

# Speech intelligence among specially abled adolescents in selected special schools at Puducherry.

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**Abstract:** *Speech is essential to friendship and peer interactions. Poorly intelligible deaf child with far friends or poor quality social interactions may become lonely and expensive negative emotions that may impact both psychological development and quality of life. A descriptive study was carried out to assess the level of speech intelligence among specially abled adolescents at selected special schools in Puducherry. A total of 77 specially abled adolescents were selected by purposive sampling technique. The data was collected using the modified revised speech questionnaire. The study revealed that among specially abled adolescents, 17(22.1%) had moderate speech intelligence and 46(59.7%) had mild level of speech intelligence and 14(18.2%) has normal level of speech intelligence. Statistically significant association was found between gender with level of speech intelligence among specially abled adolescents at  $p < 0.001$  level. The study concluded that specially abled adolescents should be assessed at an early age and appropriate clinical interventions should be carried out to prevent negative thoughts and to improve psychosocial functioning.*

**Key words:** *Speech intelligence, Specially abled adolescents, Puducherry.*

## 1. INTRODUCTION:

Adolescents are facing greater challenges with their communication skills. The most important problem in studying specially abled children is difficulty in communication, social reaction, social attitudes towards specially abled children's and their emotions <sup>(1)</sup>

Communication is an important aspect of quality of life & speech is the primary means of human communications. <sup>(2)</sup> In adolescents with intellectual disabilities, speech communication is often troubled by disordered speech production and impaired hearing resulting in miscommunication and consequently impairing social interaction, possibly behavior problems and isolation. <sup>(3)</sup>

According to Stevens, there are four levels of measurement in terms of the tasks performed in speech intelligibility measures such as nominal, ordinal, interval and ratio. There are basically two kinds of tasks used to measure speech intelligibility. <sup>(4)</sup> One is the word identification tests, and other is the scaling procedures. The nominal level is accomplished when there is classification by determining the equality of the characteristics to be measured. The ordinal level is accomplished by using the ranking, it determine the higher or lower value of the characteristics to be measured. <sup>(5)</sup>

The interval level of measurement is accomplished by determine the equivalence of the characteristic to be measured. <sup>(6)</sup> World Health Organization (WHO), "The speech intelligibility prediction for hearing impaired listeners". It reports the disabilities of hearing impairment affects the 360 million people worldwide, which is increasing because of ageing population, current hearing aid technology is often ineffective at restoring speech intelligibility in noisy situations. <sup>(7)</sup>

Indian population shows that 56 and 44 percent of the total population of disabled persons. <sup>(8)</sup>

It reported that about 2.41 percent of the male population and 2.01 percent of the female population having a speech disability. In India prevalence of the disability was 2.2% rural area and 2 % in urban areas. <sup>(9)</sup>

Adolescent with better spoken language skills have significantly better peer relationship with fewer language skills. The impact will be reflected in the self-esteem and social functioning. <sup>(10)</sup> The present study was aimed to assess the level of speech intelligibility of the specially abled adolescents. The result may help to create better interventions improve the speech intelligibility of the adolescence in future.

