

A CASE STUDY OF PSYCHOEDUCATIONAL INTERVENTION FOR LANGUAGE LEARNING

Fabio Corsi, & Ivan Traina

Department of Human Sciences, University of Verona (Italy)

Abstract

This paper presents a case study focused on psychoeducational intervention for supporting language learning. It concerns a child that lost about 80% of hearing functioning at 11 months age, caused by an occlusive otitis. Despite successful surgery, the child didn't learn to talk. The paper's objective is to briefly describe the psychoeducational intervention used. This was based on inclusive practices aimed to develop language skills, and carried out by an interdisciplinary team in collaboration with primary school teachers. The methodology used for describing the case study consisted of a naturalistic observation that allowed collecting information on changes as result of the intervention. This permitted the analysis of the insights generated through practical experiences, and to find evidence in research on language learning. Also, the results emerged through the observation of this case study provided useful elements for encouraging the exploration of psychoeducational intervention's potentiality, and inspire future trajectories of research.

Keywords: *Case study, Auditory Processing Disorder, psychoeducational intervention, language learning, inclusive practices.*

1. Introduction

The language has specific characteristics such as creativity, structure, content (e.g. morphology, grammar, emotion). Also, speech recognition requires high performance of the auditory system. Some pathological processes can interfere in its understanding or production. For example, the form and content of language can be altered by lesions of central or cortical structures, aphasia as well as sensorineural deafness or psychiatric pathologies. Regular and universally widespread stages in language learning have been observed in different cultures. What is unclear is whether language learning derives from specific and dedicated nervous structures or from general cognitive abilities (Mayeux, 2001). This article analyzes the interference of a pathological event and how psychoeducational intervention can provide useful elements for rehabilitation and creation of an inclusive environment facilitating the development of communication and expressive skills.

2. Background

This paper presents the case of a child who became temporarily deaf due to an occlusive otitis that caused the loss of about 80% of hearing functioning. It happened from 11 months to 2nd year of age, an important phase for language development. Initially, the family noted many differences in relationship and behavior if compared to his twin brother. In fact, this child developed closures and stereotypes that compromised his relational and cognitive development.

After some surgical interventions, the follow-up tests (such as impedancemetry, auditory evoked potentials, cortical magnetic resonance, etc.) confirmed a normal typical structure. Despite this, at the age of 3 years the child did not speak, had no eye contact, demonstrated mannerisms and motor stereotypes, as well as developed marked hyperacusis, screams and cries. In addition, he usually played alone (as stereotypical behavior), did not respond to verbal stimuli, was attracted by distant noises rather than the nearby ones, and did not produce any words (only stereotyped vowel sounds).

At the age of 40 months, the family requested the support of an interdisciplinary team composed of neuropsychiatrist, psychomotor therapist, speech therapist, music therapist, psychologist, and pedagogist. The request focused on motor and sensory rehabilitation as well as support the inclusion in the school environment.

3. Methodology

The methodology used in this paper consists of a naturalistic observation that allows to collect information on changes as result of the intervention (Furlong, 2010; Morgan et al., 2017). The adoption of this methodology has permitted us to analyze the insights generated through practical experiences and find evidence in study and research on the topic of language learning. Also, an action-research approach was used for defining a functioning profile in order to understand the child's auditory processing disorder, and how the brain processes auditory information. Through the application of the psychoeducational intervention a diagnosis of APD was defined – a neurodevelopmental disorder involving the processing of auditory information by the brain that occurs even if individuals with APD don't have impairments at outer, middle, and inner level of ear structure and function. The observation showed how sensory processing disorders lead to stereotypes and behavioral dysfunction that can benefit from an inclusive approach aimed to improve communication and social skills, as well as provide sensory rehabilitation. The elements gathered through the observation of this case study and the evidence emerged through the literature analysis on this theme, led to define the strengths of the psychoeducational approach when applied to address difficulties due to language learning.

4. Description of the psychoeducational intervention

The intervention began with a music therapist, who proposed eight psychophonic sessions for the re-education in sounds' recognition. At the end of sessions the child correctly imitated single sounds and rhythmic sequences. Also, the music therapist suggested using the Tomatis Auditory Stimulation method, which is performed by listening to music (Mozart and Gregorian Chants), mother's voice recording and other voices through an active vocal work, processed and filtered through an electronic device. Once the music therapist's intervention was concluded, different games were planned and implemented at home, in order to further develop the relationship with his brother and family members, and reduce the situations of isolation and stereotypy behaviors. The home intervention lasted two months, once a week. From clinical observations emerged that he interacted with his brother using eye contact, contextual smiles and consistent behavioral responses. In the domestic environment, he looked for games of movement (somersaults, being lifted high), or structured games such as exchanging toy cars, pushing the train. After this intervention, the Picture Exchange Communication System (PECS) was introduced at home and school, in order to allow the child to express his needs and choices. Concurrently, stereotypies and undesired behaviors significantly reduced, eye contacts increased, and the intentional use of communication appeared through the utilization of pictograms and the deictic gestures.

