

Knowledge, Awareness and Practice of Oral Motor Exercises among Speech and Language Therapists/Pathologists in Various Disorders

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ABSTRACT

Background: Oral motor exercises are widely used for treatment of speech disorders by the speech and language pathologists worldwide. Oral motor exercises are oral activities that impact speech production without actually producing speech. These activities include lateral tongue movements, crumpling of lips, panting of cheeks, breathing out and swallowing. Speech and language pathologists in many countries carry on with the use oral motor exercises for treatment of various speech disorders in their therapy sessions.

Objective: This study was designed to investigate the knowledge, awareness and practice of oral motor exercises among speech and language pathologists in various disorders.

Methodology: A standardized questionnaire from the article "The use of oral motor exercises among Indian speech and language pathologists to treat speech disorders" was taken by permission of author. The questionnaire future betrothed to extract information regarding the use of oral motor exercises. 207 participants were addressed. Participants were Pakistani speech and language pathologists. The questionnaire contains three sections. First section consists of demographic information, second and third sections extract information from the pathologists who did and did not choose to use oral motor exercises, respectively. A written consent was taken from the pathologists to participate in this research work and then questionnaire was given to fill. Descriptive statistics were implemented to analyze answers. Observational cross-sectional study was used and data was gathered from SLPs at University of Lahore.

Results: Ninety-one (91%) of the speech and language pathologists who responded to the questionnaire demonstrates that they use oral motor exercises to treat speech disorders.

Conclusion: The results tells that the percentage of speech and language pathologists preferring to use oral motor exercises is same as the results of other studies done in other countries. The Pakistani speech and language pathologists prefer to use oral motor exercises on base of multitude of beliefs. It is very important for speech and language pathologists to use the principles of evidence-based practice while using oral motor exercises to provide high quality clinical care.

Keywords: oral motor exercises, treating speech disorders, speech therapy.

INTRODUCTION

Speech, Language refers to the means of conversation used by the human. Speech is the exposition of clues and approximations by mean of executing vocal sounds. Language is a set of accustomed signs, not importantly produce or even expressed (any set of signs, characteristics, or emblem that give meaning, along with written words): a conversated language.¹ Speech is produced not alone by motor procedures, in fact by phonemic and semantic principles, it takes variety of formations depending on their special tasks. Speech is conceivably more adjustable and flexible than all human actions and motor activity.² But sometimes person has complications producing or making the speech sounds important to converse with others. Frequent speech disorders are: Articulation disorders, Phonemical disorders, Disfluency, Voice disorders. Traditional and phonemical interventions are available to deal with speech sound disorders.^{3,4}

Oral motor activities referred to the oral movements that impact speech production without actually producing speech. They contain exercises such as lateral tongue movements, opening & closing of jaw against resistance, stimulating various parts of mouth, pursing & crumpling of lips, blowing, panting of cheeks, breathing out and swallowing.⁵ Oral motor exercises are used for apraxia of speech, dysarthria, anatomical distortions (e.g., cleft palate, Down Syndrome), early initiation of treatment (late speakers), phonological disorders (hearing difficulties), lack of functional articulation, dysphagia.⁶

Literature reveals that 75 to 85% of SLP uses OMEs for treatment and most of the patients recover by it.⁷ Oral motor exercises in pot stroke dysarthria population also showed positive outcome during short period of behavioral speech and language therapist intervention.⁸

According to best of researcher's knowledge, the data regarding the usage of OMEs among Pakistani SLPs to manage speech disorders is not available, however many studies has been conducted on this topic internationally, this study is being conducted to overcome this gap and ultimately patient will get benefit as oral motor exercises helps to improve communication skill.