## 2. MATERIALS & METHODS:

**Design:** A Descriptive Research design was adapted for the present study.

**Sample Size:** 77 adolescents between the age group of (12- 18) years studying in special schools at Puducherry.

**Sampling Technique:** Purposive Sampling Technique was used to select the sample.

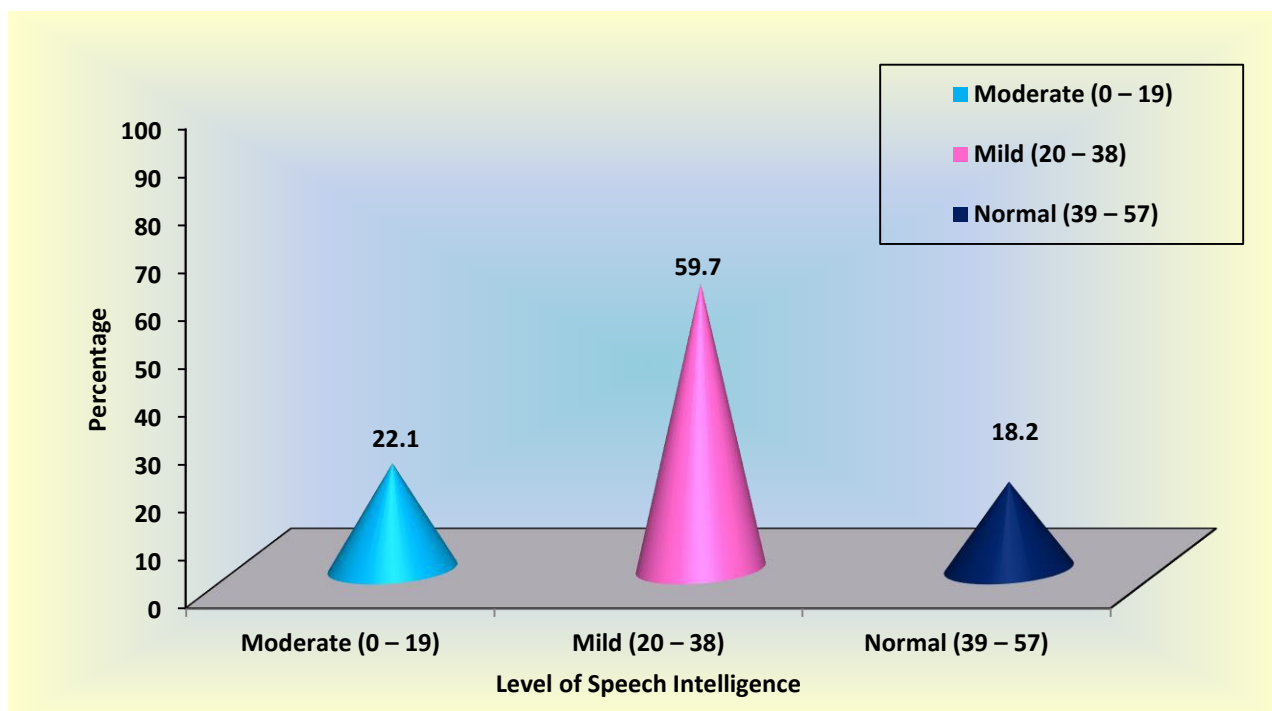
**Data collection Procedure:** The formal setting permission was obtained from Institutional Research committee and Institutional Ethical committee clearance (VMCNPDY/ IEC 2022/083) and the board members of selected special school at Puducherry and Purpose of the study was clearly explained to the adolescents. Oral and written consent were obtained from each adolescents and reassurance was provided that the data collected would be kept confidential. The data collection was conducted for the period of 1 week. Adolescents were seated comfortably and the questionnaire was issued to collect the data regarding their demographic variables and the revised speech questionnaire. The data were analyzed based on the objectives of the study using Descriptive statistics as frequency, percentage distribution, mean, and standard deviation and Inferential statistics as chi square test.

## 3. RESULTS:

Frequency and percentage distribution of demographic variables of specially abled adolescent, most of the specially abled adolescents, 28(36.4%) were aged between 12 – 14 years, 65(84.4%) were female, 76(98.7%) had mild degree of hearing impairment, 77(100%) had not used hearing aids, 44(57.1%) had an income of 15,000 to 20,000, 77(100%) were residing in urban area and 53(68.8%) were trained.

Frequency and percentage distribution of level of speech intelligence among specially abled adolescents, 17(22.1%) had moderate speech intelligence and 46(59.7%) had mild level of speech intelligence and 14(18.2%) has normal level of speech intelligence. (Figure 1)

Figure 1: Percentage distribution of level of speech intelligence among specially abled adolescents.



The mean score of speech intelligence was  $26.69 \pm 9.89$ . The median score was 24.0 with minimum score of 10.0 and maximum score of 50.0. (Table 1)

**Table 1: Mean and Standard Deviation of speech intelligence among specially abled adolescents.**

Speech Intelligence	Score
Minimum Score	10.0
Maximum Score	50.0
Median	24.0
Mean	26.69
Standard Deviation (S.D)	9.89

Association between the level of speech intelligence among specially abled adolescents with their selected demographic variables, gender ( $\chi^2=19.183$ ,  $p=0.001$ ) had shown statistically significant association with level of speech intelligence among specially abled adolescents at  $p<0.001$  level and the other demographic variables had not shown statistically significant association with level of speech intelligence.

