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Dysphagia Assessment Practices Amongst Speech & Language Pathologist in Punjab, Pakistan

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A B S T R A C T

Background: Dysphagia is medical term that means abnormal swallowing due to impaired coordination or obstruction that affects the swallowing mechanism. For diagnosing this condition, both instrumental and non-instrumental evaluation is required to be executed by speech and language pathologist and radiologist.

Objective: The aim of this study was to find out dysphagia assessment practice pattern among speech & language pathologist in Punjab.

Methodology: A cross sectional survey was conducted to find out dysphagia assessment practice pattern among speech & language pathologist in Punjab. Information is collected by means of questionnaire that was designed by expert opinion and literature review. Eight expert speech and language pathologist rated the questionnaire for content validity. The sample size of study was, 81 speech and language pathologists collected through convenient sampling technique. Questionnaire was distributed among 81 speech and language pathologist/therapist working independently in public and private hospitals or in schools of different main cities of Punjab, Pakistan.

Results: The majority of clinicians i.e. (66.7%) responded had clinical experience of 1 to 3 years as speech and language pathologist while 39.9% respondents were working in hospitals, 27.2% in rehabilitation centers, 18.5% in private clinics, 22.2% in school settings, 1.2 % in other settings. Only 16.0% respondents indicated that availability of VFS at their working place is existent. Seven of the twelve components of clinical swallowing examination were always or usually used by more than 70% of respondents.

Conclusion: Most of Speech and language Pathologists are using clinical swallowing examination and instrumental evaluation and some are using VFS.

Introduction

Dysphagia refers to difficulty in initiating to swallow or impairment in the normal swallowing passage from mouth to stomach. Study showed that 45% of dysphagia clients enjoy eating pleasantly while 41% do not feel comfortable during mealtime.[1] The incidence rates of dysphagia vary between 29% - 67% in acute stroke patients. It is very necessary to identify, diagnose and manage this condition to prevent mortality rates.[2] Since in late 1980's dysphagia assessment and management became part of speech and language

pathologist who were specialized in this field by attending specialist post graduate courses. In 1999 dysphagia was introduced to speech and language therapist in their undergraduate courses. Now it is admitted that dysphagia is evaluated and managed by speech and language therapist. In UK Speech and language therapy is identified as "shortage" profession. Study reports that due to limited staff service of SLTs approximately 21% of dysphagia patients are not assessed by SLTs within 72 hours of their admission. Due to unavailability of services to evaluate and manage dysphagia, most of stroke patients get long stay in hospital.[3]

Swallowing assessment is a systematic evaluation of interconnected process of swallowing. There are multiple objectives of swallowing evaluation. First is that the swallowing evaluation may be necessary to determine the underlying pathology of any disease to make solid medical diagnosis; second, to determine patient capabilities and structural damage to food passage and degree to which this damage can be modified.[4] Most common purpose of swallowing evaluation is to get insights about neurophysiology of swallowing patients. Two assessment approaches are commonly used one being instrumental based approach and second non-instrumental approach. In both methods food is given to patient and then it is observed how the patient manipulate food bolus.[5] Bedside clinical examination that is also known as clinical swallowing assessment is non-instrumental based assessment approach that is usually used as screening procedure to gain insight about the gravity of swallowing problem, it assesses the structure and function of oral stage swallowing dysfunction and help in formulation of differential diagnosis of impairment in pharyngeal, laryngeal and esophageal swallowing.[6] Clinicians working in clinical setting from extensive period of time enormously rely on clinical examination procedure for swallowing in absence of instrumented examination procedure such as Videofluroscopy, Endoscopy and Manometers those are difficult to obtain. Although research literature does not encourage the clinical examination of swallowing as a reliable method for the detection of aspiration or for making diet plan or managing dysphagia; Instrumental assessment of swallowing examination includes Videofluroscopy (VFS), Fiberoptic Endoscopic Evaluation of Swallowing (FEES), Ultrasonography, Pharyngeal Manometry and Scintiscanning.[7] Videofluroscopy is radiographic procedure to evaluate the normal and abnormal pattern of swallowing. It is also known as modified barium swallow. According to Royal College of speech and language therapist (RCSLT) had important role in conducting Videofluroscopy swallowing procedure (VFS). It is considered as "gold standard" for assessment of Oropharyngeal dysphagia.[8]

