Journal of Speech Language and Communication Research (JSLCR)
Vol. 2, No. 2, December 2025, pp. 36~42
ISSN: 3089-8714, DOI: https://doi.org/10.64600/vo2-no2-36-42

Oral Motor Exercise as an Intervention for Eating and Swallowing Problems

Hafidz Triantoro Aji Pratomo[1]
[1]Speech Therapy, Health Polytechnic Ministry of Health, Surakarta, Indonesia

Article Info

Article history:

Received Dec 01st, 2025
Revised Dec 8th, 2025
Accepted Dec 18th, 2025

Keywords:

Eating Problem
Intervention
Oral Motor
Swallowing Problem

ABSTRACT

Background: Oral Motor Exercise (OME) is a globally popular intervention approach. This approach is designed to involve activities related to muscle mechanisms. Several considerations are necessary to apply this method effectively and achieve adequate intervention outcomes for feeding and swallowing issues. This article aims to convey the considerations of speech therapists in selecting and applying the OME approach to eating and swallowing problems.

Method: The method employed is a review of articles, which are described in several sections, including the introduction to the OME application, an explanation of the concept of eating and swallowing problems, the basis of competency, and the need for evidence-based practice for individuals with eating and swallowing problems.

Result: Each feeding and swallowing problem has varying causes and solutions. Adequate mastery of the OME approach is essential. Fulfilling core competencies and applying evidence-based practices are essential requirements for a speech therapist.

Conclusion: OME is a popular intervention approach to address feeding and food preparation issues. Speech therapists require strong consideration in applying this approach to achieve adequate intervention outcomes. Mastery of the concepts of normal and problematic oral cavity areas is a non-negotiable requirement. Furthermore, understanding and mastery of the various applications of OME in addressing feeding and swallowing problems are crucial.

Corresponding Author:

Hafidz Triantoro Aji Pratomo
Speech Therapy, Health Polytechnic Ministry of Health, Surakarta, Indonesia
Email: pratomo.hafidz@gmail.com

INTRODUCTION

OME is a familiar intervention used by speech therapists (Lof & Watson, 2008; Pratomo & Siswanto, 2020). This approach is widely used in cases related to feeding, swallowing, voice, and speech intelligibility. This approach is believed to have strong efficacy in improving intervention outcomes, particularly in managing feeding and swallowing problems (Clark, 2003).

This approach enjoys strong popularity across countries. 71% of speech therapists in the UK use this approach as an intervention (Joffe & Pring, 2008, cited in Lof & Watson, 2010). Furthermore, 85% of speech therapists in the United States (Lof & Watson, 2008 in Lof & Watson, 2010) and Canada (Hodge et al., 2005 in Lof & Watson, 2010) and Indonesia use oral motor therapy as their approach in daily practice. This approach is undoubtedly well-known globally.

Dysphagia is a condition of significant clinical urgency. Eating and swallowing problems, the two main features of dysphagia, have several impacts, including reduced nutritional status, developmental threats (Dodrill & Gosa, 2015), and reduced quality of life (Smith et al., 2022). These problems require complex interventions, particularly adjustments to the rehabilitation process. Speech therapists play a crucial role in dysphagia intervention. Evidence-based interventions and strong quality assurance are two key considerations.

The purpose of this article is to explain several aspects related to the application of the OME approach to dysphagia, including mastery of eating concepts and swallowing, oral motor applications, speech therapist competency needs for dysphagia, and EBP implementation in OME applications for dysphagia.

METHOD

The method employed is a review of articles, which are described in several sections, including the introduction to the OME application, an explanation of the concept of eating and swallowing problems, the basis of competency, and the need for evidence-based practice for individuals with eating and swallowing problems. This is based on journals and the practice of therapists according to evidence-based practice in dealing with dysphagia problems.

