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Pattern of Speech and Language Pathology in a Federal Health Institution in Southwest Nigeria- A 5 Year Review

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Abstract:

- ***Introduction:***

There is few research on the prevalence and pattern of speech and language disorders in Nigeria. Results of the few studies that have investigated the prevalence of speech and language disorders in Nigeria show that the prevalence of speech impairment ranges between 8-30% of individuals in Nigeria (Nwosu. 2015). Speech and language disorders is an umbrella term, which refers to a range of expressive and/or receptive difficulties observed in children and adults because of a medical problem or with no known cause (Prelock et al, 2008).

- ***Aim:***

To assess the pattern of speech and language disorder among patients seeking healthcare and challenges affecting the outcome of care.

- ***Methods:***

A retrospective study of patients referred to the speech therapy unit of the department of Ear, Nose and Throat department of Federal Medical Center, Owo over a five-year period from January 2015 to December 2019. Using the patients' registers and individual case-notes, the data retrieved included sociodemographic profile, the diagnosis, outcome & challenges. All data retrieved analyzed descriptively and statistically.

- ***Results:***

Most of the 76 participants were aged 40 years and above (88.2%), with a nearly equal gender distribution of which retirees are 26.3%. Cardiovascular illness and hypertension account for the major associated comorbid conditions. Slurred speech 47.2% and expressive aphasia secondary to cerebrovascular accident 36.0% account for major clinical diagnosis. The outcome of care shows majority 71.1% defaulted to care. Slow recovery 46.3% and lack of social support 31.5% were the major challenges to accessing care by participants.

- ***Conclusion:***

Speech and language disorder are common in adults with cardiovascular accident with hypertension as the major predisposing factors. Slow recovery and lack of social welfare were major challenges of accessing care for the participant, resulting in a high level of default in care. Retirees are more affected due to absence of social care for older citizens. Slurred speech and expressive aphasia were the major speech and language disorders.

Keywords: *Speech and Language Disorders, Pattern, Challenges of Care.*

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I. INTRODUCTION

A speech and language disorder refer to an impairment in a person's articulation of speech sounds, fluency, voice, comprehension and use of spoken, written or other symbol systems (American Speech-Language-Hearing Association [ASHA], 1993). A systemic review of the literature related to screening for speech and language delays conducted in the United Kingdom revealed the prevalence of speech and language disorders to be 2-25% of children with a median prevalence of 5.95% (Law, et al., 2000). Another study at Lagos University Teaching Hospital with children between ages six months and fifteen years with communication disorders in Nigeria revealed that out of their 184 participants, hearing impairment was documented in 65%, speech disorders in 30%, rhinolalia (a nasal quality in speech) in 2%, and stuttering in 2% of the children. Of those with hearing impairment, 70% were considered to have delayed speech and language skills and of those with speech disorders, 79% had specific language impairment (Somefun, et al., 2006). Among 146 children and adults who were referred for speech and language therapy at the University of Ilorin teaching hospital in North Central Nigeria, it was noted that more than half (58%) of the patients were diagnosed of deaf-mutism (inability to talk), 20% were diagnosed as having delayed speech development, 4% with slurred speech pathology, while 13% impaired speech, 3% stammering/stuttering and 1% with aphasia. (Aremu, Afolabi, Alabi, & Elemunkan ,2011). Similar study by Adegbiji et al, 2019, found communication disorders prevalence in under 18years as 16.1% with male: female ratio 2.1:1. This study highlights that delayed speech and language were more common.

Most recent studies continue to underscore the high prevalence of speech and language disorders particularly among the younger population. Study by Akpan et al. 2024, on children with congenital disease in Southeast Nigeria found a significant higher prevalence of speech disorder (36%) compared to a control group (4%). Most of the data available were hospital based other than community based, hence may affect the prevalence in the general population There is no national survey prevalence in Nigeria except individual site-specific studies (Oparaodu and Ikenga, 2021)

Variety of factors can contribute to the development of speech and language disorders ranging from biological, environmental to neurological causes. In many cases, the exact cause is unknown, but a combination of factors is often at play. Fisher et al, 2003 in a study on twins found that family history can be a significant indicator, the twins study shows high heritability for this disorder which reveals a mutation in the FOXP2 gene linked to several speech and language deficits in some families