In spite of increasing demand for speech and language pathologist to provide dysphagia services, there is no evidence-based study is available in Pakistan to assess the practice pattern behaviors of SLPs in dysphagia. The purpose of this study was to determine the consistency in clinical examination of swallowing disorder and to identify most preferable instrumental technique used by SLPs for dysphagia assessment.

Methodology

A cross sectional survey was conducted to find out dysphagia assessment practice pattern among speech & language pathologist in Punjab. Information is collected by means of questionnaire that was designed by expert opinion and literature review. Questionnaire consisted on three sections, first section contained demographic information, 2nd sections comprised caseload characteristics regarding dysphagia while third part enclosed questions regarding general dysphagia assessment patterns. Eight expert speech and language pathologist rated the questionnaire for content validity. The sample size of study was 81 speech and language pathologists which were selected on the basis of previous literature. Convenient sampling technique was used to collect the data. Research was conducted on 20th Feb 2015 to 10th June 2015 in Riphah International University Lahore and data was collected through questionnaire from 81 speech and language pathologist/therapist working independently in public and private hospitals or in schools of different main cities of Punjab. All SLPs who are currently practicing speech and language therapy having 1 year of experiences both male and female individuals were included in the study. Data was collected by the Researcher. The collected data was analyzed by using Statistical Package of Social Sciences (SPSS 19).

Results

Demographic information shows that among 81 respondents 5 (6.25%) were male while 76(93.8%) were female. The majority of clinicians (66.7%) who responded had clinical experience of 1 to 3 years as speech and language pathologist.

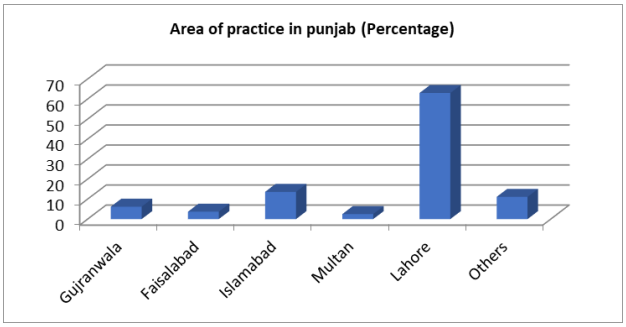

Figure I: Area of practice in punjab

The above figure-I shows that repondents participated from different main cities of Punjab but majority of respondents were from Lahore (63%). While the perecentage of respondents from others cities as follow, Gujranwala(6.2%), Faisalabad (3.7%), Islamabad (13.6%), Multan (2.5%) and (11.1 %) were from others cities.

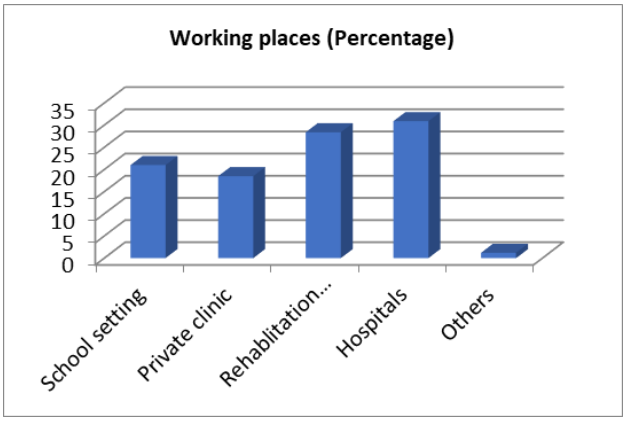

Figure II: Working place

The above fig-II shows that 21% respondents were from school settings,18.5% from private clinics, 28.4% from rehablitation centers,30.9% from hospitals and 1.2% from others settings.