SUBJECTS AND METHODS

It was an Observational Cross-Sectional study. Data was collected from registered speech and language pathologists. Sample size was calculated to be 207, with precision taken as 5%, prevalence set at 84%, population size was taken to be 450 and confidence interval was set at 95%. Non- probability convenient sampling technique was used. As per inclusion criteria both male and female working speech and language pathologists having minimum experience of 1 year and dealing with speech and language disorders with age range of (22-60) years. All male and female speech and language pathologists who are certified in oral motor therapies and who switched their field and currently not practicing. A standardized questionnaire with the permission of author was used to gathered data taken from the article "The Use of Non-Speech Oral Motor Exercises among Indian speech and language pathologists to treat speech disorders". Questionnaire contains demographic information, questions regarding the usage of oral motor techniques from the speech and language therapists who uses these exercises in their clinical practice and who do not use. A questionnaire contains of three categories in which first section contains of demographics in which age, gender, length of clinical experience, master programs enrolled, higher education status was asked from speech and language pathologists. Second section consists of questions which were asked from the speech

and language therapists/pathologists who used oral motor techniques in their practice. Whether they practice in school, college/university, hospital or private clinic. They were asked about the length of experience using oral motor techniques in their speech sessions, about the disorders in which they apply oral motor therapies, about the types of oral motor techniques used, about the effectiveness of oral motor therapies and about the awareness of oral motor techniques from where they come to know or whether they will continue to use OMEs in their therapy or not. They were also asked that oral motor techniques are applied in their speech sessions with other therapies for particular goal or not. Third section consists of questions which were asked from the speech and language therapists/pathologists who do not apply oral motor exercises as their therapeutic technique practices. They were asked why they do not prefer using oral motor exercises, whether they had a plan to use oral motor exercises in their future.

RESULTS

To obtain a better knowledge regarding the Speech and Language Pathologists' perspective and rationale for using OMEs, the results are relevant to the aim of current study told as; A large number of speech and language pathologists (91%) suggested that they apply or had been applying oral motor exercises in a speech therapy session as a speech therapy technique or not. As a speech therapy technique length of using oral motor exercises is noted as, (7%) of speech pathologists told that applying oral motor exercises for (1-2years). Around (34%) indicated they were using oral motor exercises for (2-3years). (20%) used oral motor exercises for (3-4years) and (9%) uses for (4-5years), (14%) for (5-6years) and (13%) for more than 6 years. Most of the speech and language pathologists (42%) told that they were applying oral motor exercises to improve the motor strength of the articulators (e.g., to improve the firmness, tonicity). Around (26%) apply oral motor exercises to enhance the sensory difficulties of oral anatomical structures (e.g., hypersensitivity). Some of the speech pathologists (9%) also reported that they apply oral motor exercises to treat feeding disorders. (12%) also told that they apply oral motor exercises with patients to control mouthwatering. (11%) told that they apply oral motor exercises for other disorders such as SSD, Apraxia of speech and language disorders e.g., Autism (to enhance oral sensory problems). 19% of speech pathologists used OMEs to manage Motor speech disorders. 5% of the speech pathologists using OMEs to manage swallowing problems. Almost (35%) of speech pathologists used OMEs to manage speech sound disorder. Approximately 43%, 7%, 8% of the speech pathologists used OMEs to manage patients with developmental language disorders, adult language disorders and resonance disorders, respectively. A little number of the speech pathologists (9%) used OMEs to manage voice disorders. Lip puckering was applied by the speech pathologists (35%), blowing (5%) and puffing of cheeks (>1%). Lateral lip movements, lateral tongues sweeps, alternative lip puckering and/ or smiling, sucking and vertical tongue movements were used by 25%, 12%, 9%, 2%, and 9% of the participants. The most common used material for OMEs was straw, which was applied by 25% of the speech pathologists. Paper strips (9%) and brushes (21%). Blowing whistles, balloons and cotton balls were used by 5%, 12%, and 10% of the participants, respectively. (25%) speech pathologists reported that they used OMEs occasionally (25-50% of the therapy sessions). Around 47% of speech pathologists reported that they used OMEs frequently (more than 75% of the therapy sessions). A (27%) number of participants indicated that they used OMEs rarely (less than 10% of the sessions). (70%) told that they would continue to use OMEs in future with other speech therapy techniques. (91%) mentioned that they would continue to use OMEs for a long time. Another (9%) told that they might use OMEs for some time in future and would discontinue them if there are better speech therapy techniques.

