



Cognitive Impairment And Delayed Behavioral Milestones In Deaf Children- A Perspective

Dr. Abhishek Das, Dr. Ankit Halder, Dr. Navna Panchami, Dr. Gautam Raghu

(Post Graduate Resident, Department of Pathology, DY Patil Medical College and Hospital, Kolhapur)

(Post Graduate Resident, Department of Psychiatry, DY Patil Medical College and Hospital, Kolhapur)

**(Post Graduate Resident, Department of Psychiatry, DY Patil Medical College and Hospital, Kolhapur)*

(Post Graduate Resident, Department of ENT, Medical College, Kolkata)

Submitted: 15-05-2021

Revised: 26-05-2021

Accepted: 28-05-2021

ABSTRACT: Hearing is one of the primary senses by which we perceive the external world. Our behavioral and psychological development are dependent on it to a great extent. Developmental and behavioral milestones are seriously impaired in congenitally deaf children. Difficulty in formation and maturation of thought bubble goes a long way explaining such delays in milestones and impairment in different domains of life for these growing sensory deprived children. Further sample based study is warranted into this.

KEYWORDS : Hearing Milestones Sensory Deprived

I. INTRODUCTION

Developing children's explicit understanding of mental states grows rapidly in the preschool years. The theory of mind (ToM) covers increased insights into one's beliefs, desires, emotions and perception including awareness of how such mental states determine the intentional actions of oneself and others. Initial implicit understanding of some of these concepts starts in infancy but developments in the years from 3 to 6 are prominently pronounced. Sense of hearing helps in human development in many ways. Hearing gives the child the acoustic correlates of the world around them. Hearing also helps the child to revel in the patterned complexity of a Beethoven symphony or to simplicity a mother's lullaby. Children who are born deaf are cognitively deprived of it to a lot extent. However, hearing conveys much more to the growing child than the acoustics of the physical world. Hearing is the sensory modality through which children perceive speech—that binds individuals, families together. In children born with congenital deafness, sensory impairment leads to reduced perception of the surrounding world which leads to progressive cognitive impairment and delayed psychological and behavioral milestones.

II. DISCUSSION

In the early years of life mostly preschool years a children's understanding of mental states develop rapidly. Theory of mind (ToM) includes heightened insights into one's cognitive faculties including awareness of how such mental states shape the intentional actions of self and others. Initial implicit understanding of some of these concepts begins in infancy [1] but developments in the years from 3 to 6 are particularly pronounced and important. Developing children make notable achievements of a representational theory of mind, that includes mastery of explicit false belief tasks. Progress on such tasks has implications on the real world. ToM mastery predicts preschool children's social competence [3], and skilled interactions that includes abilities to play games like hide-and seek [2] and social pretend play. Preschool acquisition of explicit Theory of mind (ToM) understanding, constitutes an important social-cognitive achievement.

A review of over 20 studies demonstrated that minority of profoundly deaf children with hearing parents passed standard false belief tests even at mean ages of 10 or 11 years [3]. The deaf children in these studies were having hearing loss and were typically of normal intelligence and sociability.

Although most deaf children have hearing parents, about 5% have a deaf parent and are able to converse as early and as naturally in sign with parents and siblings as hearing infants and toddlers do in speech. Such native signers achieve false belief understanding and other milestones of Theory of mind (ToM) development on the same early timetable as compared to the hearing children. Thus the severe Theory of mind (ToM) delays for deaf children with hearing parents are not a consequence of deafness per se, but because of growing up deaf in the closed conversational world of a hearing family. [3]



Deaf children not yet been exposed to sign or spoken language, make their own means of gesture communication for the . The phenomenon is known as homesign. Deaf child makes statements and requests by combining points with iconic gestures to communicate with hearing family members by varying degrees of frequency[3]

Children having bilateral hearing losses that are severe or profound are referred to as deaf. They cannot hear conversational speech and due to this spontaneously learn to talk. It halts the development of spoken language . Cognitive development gives more than maturation of the child's brain. It is the product of the child's attempts to understand his surroundings which is crucial for rapid brain growth and learning. The effects of deafness on cognitive development are quite diverse and complex due to the various ways in which families, societies, and interact with children who are born deaf and hence do not spontaneously learn to talk and comprehend speech.[4]

Typically-developing pre-schoolers easily understand thought-bubbles by age 3 and 4 years .. It was found that no deaf child needed repeated training or demonstrations on these initial thought-bubble concepts to be correct (and advance on to the further stages). In contrast, 74% of children in the training group did need repeat training and demonstrations to master the Theory of mind (ToM) concepts .However, even at these more advanced age, none of these necessary additional training trials were prompted by any error by any child in interpreting pictorial thought-bubbles more basically as depictions of protagonists' thoughts. Thus there is a gray area regarding progressive cognitive Impairment and delayed behavioral milestones in sensory deprived children. Future research should examine training with younger deaf children.[3]

III. CONCLUSION

To summarize, the particular kind of Theory Of Mind(ToM) training via thought bubbles that were investigated with deaf children, along with the quasi-microgenetic and developmental-scaling methods that were used, provided theoretical and practical information about ToM development in deaf children of hearing parents. The data additionally offered a number of useful insights about the nature and mechanisms of conceptual change more generally, worthy of further investigation.

In children born with congenital deafness, sensory impairment leads to reduced perception of the surrounding world that leads to progressive cognitive impairment and delayed psychological and behavioral milestones. Further studies into this is warranted.

REFERENCES

- [1]. Brandone AC, Wellman HM. You can't always get what you want: Infants understand failed goal-directed actions. *Psychological science*. 2009 Jan;20(1):85-91.
- [2]. Lavoie J, Talwar V. Care to share? Children's cognitive skills and concealing responses to a parent. *Topics in cognitive science*. 2020 Apr;12(2):485-503.
- [3]. Wellman HM, Peterson CC. Deafness, thought bubbles, and theory-of-mind development. *Developmental psychology*. 2013 Dec;49(12):2357.
- [5]. Mayberry RI. Cognitive development in deaf children: The interface of language and perception in neuropsychology. *Handbook of neuropsychology*. 2002;8(Part II):71-107.