RESULTS AND DISCUSSION

Mastering the Concept of Normal and Problematic Eating and Swallowing

Feeding is a process that involves every aspect of eating or drinking, including gathering and preparing food or fluids for intake, sucking or chewing, and swallowing (Arvedson et al., 2020). Swallowing is a complex process during which saliva, fluids, and food are transported from the mouth to the stomach while maintaining airway protection (Arvedson et al., 2020; Logemann, 1998). Clearly, the two terms "feeding" and "swallowing" are conceptually and clinically distinct.

The mechanisms of eating and swallowing have been extensively described in the literature, consisting of the preparatory, oral, pharyngeal, and esophageal stages (Logemann, 1998; Arvedson et al., 2020; Shipley & McAfee, 2021). The oral phase is the phase of forming and modifying food to prepare it for swallowing. The second phase is the phase when food is ready to be swallowed, initiated by the swallowing reflex. The final stage is the esophageal phase, during which food enters the digestive tract and travels toward the stomach. This distinction requires an understanding of both anatomy and physiology. A speech therapist's ability to master the basic components of normal eating and swallowing processes, as well as common problems, is a fundamental requirement.

Differences and variations in the anatomy and physiology of the swallowing organs across ages and individuals provide a strong foundation for interventions for eating and swallowing problems. As described in various literature, the eating process in early life differs from that in adults

(Arvedson et al., 2020; Kummer, 2008; Lau & Smith, 2014). The anatomical structure of the infant's oral cavity is suited to the sequential activities of sucking, swallowing, and breathing (Kummer, 2008, 2020). Furthermore, in pediatric cases, the existence of primitive reflexes must be considered when selecting intervention goals (Dodrill & Gosa, 2015).

Eating and swallowing problems, especially in children, are highly prevalent. 30-80% of children with developmental disorders experience feeding and/or swallowing problems (Arvedson et al., 2020; Brackett et al., 2006). This figure is a serious concern. Feeding and swallowing problems in children have long-term implications for nutritional needs and developmental status (Dodrill & Gosa, 2015). Feeding and swallowing problems in children are characterized by limitations in the oral phase, delayed swallowing reflex, incoordination of swallowing and breathing, and pharyngeal phase problems such as aspiration, penetration, and choking (Dodrill & Gosa, 2015). On the other hand, the prevalence of dysphagia in adults is also high. 32% of post-stroke patients experience dysphagia (Stipancic et al., 2019).

As we know, feeding and swallowing problems can be categorized into two broad categories: sensory and motor problems, and behavioral problems (Arvedson et al., 2020). Motor problems are often associated with limited muscle function required for eating and swallowing (Huckabee & Burnip, 2018). Conversely, sensory problems involve difficulties with the sensory system's ability to recognize stimuli related to eating and swallowing, including visual, auditory, tactile, kinesthetic, gustatory, and olfactory senses. Comprehensive efforts and action steps are required, including screening, evaluation, diagnosis, determination of recommendations, and implementation of evidence-based interventions.

Understanding the Concept and Application of Oral Motor Exercise

OME is a procedure or approach known for treating speech sound disorders that emphasizes motor and sensory aspects (Ruscello, 2008). NSOMT is a collection of methods and techniques designed to enhance the quality of a client's speech (Lof & Watson, 2008). This approach aims to enhance non-speech activities, including those involving the lips, jaw, tongue, velum, larynx, and respiratory muscles, related to oral-facial physiology and mechanics. Active activities include muscle strengthening, passive exercises, and sensory stimulation (McCauley et al., 2009).

Interventions using OME encompass various types of activities. Active exercises, passive exercises, and sensory stimulation are all part of the intervention (Ruscello, 2008). These activities are designed to improve muscle performance. The variety of exercise types and goals must be carefully considered by a speech therapist before selecting an intervention. A discrepancy between the intervention target and the activities used can result in counterproductive outcomes. Some activities or targets of oral motor interventions include increasing muscle strength, muscle tone, and range of motion, modifying tongue, lip, and jaw posture, and improving muscle and sensory control (Hodge, 2002). In general, activities frequently used by therapists include tongue elevation, lip rounding, tongue lateralization, tongue protrusion, mouth opening and closing, blowing, lip closure, smiling, lip smacking, and whistling (Pratomo & Siswanto, 2020).