Physical and structural abnormalities such as cleft palate or lip, short frenulum, craniofacial anomalies and velopharyngeal insufficiency can affect communication. Hearing loss whether congenital or acquired from conditions such as chronic ear infection and viral infections can significantly hinder both speech and language development (Hardman et al., 2002)

Also, complications during pregnancy and birth such as low birth weight, premature birth and birth Asphyxia are known factors associated with increased risk of developmental delay affecting communication (Hardman et al, 2002). Neurological factors such as traumatic brain injury (TBI), stroke or neurodegenerative diseases result in speech or language disorders. Individuals with Autism Spectrum Disorder frequently have difficulty with both verbal and non-verbal communication. Environmental factors have been identified such as low socioeconomic status and less stimulating language environment have been linked to a higher prevalence of speech and language disorders (Hoff 2013)

Forms of speech disorders include articulation and phonological disorders, fluency disorders (stuttering and Clustering), voice disorders and motor speech disorders (aphasia and dysarthria) while language disorders include receptive language disorder, expressive language disorder, mixed receptive-expressive disorder and aphasia (ASHA 2015) This study is designed to study the recent patterns of speech and language disorders in a tertiary speech and language clinic.

II. METHODS & MATERIALS

This study is a retrospective study of patients with speech and language disorder managed for 5years (2014-2019) in a speech ang language clinic of Federal Medical Center Owo Ondo State, Nigeria. We assessed the clinical case files of all patients managed for speech and language disorders over the period under review. Ethical approval was obtained from the Hospital Research Committee. Sociodemographic profile, duration of illness and forms of speech and language disorders, associated medical conditions and challenges of care were obtained and analyzed using SPSS version 23 and presented the results in a simple descriptive format.

III. RESULTS

A total of 76 patients were managed during the five-year period.

Table 1 Sociodemographic Profile of Participants

Variable	**Category**	**Frequency (n)**	**Percentage (%)**
Age (years)	≤ 19	9	11.8
	20-39	2	2.6
	40-59	31	40.8

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	≥ 60	36	47.4
Gender	Male	40	52.6
	Female	36	47.4
Religion	Christian	69	90.8
	Islam	7	9.2
Occupation	Student	8	10.5
	Retiree	20	26.3
	Civil servants Farmer	18	23.7
	Trader	9	11.8
	Artisan	10	13.2
		11	14.5

- Note: Most participants were aged 40 years and above (88.2%), with a nearly equal gender distribution. Christianity was the predominant religion (90.8%). Most participants were retirees (26.3%) or civil servants (23.7%).

Table 2 Comorbid Medical Conditions of the Respondents

Variables	Frequency(n=76)	Percentage (%)
Cleft palate		
Yes	2	2.6
No	74	97.4
Birth Asphyxia		
Yes	6	7.9
No	70	92.1
Hypertension		
Yes	66	86.8
No	10	13.2
Autism		
Yes	3	3.9
No	73	96.1
Dementia		
Yes	1	1.3
No	75	98.7
Cardiovascular Accident		
Yes	65	85.5
No	11	14.5
Hearing loss		
Yes	1	1.3
No	75	98.7

Cardiovascular and hypertension account for the major associated comorbid conditions.