5. Results

After three months of intervention, the child started to express a form of intentional communication and consequently perceived his difficulties in communicating. This caused anger crisis with various problem behaviors. These behaviors were interpreted as a way to show his needs. Therefore, the interdisciplinary team decided to introduce as speech therapy the use of the Alternative Augmentative Communication (AAC), for promoting reciprocity in the communication with peers and adults, as well as complex communication structures. Through AAC the child started using basic symbols. The first symbol represented the meaning "again". This symbol allowed the child to express and generalize his own preference (for example about games, activities and foods). The second symbol learnt was "enough", used to express the willingness to end an activity or action. Other symbols used represented bathroom, ball, bubbles, crackers, biscuits, water. Initially the child had some difficulties in indicating the symbols chosen. This difficulty was reduced when the team suggested limiting the choice of symbols to two pictograms (binary choice) and providing physical gestures for helping his choice. Following the intervention the child learnt to express different words with a well-defined vocalization as "water", "mom", "dad". Also, vocalizations started to be composed of sounds he imitated when expressed by adults. In addition, he started to use deictic gestures for making requests (e.g. open hand), and sporadically expressing the "hello". Concerning the interactions with others, he started to accept the relationship with peers, teachers, parents, family members including his twin brother. And to accept teacher's proposals of different activities, such as coloring within borders, decoding and coupling of images, manipulation activities with objects (e.g. Lego). Moreover, he started to move in a functional way, respecting the spaces of others and accepting the presence of peers (e.g. on the same work table), sharing materials and exploring autonomously the school building, identifying places through PECS as classroom, gym, bathroom.

6. Discussion

During the observation of the psychoeducational intervention the communication ability improved, especially after the application of specific methods such as music-therapy, psychomotor games and augmentative alternative communication, demonstrating their effectiveness. Moreover, the adoption of the psychoeducational approach allowed the interdisciplinary team to focus on the functioning profile rather than the diagnosis. This profile, elaborated using the International Classification of Functioning (ICF) model has allowed to highlight needs, translate these into educational objectives to be achieved through the involvement of different actors (e.g. peers, teachers and family members) and the use of facilitating environmental factors (e.g. living environment and classroom setting). When the child has started to attend the primary school a new education program with new objectives to reach and competences to be acquired has been designed in order to improve the communication abilities. The activities proposed were psychophony using the Tomatis method, speech therapy and AAC. These activities allowed the identification of new communication needs and stereotypes to be addressed. Also, the first attempts to use and shape language allowed the development of relationships with teachers and peers.

7. Trajectory of future research

Future study could explore the effects of the intervention in other countries (this intervention was developed in Italy), since the topography of language skills for mastering communication can vary across cultures and locations. Therefore, it could be useful to further study the features of the psychoeducational approach that allowed the child to build the abilities for intentional communication with peers and adults. And in particular the combined effects of Tomatis method and speech therapy, that need to be further observed and investigated because there is a paucity of qualitative studies on this issue (Kuhl, 2007).

References

- American Academy of Audiology. (2010). Diagnosis, treatment and management of children and adults with central auditory processing disorder. *American Academy of Audiology: Clinical Practice Guidelines*. Retrieved 2017, January 16th from: <https://www.audiology.org/>
- Brbić, I., & Tomić, L. (2020). An integrative review of the effectiveness of the Tomatis method in children with Autism Spectrum Disorder. *RAD CASA – Medical Sciences*, 543, 49-56.
- Furlong, M. (2010). 'Clear at a distance, jumbled up close': Observation, immersion and reflection in the process that is creative research. In Liamputtong P. (Ed.), *Research methods in health: Foundations for evidence-based practice* (pp. 153–169). South Melbourne, Australia: Victoria Oxford University Press.
- Kuhl, P. K. (2007). Is speech learning 'gated' by the social brain? *Developmental science*, 10(1), 110-120.
- Mayeux, R., (1991). Language disorders in early childhood. In: E. R. Kandel, J. H. Schwarz and T. M. Jessell Eds., *Principles of Neural Science*, 3rd Edition, Amsterdam: Elsevier. pp. 858-870 (it.ed) pp. 840-851.
- Morgan, S. J., Pullon, S. R., Macdonald, L. M., McKinlay, E. M., & Gray, B. V. (2017). Case study observational research: A framework for conducting case study research where observation data are the focus. *Qualitative health research*, 27(7), p. 1060-1068.