Table 1: Comparison of Speech and Language Therapists/Pathologist's Response

Questions	Highest %	Low %
Awareness of OMEs in SLPs	91	9
Use of OMEs in SLPs	74	26
Using OME with other Techniques for particular goal	58	42
Use of OMEs on personal success	67	33
OMEs used in sessions frequently	53	47
In SSD, OMEs used for treatment	65	35
Lip puckering technique usage	65	35
Material (straws) used in OMEs	75	25
OMEs used for muscle strengthening	58	42
Effectiveness of OMEs	93	7
Using of OMEs in future	96	4

DISCUSSION

The current study was conducted to investigate the effectiveness of oral motor exercises by speech and language therapists from Pakistan to manage various speech and language disorders. Roha M. Thomas and Ramesh Kaipa done the related work in topic "Use of Oral Motor Exercises in Indian Speech and Language Pathologists to Treat Speech Disorders" in 2015. Same work is done in (USA), (UK) and (Canada). A significant number of speech pathologists preferred the application of oral motor exercises. (1) Two hundred and seven speech pathologists responded to the current work, most of them had an age range of 30-40 years, 108 (52%) participants were the women. Eighty-nine speech-language pathologists (45.4%) had a degree of master's, others hold a degree of bachelors. Forty-one (29%) of the speech pathologists work in universities, thirty-seven 37 (26%) of the speech pathologists work in hospitals, thirty and six 36 (25%) work in private clinical settings, twenty-eight 28 (19%) work in school settings. Most speech pathologists got admission in the program of masters (Speech Pathology), but some were enrolled in the Master's program (Audiology) and lesser number of speech-language pathologists were enrolled in the (Dual) program. (8) Eighty-nine speech-language pathologists had a clinical research specialty in the field of speech-language pathology, twenty-nine (65%) had a research specialty in the field of (Audiology), and thirteen had a research specialty in both fields' areas (speech and language pathology and audiology). (9)

The percentage of speech therapists who uses oral motor exercises for treating speech disorders and the reasons for applying oral motor exercises are as follows. 91% of participants use oral motor exercises for managing speech impairments. The increased number of SLPs using and SLPs in Pakistan is due to the ease of performing oral motor exercises with patients. This is typical for speech pathologists in Pakistan practicing in private hospitals and government hospitals that they had a high case in their workload. The accessibility of oral motor kits also made this easier for using them on the patient instead of other procedures that need severe protocols. Clinical experience of Pakistani SLPs is also impacted by other countries speech therapists work through seminars, books, articles as well as related research articles. Most speech pathologists also use oral motor exercises because they believe they help in strengthening the muscles of the articulators. Although the usage of oral motor exercises as a speech therapy technique is controversial, oral motor techniques may be applicable in a little or few percentages of the speech therapists who practice privately with articulation disorders. However, Luschei noted that high power might not be needed in spoken speech operations, but that sufficient power may be a prerequisite for correct articulatory actions. Positive outcome with 86% effectiveness of the Orolingual Exercises at home program was noted with patients who had Parkinson's Disease. Duffy also recommended that oral motor exercises are used for control speech disorders linked with muscle weakness. Therefore, most Pakistani SLPs who applies oral motor techniques for treatment of speech disorders associate them with face muscle weakness. Approximately very few numbers of the respondents apply oral

motor exercises to treat and manage sensory issues. Other study suggested that sensory and motor experiences at very young age are initial for language development. Physicians need to know how to deal with oral sensory problems in order to increase language performance, which could be a futile attempt. Other speech-language pathologists used oral motor exercises because speech develops by non-speech procedures (blowing), examining articles, papers and books, and personal experiences. The current study shows that speech pathologists in Pakistan continue to apply oral motor techniques based upon multiple beliefs and helps in strengthening articulators and muscles of speech. Oral motor exercises were used to treat speech problems in patients who had dysarthria and significant outcomes were shown.¹⁰

CONCLUSIONS

The usage of oral motor exercises is ongoing debate in the past and will continue in the future. OMEs are widely used by the majority of speech and language pathologists in Pakistan to treat speech disorders and it is helpful to strengthen oral muscles, helps in sensory stimulation, helps in drooling control so that patient can communicate effectively as speech intelligibility is increased.

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