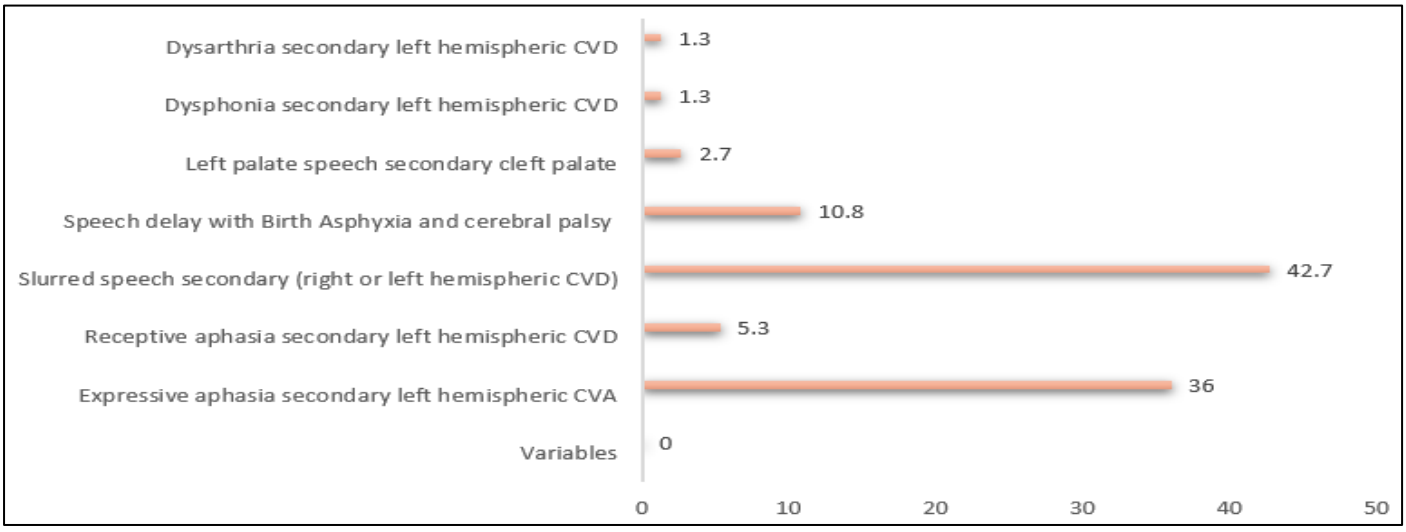

Fig 1 Clinical Diagnosis of the Participants

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Slurred speech and expressive aphasia secondary to cerebrovascular accident account for major clinical diagnosis of the participants.

Table 3 Outcome of the Respondents

Variables	Frequency (n=76)	Percentage (%)
Discharge	22	28.9
Defaulted	54	71.1

The outcome of care shows that majority 71.1% of the participants defaulted to care in the clinic.

Table 4 Association Between Sociodemographic Factors and the Outcome of the Care for Speech and Language Disorder

Variables	Outcome		Test statistics	P-Value
	Discharge	Defaulted		
Age (years)				
≤ 19 years	0 (0.0)	7 (13.0)	4.169	0.244
20-39 years (youth)	0 (0.0)	2 (3.7)		
40-59 years (middle age)	10 (45.5)	21 (38.9)		
≥ 60 years (elderly)	12 (54.5)	24 (44.4)		
Sex				
Male	11 (50.0)	29 (53.7)	0.086	0.769
Female	11 (50.0)	25 (46.3)		
Religion				
Christianity	19 (86.4)	50 (92.6)	Fisher's exact	0.406
Islam	3 (13.6)	4 (7.4)		
Tribe				
Yoruba	18 (81.8)	49 (90.7)	LR= 1.341	0.511
Igbo	1 (4.5)	2 (3.7)		
Others	3 (13.6)	3 (5.6)		
Occupation				
Student	150(57.3)	112(42.7)		
Retiree	23(46.0)	27(54.0)		
Civil servant				
Farmer	94(51.9)	87(48.1)	0.304	0.550
Artisan	14(51.9)	13(48.1)		
Trading	5(55.6)	4(44.4)		

No association between the sociodemographic profile and Outcome of care.

