except delay in the process of talking.

In family history, no significant known abnormality was seen either during the pregnancy or before pregnancy.

Clinical Findings:

The common factor that was observed was related to their parents' lifestyles. All had a common urban lifestyle related to chronic *Rasadushti* causing Kapha accumulation over-nourishment. This is characterized by overeating, consumption of baked items with yeast, yogurt in excess without any restrictions; heavier meals with sedentary

lifestyle.

Diagnostic assessment:

Patients A, B & C were mumbling a few words limiting to 4 to 5 words at the age of 24+ months. This is a considerable delay in speech development in children at this age. At 24 months or 2 years, the standard developmental milestone is the ability to say two to three sentences; having > 50 words, asks “what’s this”, ‘where is my’ etc. Vocabulary is growing and children at this age can identify body parts, names pictures in a book and can form plurals by adding “s”. In the case of these patients, apart from the delay in speech, there were no other abnormalities including cognitive skills or auditory deficit.

Examination –

Pulse and abdominal examination for the assessment of *Dosha* and *mahabhuta* was the focus of the examination. Both the examinations suggested the possibilities of accumulation of *doshas* (*Kapha*, *kleda* and *pitta*) and obstruction of *vata*. However, this was not a clear-cut diagnosis, to begin with. The diagnosis was confirmed when the patients exhibited a positive response to the treatment.

Ayurvedic Diagnosis –

The ayurvedic concept of speech formation involves the initiation of sound waves from the umbilicus. They travel upward and then eventually get manifested through vocal cords. Health of the umbilicus and surrounding anatomical structures in the abdomen have a strong influence on the process of speech formation. *Udan vayu* which acts in upward and outward direction is responsible for this process.³ This process of sound waves starting from the umbilicus to its presentation undergoes through four different levels. They are termed as. *Para* (Level 1), *pashyanti* (level 2), *madhyama* (level 3) and *vaikhari* (level 4).⁴ Sanskrit word for sound is ‘*Shabda*’ (*shab-da*). It is an expression predominantly related to the element Ether (*Akash mahabhut*). It can also be stated that *Akash* is responsible for any sound wave to be created. Ether possesses another important characteristic, which is the ability not to create obstruction (‘*apratihatavta*’). Hence, *Akash* allows other elements – in this case *Vayu* to pass through it without causing any kind of hindrance. If doshas are accumulated around the umbilicus, they can have the potential to obstruct the sound vibrations initiated from the umbilicus. This may lead to difficulty in the speech process.

In the present sample of patients, the lifestyles of their mothers during pregnancy are presumed to have acted as a causative factor that disturbed the metabolism. *Dosha* accumulation created due to such lifestyle may have shown an influence on their children. It is hypothesized that the stagnation of *doshas* may have caused a hindrance to sound waves that are initiated by *Udan Vayu* from the umbilical region. It was also hypothesized that clearing the obstruction of *doshas* can improve the passage for sound waves.

Therapeutic interventions:

The Ayurvedic Treatment consisted of the following combinations of Herbo–mineral formulations such as – *Krumimudgar rasa*^{5,6} and the herbal combination of – *Kiratatikta*⁷ (*Swertia chirata*), *Guduchi*⁸ (*Tinospora cordifolia*), *Chandan*⁹ (*Santalum album*), and *Shunthi*¹⁰ (*Zinziber officinalis*).¹¹ They were mixed with honey and administered for 4 weeks.

Theoretical Action for Therapeutic Intervention action:

The abovesaid formulations are effective in eradicating the environment that is favorable for worms, which is marked by *Kapha* and *Kleda* accumulation. Thus, by clearing such environment, worms can be deprived of nourishment. In this case study, it was believed that all patients did not manifest cardinal symptoms of *Krumi* but rather, *Kapha* and *Kleda* accumulation was observed. Such accumulation is responsible for obstructing the normal passage of *akash* and *vayu mahabhutas* thus leading to impaired voice/obstruction of sound waves.

Table 2- Ayurvedic preparations

RESULTS AND DISCUSSION:

Follow-up and outcome:

All three children showed a remarkable improvement in their speech in terms of the number of words and the length of sentences they spoke, in a gradual way. Out of A, B, and C, patient A showed significant improvement in speech by the thirtieth day from the start of treatment by speaking full sentences and expressing words distinctly. The other two patients started speaking complete sentences and expressing words by the seventieth day post-treatment.

