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## PREVALENCE OF SPEECH AND LANGUAGE DISORDERS IN A TERTIARY CARE HOSPITAL: A RETROSPECTIVE STUDY

### ABSTRACT:

#### Objective:

The objective of the study is to identify the prevalence of various types of speech, language and communication disorders in patients visiting Audiology and Speech Language Pathology Unit of ENT Department of Tribhuvan University Teaching Hospital.

#### Materials & Methods:

A retrospective study was carried out using the secondary data of the patients visiting the Audiology and Speech Language Pathology Unit, Department of ENT- Head and Neck Surgery, Tribhuvan University Teaching Hospital for duration of one year from May 2016 to April 2017. The data were entered and analyzed in MS-Excel. Ethical approval was taken from the Institutional Research Committee.

#### Results:

Out of the total 447 patients with speech disorders, 9.84% were of pediatric age group and 90.16% of the patients were of adult age group. Similarly, out of 142 patients of language disorders, 73.23% were pediatric group and 26.77% of the patients were adults. Speech disorder was more common than language disorder as a whole. Disorder of misarticulation was the most common speech disorder in pediatric population and voice disorder was the most common speech disorder in adult population. Similarly, in pediatric population language delay due to hearing loss was most prominent language disorder followed by intellectual disability and cerebral palsy whereas, aphasia being the only language disorder in adult.

#### Conclusion:

Misarticulation and language disorder due to hearing loss is more common speech and language disorder in pediatric population whereas, in adult population voice disorder and aphasia were found to be more common.

**Keywords:** Disorder, Language, Speech

## INTRODUCTION

Communication is a skill that a person acquires as a part of normal speech and language development and it keeps on growing from birth throughout the life. Development of speech and language depend on adequate biological development, social and emotional wellbeing as well as proper stimulating environment.<sup>1</sup> Communication using speech and language makes human unique among all creatures.<sup>2</sup> Any disturbance in speech and language can lead to communication disorder. It can be formative or acquired.

Speech Disorder is a weakness of the explanation of dialogues, sounds, familiarity or potentially

voice. The types of speech disorder include an articulation disorder, a fluency disorder and a voice disorder. Language Disorder is hindered cognizance or potentially utilization of spoken, composed and additionally other image frameworks. The problem may include in the form of language (phonology, morphology, and syntax), the content of language (semantics), and the use of language (pragmatics).<sup>3</sup>

Various researchers have studied the incidence and prevalence of speech language and communication disorders in different population. However no such studies have been conducted in context of Nepal to identify the nature of speech and language disorders in Nepalese

population. So, the present study is aimed to identify the varieties of speech and language disorders in patient visiting the Audiology and Speech Language Pathology Unit, ENT-Head and Neck Surgery Department of Tribhuvan University Teaching Hospital (TUTH).

## MATERIALS AND METHODS

This retrospective study was carried out using the secondary data of the patients visiting the Audiology and Speech Pathology Unit, Department of ENT- Head and Neck Surgery, Tribhuvan University Teaching Hospital for duration of one year from May 2016 to April 2017. The data were entered and analyzed in Microsoft-Excel sheet. Ethical approval was taken from the institute review committee.

## RESULTS

Out of the total 447 patients with speech disorders, 44 (9.84%) patients were of age less than 14 years old and were kept under pediatric group and 403 (90.16%) patients were of age above 14 years old and were kept under adult group (Table 1). Similarly, out of 142 patients with language disorders, 104 (73.23%) patients were of pediatric and 38 (26.77%) patients were of adult age group (Table 2).

Table 1: Frequency of Speech Disorders in pediatric and adult patients

Number of Speech Disorder Patients		
	Frequency	Percentage
Pediatric	44	9.84%
Adult	403	90.16%
Total	447	100%

Table 2: Frequency of Language Disorders in pediatric and adult patients

Number of Language Disorders Patients		
	Frequency	Percentage
Pediatric	104	73.23%
Adult	38	26.77%
Total	142	100%

Table 3: Types of Speech disorders in pediatric patients

Speech disorders in Pediatrics		
	Frequency	Percentage
Misarticulation	41	93.19%
Normal non fluency	3	6.81%
Total	44	100%

Out of the total 44 pediatric speech disorder patients, 41 (93.19%) had misarticulation and 3 (6.81%) had normal non-fluency (Table 3).