Table I shows that only 16 % of respondents reported the availability of VFS at their working facility.60.5% reported not availability, 4.9% indicate available but not in use while 18.5% don't know about VFS.

Table I: Video-fluoroscopy/MBS (instrumental procedure available at your working place)

Options	Frequency	Percent
Don't Know	15	18.5
Available But Not In Use	4	4.9
Not Available	49	60.5
Available	13	16.0
Total	81	100.0

Table II shows that 12.3% respondents never preffered VFS insrtumental method for swallowing,7.4% occasionally recommend VFS,9.9% recommend VFS for half the time,25.9% recommend usually while 44.4% respondents always recommmend VFS as preffered instrumental method for swallowing evaluation.

The above table shows that 64.2% of SLPs always conduct non- instrumental evaluation before reffering client for instrumental procedure.6.2 % conduct bedside evaulation half the time, 21% occasionally while 8.6 % of SLPs never conduct bedside evaluation before reffering client for instrumental evaluation.

Items with highest consistency rating were patient history (91.4%), patient perception of problem(82.8%),assessing cognitive status (86.4%),oral motor examination (76.5%) and assessmentof gag reflex (75.3%).

Items with moderate consistency rating were assessment of sensory functions(71%),assessment of

Table II: Opinion of participants regarding Video fluoroscopy, Fiberoptic endoscopic evaluation and Non instrumental evaluation

Options	Never	Occasionally	Half-The Time	Usually	Always
Video fluoroscopy / VFS (Preferable method for swallowing)	10(12.3%)	6(7.4%)	8(9.9%)	21(25.9%)	36(44.4%)
Fiberoptic endoscopic evaluation for safe swallowing –FEES (Preferable method for swallowing)	19(23.5%)	19(23.5%)	11(13.6%)	20(24.5%)	12(14.8%)
Perecentage of non- instrumental evaluation before reffering client for instrumental evulation	7(8.6%)	17(21.0%)	5(6.2%)	24(29.6%)	28(34.6%)

vocal quality(71.6%),assessment of language abilities (67.9%), trials with compensatory techniques (56.8%),assessment of voiltional cough(50.6%) and assessment of speech function(51.8%).

Items with low consistency rating or inconsistent were assessment of pharyngeal delay (48.2%),cervical auscultation (37.1%) and perform food trials (34.5%). (Table III)

Table III:.Components included in a clinical examination for dysphagia

Components always/usually used by >75% of repondents	Consistency	Percentage
Patient history	HC	91.4%
Patient perception of problem	HC	82.8%
Assessing cognitive status	HC	86.4%
Oral motor examination	HC	76.5%
Assessment of gag reflex	HC	75.3%
Judgement of efficiency of oral motor movements	HC	76.5%
Components always/usually used by 50-75% of respondents		
Assessment of sensory functions	**MC**	**71%**
Assessment of vocal quality	MC	71.6%
Assessment of language abilities	MC	67.9%
Trials with compensatory techniques	MC	56.8%
Assessment of voilitional cough	MC	50.6%
Trials with compensatory techniques	MC	56.8%
Assessment of speech function	MC	51.8%
Components always/usually used by <50% of respondents		
Assessment of pharyngeal delay	IC	48.2%
Cervical auscultation	IC	37.1%
Perform food trial	IC	34.5%
HC : high consistent MC: moderate consistent IC: inconsistent		

