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Language Learning Disability in Identical Twins

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Abstract

The present study reveals the details of a pair of identical twins with idioglossia and Language Learning disability. The children were evaluated by a multidisciplinary team consisting of an Otorhinolaryngologist, Neurologist, Audiologist, Speech Language Pathologist and Psychologist. Both children showed idioglossia, a history of delayed speech and language milestones, misarticulations and dysgraphia. There was an association between their misarticulations and the spelling errors. It is suggested that oral production is essential for later writing skills to develop. Both the children had exceptionally good skills in Mathematics. Early identification and intervention of twins with language delay is crucial.

Introduction

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“Twin language”, called idioglossia, is a well-documented phenomenon among twins. (Lewis & Thompson,1992). Idioglossia also known as Cryptophasia or Autonomous language refers to twin language which describes the way two or more close siblings use words that are largely unintelligible to others. Twins tend to mimic one another’s immature speech patterns. Because both twins are developing at the same rate, they often reinforce each other’s’ communicative attempts and increase their own language. Singletons also use invented words, adult intonation patterns and onomatopoeic expressions during language development, but such utterances usually diminish more quickly as they are not reinforced. Although twin language may sound unintelligible to adults, twins typically understand one another.

Late onset of speech, and speech and language difficulties, including stuttering, are more common in twins than in singletons. The language consists of onomatopoeic expressions and some invented words. These words may be hardly recognizable and the language may turn out to be completely unintelligible to speakers. They lack morphology, and the word order is based on pragmatic principles such as the use of content words which convey the meaning of what they want to express. It is also reported that they exhibit short mean length of utterances (Mc Evoy and Dodd, 1992).Twins are more likely to demonstrate delays in speech and language skills, with males typically showing a six-month greater lag than females (Lewis & Thompson, 1992). Language delays are typically characterized by immature verbal skills, shorter utterance lengths, and less overall verbal attempts.

There are controversies regarding the cause for speech and language problems in twins. Several studies have attempted to determine whether biology or environment has a stronger influence in the language development of twins. Bowen (1999) has found that premature birth and low birth weight are more common among twins than singletons. Akermann and Thomassen (1991) compared a group of twins and singletons and found that low birth weight accounted for differences on standardized language and locomotor tests. On the other hand there are also studies which suggest that linguistic environment influence the language development in twins. Tomasello, Michael; Mannle, Sara; Kruger, Ann C. (1986) investigated differences in the language learning environments of singletons and twins. Findings revealed that twins were lower than singletons on all measures of language development and that their language learning environments were significantly different. Although twin mothers spoke and interacted with their children as much as singleton mothers when twins were analyzed together, but when analyzed as individuals, twin children received less speech directed specifically to them. Twins participated in fewer and shorter episodes of joint attentional focus, and had fewer and shorter conversations with their mothers. According to Lytton (1980) and Conway, Lytton and Pysh (1980),

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environmental variables, such as the amount of verbal interaction with parents, have a greater impact.

CASE A and CASE B were sixteen year old right handed monozygotic twin pairs, born of a nonconsanguineous parentage. Both of them had history of idioglossia and delay in the speech and language milestones. Their mother tongue was Malayalam (Malayalam is a Dravidian language spoken in the state of Kerala) and had English as their medium at school. Neurological evaluations and ENT (ear, nose, throat) evaluations were unremarkable for both the children. On WISC (Wechsler's intelligence scale for children) CASE A scored a verbal IQ of 87.3 and a performance IQ of 86.8 and CASE B scored a verbal IQ of 86.5 and performance IQ of 83.2. Both the children had exceptionally good skills in Mathematics. Audiological evaluations revealed normal hearing in both children. Both of them had misarticulations. Omission of the fricatives and retroflex sounds were found. The atypical phonological processes that occurred most commonly included voicing errors and cluster reduction. The writing errors were almost similar for both the children and the errors mirrored their articulation errors. The errors in writing included deletion of fricatives and retroflex (eg microscope for microscop, apartment for apartment), voicing errors (eg bucket for pocket, backbone for backbone), phonological agraphia (eg laf for laugh, eyelent for island, nife for knife and they could not write any of the nonwords) and sequencing errors of letters.

Discussion

The present study has discussed the various speech and language characteristics of monozygotic twin children. Detailed assessment revealed language, articulation and writing problems. Children with early language and articulation difficulties (specific language impairment) can have reading and writing problems (learning disability) as they grow older. Hence they are also called language learning disabled.

The type of language, articulation as well as writing errors were similar in both the children. These findings are in support of earlier studies of Matheny, A. P., Jr., and Bruggemann, C. (1972) who did a comparative study of articulation on two hundred sixty-three twins and 94 singletons from families of twins using the 1960 version of the Templin-Darley Screening Test of Articulation for three to eight year olds. The within-pair similarities of articulation errors were significantly greater for male identical twins than for male fraternal twins. No such difference was found between the female identical and fraternal twins. Luchsinger (1953, 1961) also reported that the similarity of articulation errors is greater for monozygotic twins compared to dizygotic twins.

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There was an association between their misarticulations and the spelling errors. Misarticulations observed in these children were Omission of the fricatives and retroflex sounds and atypical phonological processes like voicing errors and cluster reduction. The writing errors were almost similar to that of their speaking errors. The lexical errors in writing included deletion of fricatives and retroflex (for example, microcope for microscope, appatment for apartment) , voicing errors (for example, bocket for pocket , bagbone for backbone), phonological agraphia (laf for laugh, eyelent for island, nife for knife). These children could not write any of the non-words and had sequencing errors of letters. It is suggested that oral production is essential for later writing skills to develop.

Children with early language delay can have reading and writing problems (learning disability) as they grow older. Therefore all twins and multiple birth children should be closely monitored for the susceptibility of Language Learning disability.

Conclusion

The present study has focused on the speech and language characteristics of monozygotic twins. Twins have been reported to exhibit deficiencies in one or more aspects of speech and language including language, articulation and writing skills. The speech and language delay in twins need early identification and intervention before it affects the later developments in the academic skills.

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