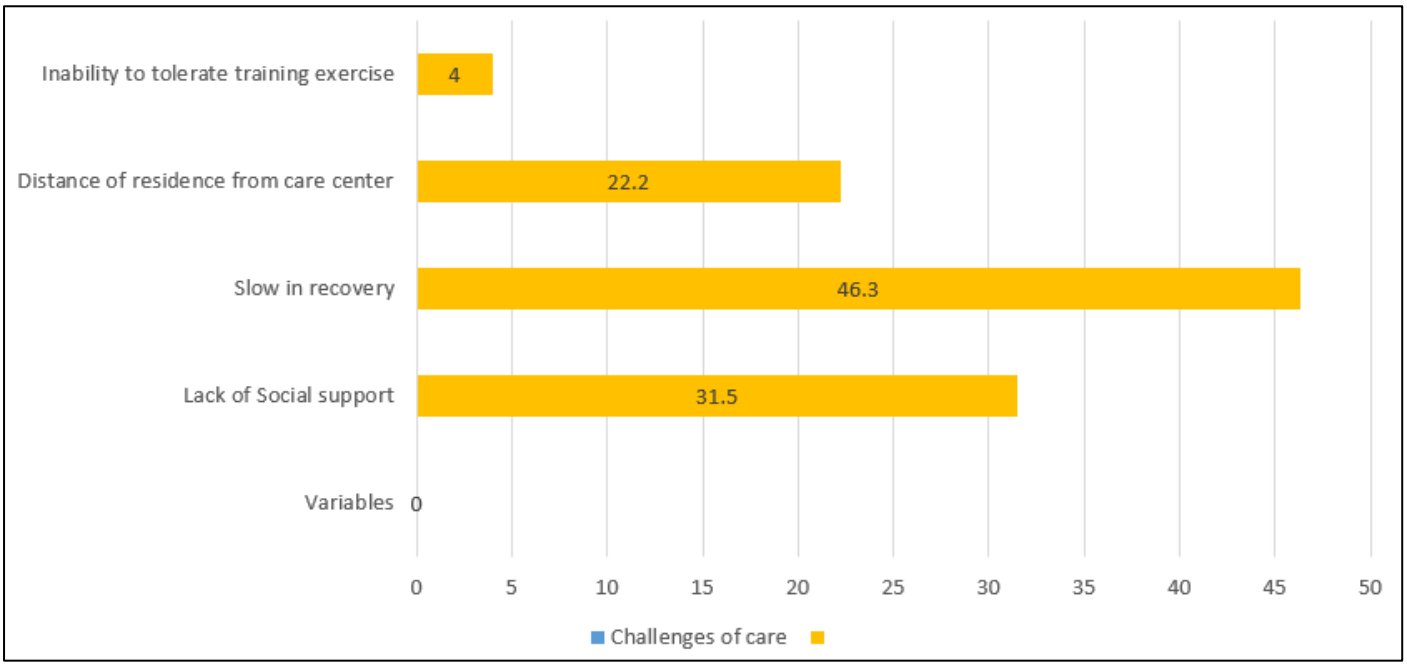

Fig 2 Challenges of Care. Majority (46.6%) Defaulted Care Due to Slow Recovery of Speech and Language Disorder

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IV. DISCUSSION

The study shows no significant difference in males and female preponderance, ratio 1:1 which is contrary to study by Adegbiji et.al that recorded ratio 2.1:1 this may be due to equal awareness of the pathology and care among both genders. Speech and language pathology are found more in adults >60years (47.4%) in this study. Previous hospital-based studies revealed more prevalence among younger age groups Adegbiji 2019 & Somefun, 2006). This finding may be due to more adults now seeking care compared to the past years.

The study also shows that retirees are more affected (26.3%). There is no study that has shown increase prevalence among retirees than those who are still in active service. This may be due to lack of social support for the retirees in the country. This study shows the dual burden of the speech and language disorders in a tertiary hospital in Nigeria. In children, delayed developmental disorders with associated delayed speech account for 10.5% of speech and language disorders, however, children with speech and language disorders were not predominant contrary to the global reports (Law et.al, 2000). This may be due to affluence of lifestyle of the adults that predisposed them to neurogenic disorders.

In adults, slurred speech following cerebrovascular disease (CVD) was the most common disorder that accounts for 42.7% of the participants followed by asphyxia which is 41.3%. This is higher than 38% that the previous study reported (Engelter et al, 2006). Dysarthria and Dysphonia were also notable. The high frequency of comorbid medical conditions such as hypertension and cardiovascular accident (stroke) underscores the complex need of patients requiring multidisciplinary care in preventing speech and language disorders. This is similar to the findings by Mitchell et al, 2020.

There is a high number of participants, 71% who defaulted from continued care. This was attributed to slow recovery from the neurological deficit. Slow recovery and lack of social welfare account for the major challenges of caring for patients with speech and language disorders. Stransky and Morris, 2019 reported similar challenges faced by participants. Age, sex, occupation and religion do not have influence on the outcome of care among the participants. Since speech and language disorder cut across all socioeconomic groups.

V. CONCLUSION

Speech and language disorder are common in adults with cardiovascular accident with hypertension as the major predisposing factors. Slow recovery and lack of social welfare were major challenges of accessing care for the participant, resulting in a high level of default in care. Retirees are more affected due to absence of social care for older citizens. Slurred speech and expressive aphasia were the major speech and language disorders.

- Conflict of Interest. There is no conflict of interest

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