It's essential to recognize that eating, swallowing, breathing, and speaking all share a common pathway, the oral cavity. However, the mechanisms of these processes are distinctly different. Studies indicate that the tongue muscles are capable of performing different activities or movements during speaking, chewing, and swallowing. For example, without the purpose of eating, swallowing, or speaking, the tongue exhibits a variety of movements that indicate the tongue muscles are capable of activities beyond these processes (Kappert et al., 2021).

Understanding Competencies

Competencies are a set of knowledge, attitudes, and skills needed to solve a problem (ASHA, 2016). Competencies required by a speech therapist in applying the OME approach to eating and swallowing problems include:

1. Understanding the anatomy and physiology of the oral cavity and its surrounding area.
2. Understanding the neuromuscular mechanisms involved in eating and swallowing.
3. Understanding variations in oral cavity structure among individuals.
4. Understanding the normal concepts of eating and swallowing and their associated problems.
5. Mastering comprehensive screening and evaluation procedures for eating and swallowing problems.
6. Understanding the basic concepts of OME.
7. Understanding the differences and objectives of OME activities.
8. Mastering each OME procedure.
9. Understanding the principles of professional collaboration.

It is clear that speech therapists are required to treat communication and swallowing problems. This means that in every treatment, the primary goal or outcome of the speech therapist's intervention is to improve communication and swallowing skills. When discussing the swallowing process, speech therapists develop goals to enhance the eating and swallowing process (Swigert, 2014).

Here are examples of long-term goals in dysphagia management: "The patient will receive all nutrition and fluids orally with a pureed diet and thin liquids without signs of aspiration within 3 weeks." A short-term goal: "The patient will increase basic tongue movement to reduce food residue in the valleculae." Another objective: "The patient will swallow 1/2 teaspoon of pureed food with an effortful swallow on 9 out of 10 attempts. The patient will perform tongue retraction and hold it for 3 seconds on 9 out of 10 attempts." (Swigert, 2014).

Application of Evidence-Based Practice

Evidence-based interventions, often referred to as Evidence-Based Practice (EBP), are essential for speech-language therapists (Gilroy et al., 2016; Greenwell & Walsh, 2021; Lass & Pannbacker, 2008). The use of OME is strongly recommended in feeding and swallowing interventions (Logemann, 1998; Clark, 2003). This approach has strong evidence for its application in interventions specifically related to feeding and swallowing problems related to sensory and motor limitations.

Strengthening sensory and motor skills in dysphagia offers strong promise in the prognosis of post-stroke dysphagia interventions (Hägg & Larsson, 2004). They found that the intervention improved swallowing abilities, measured by swallowing capacity, observation during eating, and videofluoroscopy. This intervention is called the orofacial regulation therapy approach. In general, the intervention integrates sensory and motor reflexes by strengthening connections between the facial, oral cavity, and swallowing posture.

Although the OME approach has a positive impact on dysphagia, its use across populations varies considerably. Conditions related to cerebral palsy (Menezes et al., 2017), cleft lip and palate (Kummer, 2008, 2020), Down syndrome (Arvedson et al., 2020), and pediatric dysphagia (Arvedson et al., 2020) require careful consideration in selecting and implementing the OME approach. One issue that must be considered when selecting an OME approach is intervention for speech sound problems. Exploring EBP in implementing this approach requires robust research (Lass & Pannbacker, 2008; Lee & Gibbon, 2011; Pratomo & Siswanto, 2020).