Table 4: Types of Speech disorders in adults

Speech disorders in Adults		
	Frequency	Percentage
Voice	311	77.18%
Stuttering	70	17.37%
Dysarthria	22	5.45%
Total	403	100%

Out of the total 403 adult speech disorder patients, 311 (77.18%) had voice issue, 70 (17.37%) had stuttering and 22 (5.45%) had dysarthria.

Table 5: Causes of language disorders in pediatric patients

Language disorders in Pediatrics		
	Frequency	Percentage
Hearing loss	38	36.53%
Cerebral Palsy	9	8.65%
Intellectual disability	16	15.38%
Seizure's disorder	7	6.73%
Attention deficit hyperactivity disorder	8	7.70%
Global development delay	1	0.96%
Receptive expressive language delay	8	7.70%
Autism	3	2.89%
Down's syndrome	3	2.89%
Expressive language delay	11	10.57%
Total	104	100%

Among total 104 pediatric language disorder patients, 38 (36.53%) had hearing loss as cause of language disorder (Table 5).

**Table 6: Causes of language disorders in adults**

Language disorders in Adults		
	Frequency	Percentage
Aphasia	38	100%
Total	38	100%

All 38 adult patients with language disorder aphasia (Table 6).

## DISCUSSION

Communication is a very important skill for expressing and understanding. Any disturbance in speech and language leads to communication disorder. Communication disorder can occur by birth or can be acquired at any stage of life. Speech Disorder is a weakness of explanation of dialogues, sounds, familiarity or voice whereas language disorder is a difficult for expressing oneself and understanding others.

This was a retrospective study carried out to determine varieties of speech and language disorders in a tertiary hospital. This study revealed that speech disorder was more common than language disorder as a whole. Disorder of misarticulation was the most common speech disorder in pediatric population and voice disorder was the most common speech disorder in adult population. Similarly, in pediatric population, language delay due to hearing loss was the most prominent language disorder followed by intellectual disability and cerebral palsy whereas, aphasia was the only language disorder in adult. Dey et al. reported 43% of the adult patients had Speech and Language Disorder with disorder of misarticulation followed by stuttering and 41% of pediatric patient had delayed speech and language due to hearing loss followed by Intellectual Disability and Cerebral Palsy.<sup>4</sup> Boyle et al. found higher prevalence of Intellectual disability and Cerebral palsy in his study. However the prevalence of Hearing loss was more in male children.<sup>5</sup>

The prevalence of the adult patients having voice disorder was found to be 77.18% in our study. Roy et al. found the lifetime prevalence of Voice Disorder in adult was 29.9%.<sup>6</sup> This study also found 5.45% of the patients had dysarthria and

26.77% had aphasia. Heather et al. found no difference in dysarthria and aphasia following stroke.<sup>7</sup> In this study, the prevalence rate of autism was 2.89%. The study also found 17.37% of adult patients had stuttering. Drayna et al. reported 2% of the adult population had stuttering.<sup>8</sup> There were 8.65% of the patients with cerebral palsy in this study. Thapa R. reported 29% of the children with Dyskinetic Cerebral Palsy as speech disorder in his study.<sup>9</sup>

In our study language disorder were more common than speech disorder in pediatric population. Thapa et al. found 8.1% of the school going children had speech and language disorder.<sup>10</sup> Likewise, in a study conducted by Disability Research Centre, Kathmandu University in 2016, 12.6% of the population had Speech and language Disorder.<sup>11</sup> In a similar study by Thapalia, 58,855 were noted as a Speech Disorder Disability and 75,307 were noted as Hearing Disability.<sup>12</sup>

This study showed that among all the communication disorders in pediatric population, misarticulation and language disorder due to hearing loss were most common speech and language disorders. This may be due to the fact that the symptoms of these disorders were easily visible. Similarly, in adult population, voice disorder and aphasia were the most common. The frequency and the pattern of voice used by adult may be the reason for more voice disorders in adult.

This study being done at only one center can be considered as the limitation of this study similar studies should be conducted at multi-center hospitals to see the varieties of patients with speech and language deficit. This study also highlighted the need of awareness among public and extension of Audiology and Speech Language Pathology service throughout the different parts of the country.

## CONCLUSION

Misarticulation and language disorder due to hearing loss are the most common speech and language disorders in the pediatric population. Similarly, voice disorder and aphasia are the most common speech and language disorders in the adult population.

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