All the patients were assessed after three months of treatment and a noticeable change was observed in each patient’s speech. The presence of gradual speech development in each patient was captured through parental feedback. For all three cases, parents did note that while increases in verbalization were slow they did occur across

the three months of treatment demonstrating an increased number of words spoken, and greater use of sentences.

DISCUSSION:

The presence of *Aakash mahabhut* (Ether/Space) plays a crucial role in the expression of sound.^{12,13} On the same lines, for speech to express flawlessly, there should not be any invasion of space and *udan vayu* needs to function meticulously. This depends on the absence of obstruction of any kind in the passage of *udan vayu* that traverses from umbilicus to mouth.^{14,15,16}

As per the ayurvedic text, such a delay or difficulty in speaking can be considered as ‘*Mook*’ – a condition that gets manifested due to *Vata* and *Kapha* vitiation leading to obstruction of *Vata* and thus the difficulty in expression of sound waves.¹⁷

In the present study, it was observed that their mothers indulged in food that was characterized as heavy, creamy, unctuous, etc. along with a sedentary lifestyle. These being the causes of *Rasadushti* effectively over-nourish body by accumulating *Kapha* and *kleda* in them. These food habits are the modern-day eating habits commonly seen in a majority of the population. It included - heavy, partially cooked food, overeating, frequent snacking, etc. This would create *Rasadushti* and subsequent *Kapha* accumulation making *Rasadhatu* over-nourished causing disturbance in metabolism. *Rasa-dhatu*, being the source of nutrition during foetal development, transfers the over nourishment properties such as heaviness and unctuousness in form of *Kapha* to the new-borns. Hence, it is hypothesized that due to the mother’s lifestyle, new-borns had *Kapha* (earth and water). This accumulation of *dosha* can create obstruction and an unclear passage for the sound waves initiated by *udan vayu* right from the umbilicus. Thus, resulting in difficulty in speech. This kind of *Kapha* and *kleda* accumulation is commonly observed in *Krumi* (Worm infestation) where it creates an environment that is conducive for the growth of worms. Ayurvedic management of *Krumi* helps in two steps Viz. 1. clearing such environment on which worms are being fed and 2. *Krumi-Patan* (elimination of worms). With this hypothesis, herbs beneficial in *Krumi* were planned to clear the passage of *udan vayu* by digesting vitiated *Kapha* and *kleda*. The results achieved were because of the thought process applied in these cases. It is believed that the same results can be achieved with the similar line of treatment of *Krumi* Management and cleansing of accumulated *doshas* irrespective of herbs. That’s the reason why *Krumimudgar*

rasa was used even though patients did not manifest cardinal symptoms of Worm infestation.

Limitations -

This case series is observational and includes some subjectivity from the clinician. Thus, making causal inferences is limited. The findings in the case studies may not be generalized to a wider audience and replicating case studies can be difficult. Nonetheless, the case study presented here is based upon specified Ayurveda principles that are documented in textbooks and that were applied in diagnosing the patients. Across the three patients, similar *dosha* imbalances were identified, providing partial validity to the treatments required. Future studies should replicate in a larger sample, using experimental designs.

CONCLUSION

While the case study presented has many limitations, it's one of the first to document an alternative approach to speech problems in young children. In the West, speech pathologists use different techniques to improve verbal communication in young children when it is otherwise absent. Understanding the concepts and use of Ayurveda, in speech problems of young children provides another perspective on how to view the disorder, where treatments take into account the impact that lifestyle can have on individual constitution.

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Table 1 – Patients Information

<i>Patient</i>	<i>Age in months</i>	<i>Sex</i>
A	24	F
B	29	F
C	26	M

Table 2- Ayurvedic preparations

Preparation	Dose	Duration	Desired Effect
<i>Krumimudgar rasa</i>	250 mg/day in 2 divided doses	30 Days	<i>Kapha</i> and <i>kleda</i> Digestion Normal functioning of <i>udan vayu</i> .
<i>Kiratatikta, Guduchi, Chandan, Shunthi</i>	250 mg/day in 2 divided doses	30 Days	<i>Kapha</i> and <i>kleda</i> Digestion