The selection of literature for clinical application requires careful consideration. These considerations include population, intervention, level of evidence, and outcomes. Variation in article selection is also crucial. As we know, synthesizing a literature review is the most suitable approach at this time to gather the best evidence (Wilson et al., 2021).

CONCLUSION

OME is a widely used intervention approach for treating feeding and swallowing disorders. Speech therapists require strong judgment in applying this approach to achieve adequate intervention outcomes. Mastery of the concepts of normal and problematic oral health is a non-negotiable requirement. Furthermore, understanding and mastery of various OME applications for feeding and swallowing problems is crucial. Speech therapists play a crucial role in resolving feeding and swallowing problems. However, strong evidence is needed for every speech therapist's treatment. Future research and exploration of OME interventions across diverse populations and age groups are needed to inform clinical interventions for feeding and swallowing problems.

REFERENCES

American Speech-Language--Hearing Association. (2016). *Scope of Practice in Speech--Language Pathology [Scope of Practice]*.

Arvedson, J. C., Brodsky, L., & Lefton-Greif, M. A. (2020). Pediatric swallowing and feeding: Assessment and management. In *Plural Publising* (Issue 3). Plural Publishing, Inc. https://doi.org/10.1016/s0165-5876(02)00205-7

Brackett, K., Arvedson, J. C., & Manno, C. J. (2006). Pediatric Feeding and Swallowing Disorders: General Assessment and Intervention. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia), 15*(3), 10–15. https://doi.org/10.1044/sasd15.3.10

Clark, H. M. (2003). Neuromuscular Treatments for Speech and Swallowing: A Tutorial. *American Journal of Speech-Language Pathology*, *12*(4), 400–415. https://doi.org/10.1044/1058-0360(2003/086)

Dodrill, P., & Gosa, M. M. (2015). Pediatric dysphagia: Physiology, assessment, and management. *Annals of Nutrition and Metabolism*, *66*(suppl 5), 24–31. https://doi.org/10.1159/000381372

Gilroy, H., Schmitt, M. B., Farquharson, K., Yeager-pelatti, C., & Bush, E. (2016). *A scholarly forum for guiding evidence-based practices in speech-language pathology*. *11*(5).

Greenwell, T., & Walsh, B. (2021). Evidence-based practice in speech-language pathology: Where are we now? *American Journal of Speech-Language Pathology*, *30*(1), 186–198. https://doi.org/10.1044/2020_AJSLP-20-00194

Hägg, M., & Larsson, B. (2004). Effects of motor and sensory stimulation in stroke patients with long-lasting dysphagia. *Dysphagia*, *19*(4), 219–230. https://doi.org/10.1007/s00455-004-0016-3

Hodge, M. M. (2002). Nonspeech Oral Motor Treatment Approaches for Dysarthria: Perspectives on a Controversial Clinical Practice. *Perspectives on Neurophysiology and Neurogenic Speech and Language Disorders*, *12*(4), 22–28. https://doi.org/10.1044/nnsld12.4.22

Huckabee, M., & Burnip, E. (2018). *Still Rethinking Rehab : Motor Learning Treatment Approaches for Dysphagia*. *3*(Part 4).

Kappert, K. D. R., van Dijk, S., Wellenstein, D., van Alphen, M. J. A., van Son, R. J. J. H., Smeele,

L. E., & Balm, A. J. M. (2021). Five Specific Tongue Movements in a Healthy Population. *Dysphagia*, *36*(4), 736–742. https://doi.org/10.1007/s00455-020-10195-y

Kummer, A. W. (2008). *Cleft Lip, Palate and Craniofacial Anomalies: Effects on Speech and Resonance* (Second Edi). Thomson Delmar Learning. https://doi.org/10.1002/9781444300109.ch15

Kummer, A. W. (2020). *Cleft palate and craniofacial conditions: a comprehensive guide to clinical management* (FOURTH EDI). Jones & Bartlett Learning.