#### 4. DISCUSSION:

A descriptive research design was used to select the sample; Total 77 adolescents between the age group of (12-18) years studying in special schools were selected by purposive sampling technique. The aim of the study was to assess the level of speech intelligibility of the specially abled adolescents.

**The first objective was** to assess the level of speech intelligence among specially abled adolescents. The result exhibited that, among the specially abled adolescents, 17(22.1%) had moderate speech intelligence and 46(59.7%) had mild level of speech intelligence and 14(18.2%) has normal level of speech intelligence. The mean score of speech intelligence was  $26.69\pm 9.89$ . The median score was 24.0 with minimum score of 10.0 and maximum score of 50.0. The present study was supported by the previous study of Paul B, Tressa J<sup>(1)</sup> (2018) on speech intelligibility and its influence on mental health among 105 specially abled adolescents in special schools at Karnataka the age group was between 16-18 years, This study revealed that half of the adolescent had abnormal mental health. There was no significant relationship between speech intelligibility and mental health, the majority 67.61% had the poor speech intelligibility, 57.1% had the profound speech intelligibility  $p=0.0391$ ,  $p=0.09$  respectively.

**The second objective was** to find the determine the association between the level of speech intelligence among specially abled adolescents with selected demographic variables. The result depicts that, the demographic variable gender( $X^2=19.183$ ,  $p=0.001$ ) had shown statistically significant association with level of speech intelligence among specially abled adolescents at  $p<0.001$  level and the other demographic variables had not shown that significant association with level of speech intelligence among specially abled adolescent. Hypothesis ( $H_1$ ): From the above results it was clear that, there was significant association between the level of speech intelligence among specially abled adolescents with the Gender as one.

#### 5. CONCLUSION:

The study concluded that specially abled adolescents had mild level of speech intelligence. Foot care and foot assessment should be promoted for preventing diabetic foot problems. By knowing the level of speech intelligence, tailored intervention can be provided by the nurses.

#### REFERENCES:

1. Freeman, V., Pisoni, D. B., Kronenberger, W. G., & Castellanos, I. (2017). Speech Intelligibility and Psychosocial Functioning in Deaf Children and Teens with Cochlear Implants. *Journal of deaf studies and deaf education*, 22(3), 278–289.

2. Marjolein C. Coppens-Hofman, Hayo Terband, Ad F.M. Snik, Ben A.M. Maassen; Speech Characteristics and Intelligibility in Adults with Mild and Moderate Intellectual Disabilities. *Folia Phoniatr Logop* 23 March 2017; 68 (4): 175–182.
3. Beth Spunt and Manjula Marella , enabling human rights for Fijian students with speech difficulties.2018, Jun 15; 12(6):e8636.
4. Sunil Kumar Ravi, prevalence of communication disorder among school children in Ballari, South India, 2021.Jan 17; 4706720.
5. National Statistical office Ministry of Statistical and Programme Implementation, 2021 Feb 15; 6(1):37-53.
6. Recognizing a treating speech and language, 2023 Apr; 198:110623
7. Muller N. Picture Description in the Assessment of Connected Speech Intelligibility in Parkinson’s Disease: A Pilot Study. *Folia Phoniatr Logop*. 2022;74(5):320–34.
8. Carl M, S levy E, Icht M. Speech treatment for Hebrew -speaking adolescents and young adults with developmental dysarthria. 2022, Mar 15; 2020:4106383
9. Rhebergen S. performed the Extended Speech Transmission Index. 2022 Apr-Jun; 8(2):124-9.
10. Bent T, J Acoust sam. Intelligibility of medically related sentence in quiet, speech shaped noise and hospital noise: 2022 Mar13 (2): 1073.
11. Paul B, Tressa J Treatment of speech sound disorders in children: Nonspeech oral exercises. *Int J Pediatrics Adolescents Med*. 2018; 8(1):1–4.