Discussion

The result of this study indicates that there is difference in clinician opinions regarding the components they evaluate during clinical examination of swallowing. As the objective of this study was to determine the level of consistency amongst different speech and language pathologist in assessing dysphagia, dysphagia assessment includes both instrumental and non-instrumental evaluation. However non instrumental evaluation is also known clinical bedside evaluation or clinical swallowing examination. In this study when researcher asked which component of clinical swallowing examination they mostly used. In this, the clinician shows high consistency in evaluation the seven out of 16 components of swallowing evaluation such as patient's history (91.4%). Patient perception of problem (82.8%), assessment of cognitive status (86.4%), oral motor examination (76.5%), assessment of gag reflex (75.3%), judgement of efficiency of oral motor movements (76.5%). Some components of swallowing evaluation are moderately consistent because their perecentage value lie between 50-75% and these include Assessment of sensory functions, Assessment of vocal quality, Assessment of language abilities, Trials with compensatory techniques, Assessment of voilitional cough, Trials with compensatory techniques and Assessment of speech function while clinical practice for cervical auscultation,assessment of pharyngeal delay and food trial performance is highly inconsistent. If findings of this assesment practice of clinical examination of swallowing are compared with results of Mathers-Schmidtand and Kurlinski study that was in Western Washingtin State, high degree of inconsistency exist in our clinical practice for swallowing evaluation. In their study there is highly consistency pattern of swallowing evaluation found amongst SLPs like 96.7% of their clinician make judgement of pharyngeal delay, 98.4% asess voilitional cough,100% assess pre and post swallow vocal quality. In this study only 48.25% of clinician made judgement of pharyngeal delay,71.6% assessed vocal quality that indicate mark difference in assessing pattern of clinician. Mathers-Schmidtand and Kurlinski also reported moderate consistency in clinical practice for assessing gag reflex and in screening assessment of speech and language function, showed high consistency in most components of swallowing evaluation but moderate consistency was found in assessing gag reflex.[9]

The results of this study indicate clinical practice is inconsistent among SLPs in Punjab, Pakistan with respect to cervical auscultation,sensory function,trials with compensatory techniques, smiliar to result of study conducted by Catharine M.Pettigrew and Ciara O'Toole in Iran (10)and Mathers-Schmidtand and Kurlinski study

conducted in Western Washington State. According to Logemann,bedside examination of swallowing must include oral sensitivity examination but there are no clear guidelines are available how to perform oral sensitivity examination.[11]

This lack of information about guideline may contribute to inonsistent use of sesnsory function assessment in current study and in studies conducted by M.Pettigrew and Ciara O'Toole and Mathers-Schmidtand and Kurlinski. Moderate incosistent pattern in examination of gag reflex are not surpising because literature showed that gag reflex is not related to swallowing functions but conflicts exist in this view as Logemann reported that gag reflex has no role in swallowing function but Miller suggested that gag reflex may provide function of pharyngeal muscles.[12]

The pulse oximetry and cervical auscultation can also used as screening tool for assessment of swallowing function but that can not be used as diagnostic tool. There siginification vartiaton are exist in use of these procedures,high inconsisitencies are seen in clinical practice in using this procedure. In this study 32.1% clinician are using cervical ausculatation, same inconsistency exist in study conducted by Mathers-Schmidtand and Kurlinski (13%) and Catharine M.Pettigrew and Ciara O'Toole 50% .[13,14]

This study found that mostly clinicians use videofloroscopyas preffered method for instrumental evualtion of swallowing. In this study 16% of respondents had been directed to VFS in their working facility , there was no association seen in availaibilty of instrumental procedure and experience of clinicians, these findings were similar to other studies conducted by Mathers-Schmidtand and Kurlinski (13%) and Catharine M.Pettigrew and Ciara O'Toole.[14,16]

Conclusion

It was concluded that highly inconsistencies were seen amongst SLPs in assessing dysphagia. There are various practices patterns depend upon their working setting. However most of the speech and language pathologist were using non instrumental techniques for assessment of dysphagia.

There is need to set workshops on dysphagia assessment protocols or guidelines that should be followed by all speech and language pathologists.

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