Lass, N. J., & Pannbacker, M. (2008). The application of evidence-based practice to nonspeech oral motor treatments. *Language, Speech, and Hearing Services in Schools*, *39*(3), 408–421. https://doi.org/10.1044/0161-1461(2008/038)

Lau, C., & Smith, E. O. (2014). Interventions to improve the oral feeding performance of preterm infants. *Dysphagia*, *29*(1), 115–116. https://doi.org/10.1007/s00455-013-9492-7

Lee, A. S. Y., & Gibbon, F. E. (2011). Non-speech oral motor treatment for children with developmental speech sound disorders. *Cochrane Database of Systematic Reviews*, *10*, 1–27. https://doi.org/10.1002/14651858.CD009383.pub2

Lof, G. L., & Watson, M. (2010). Five Reasons Why Nonspeech Oral Motor Exercises (NSOME) Do Not Work. *Perspectives on School-Based Issues*, *11*(4), 109–117. https://doi.org/https://doi.org/10.1044/sbi11.4.109

Lof, G. L., & Watson, M. M. (2008). A nationwide survey of nonspeech oral motor exercise use: Implications for evidence-based practice. *Language, Speech, and Hearing Services in Schools*, *39*(3), 392–407. https://doi.org/10.1044/0161-1461(2008/037)

Logemann, J. A. (1998). *Evaluation and treatment of swallwoing disorders*. PRO-ED, Inc.

Mccauley, R. J., Strand, E., Lof, G. L., Tracy, S., Tobi, F., & Frymark, T. (2009). Evidence-Based Systematic Review: Effects of Nonspeech Oral Motor Exercises on Speech. *American Journal of Speech-Language Pathology*, *18*(4), 343–360. https://doi.org/https://doi.org/10.1044/1058-0360(2009/09-0006)

Menezes, E. da C., Santos, F. A. H., & Alves, F. L. (2017). Cerebral palsy dysphagia: a systematic review. *Revista CEFAC*, *19*(4), 565–574. https://doi.org/10.1590/1982-021620171944317

Pratomo, H. T. A., & Siswanto, A. (2020). Penggunaan Non Speech Oral Motor Treatment (NSOMT) Sebagai Pendekatan Intervensi Gangguan Bunyi Bicara. *Jurnal Keterapian Fisik*, *5*(2), 109–121. https://doi.org/10.37341/jkf.v5i2.213

Ruscello, D. M. (2008). Non-speech oral motor treatment for children with developmental speech sound disorders. *Language, Speech, and Hearing Services in Schools*, *39*(July), 380–391. https://doi.org/10.1002/14651858.CD009383.pub2

Shipley, K. G., & McAfee, J. G. (2021). *Assessment in speech-language pathology: a resource manual* (Sixth edit). Plural Publishing, Inc.

Smith, R., Bryant, L., & Hemsley, B. (2022). Dysphagia and Quality of Life, Participation, and Inclusion Experiences and Outcomes for Adults and Children With Dysphagia: A Scoping Review. *Perspectives of the ASHA Special Interest Groups*, *7*(1), 181–196. https://doi.org/10.1044/2021_persp-21-00162

Stipancic, K. L., Borders, J. C., Brates, D., & Thibeault, S. L. (2019). Prospective investigation of

incidence and co-occurrence of dysphagia, dysarthria, and aphasia following ischemic stroke. *American Journal of Speech-Language Pathology*, *28*(1), 188–194. https://doi.org/10.1044/2018_AJSLP-18-0136

Swigert, N. (2014). Patient Outcomes, NOMS, and Goal Writing for Pediatrics and Adults. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, *23*(2), 65–71. https://doi.org/10.1044/sasd23.2.65

Wilson, E., Simione, M., & Polley, L. (2021). Paediatric oral sensorimotor interventions for chewing dysfunction: A scoping review. *International Journal of Language and Communication Disorders*, *56*(6), 1316–1333. https://doi.org/10.1111/1460-6984.12662