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BEST PRACTICES AND CRUCIAL RECOMMENDATIONS FROM THE EVIDENCE REGARDING DEAFNESS AND DEAF EDUCATION

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ABSTRACT

This study has been supported by the generous funding of European Union Turkish National Agency as a part of Erasmus Plus program. Educators from 5 different countries investigated the best practices derived from the evidence of scientific studies worldwide. 9 most important recommendations have been outlined and explained in detail in this study. We believe that all educators in deafness and related fields must follow our recommendations in order to foster the development of educational practices.

Note: This article has been supported by European Union Turkish National Agency under Erasmus Plus program with a generous funding. The coordinator school Konevi School for Hearing Impaired (Turkey), partners Zavod za gluhe in naglusne Ljubljana (Slovenia), IES La Rosaleda, Instituto Enseñanza Secundaria La Rosaleda (Spain), University of Warwick (UK) and Equalizent Schulungs- und BeratungsGmbH (Austria) have been collaborated to write this study.

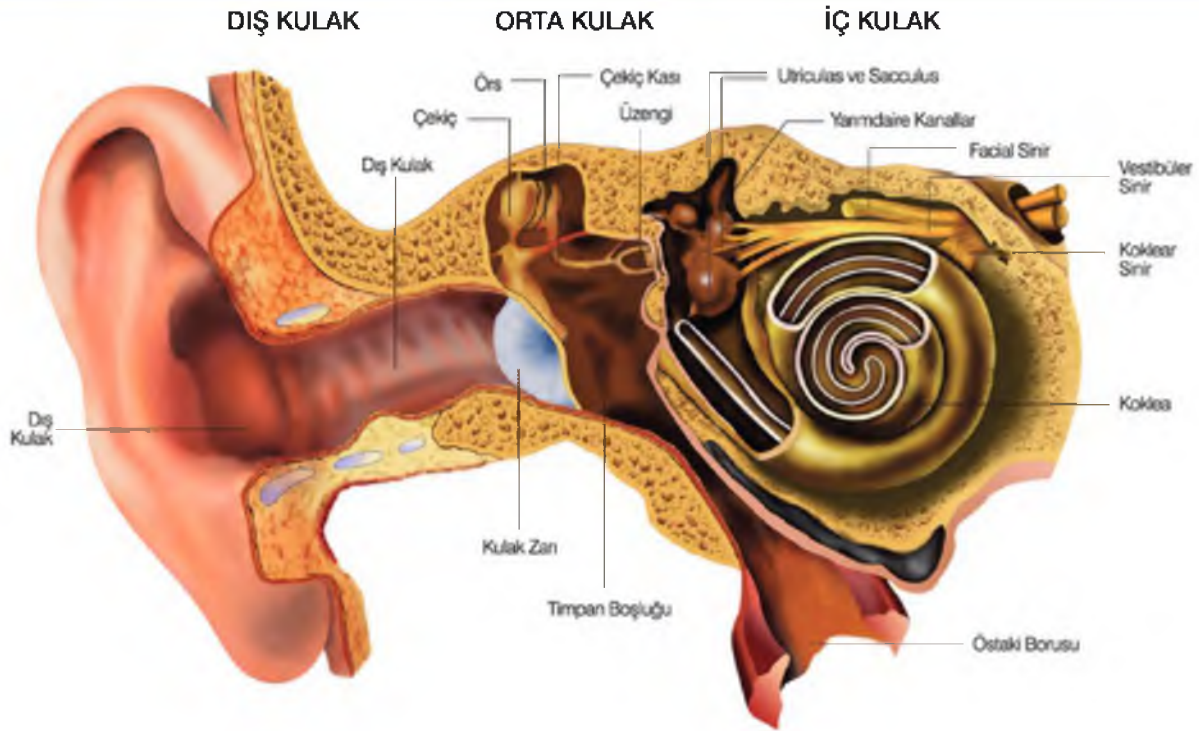
INTRODUCTION AND RECOMMENDATIONS

Overall recommendation: All deaf newborns and newly deafened small children should learn a sign language, regardless of whether they receive a CI or a hearing aid. Several more specific recommendations follow from this basic one.

- (1) Medical education must be updated and include linguistic considerations. Medical professionals should be trained in recent research about language acquisition, particularly with respect to the issues of linguistic deprivation for those children at risk, primarily deaf children. Medical schools, nursing schools, and schools of public health should include this information in their curriculum.
 - (2) Delivery of medical care to deaf children should be coordinated across the relevant health professionals, including audiologists, psychologists, surgeons, and rehabilitation teams. These teams should stay in constant contact with and respond to input from parents, sign language teachers, and classroom teachers. This way, the risk of linguistic deprivation can be caught early and responded to appropriately.
 - (3) Advice from medical professionals must be accurate and adequate. Parents of deaf newborns and newly deafened small children should be advised to teach their child sign language, regardless of whether the child also uses hearing aids or a CI. This means the entire family should learn sign language; and since the biological health of the language mechanism is at stake, this is properly a medical matter, so it is the medical profession's responsibility to tell the parents this. When the entire family uses sign language at the dinner table, for example, the deaf child has visual access and picks up on incidental information on a variety of topics. Developmentally, the inclusion of the child in family dialogues promotes healthy psychosocial and emotional functioning (Hauser et al. 2010). The deaf child is likely to feel included in family conversations and is less frustrated, as is commonly reported in other situations with communication barriers. This has been self-reported as having an important impact on the deaf youth's quality of life, and the perception of being included in family dialogues is associated with fewer reports of depression symptomatology (Kushalnagar et al. 2011). Deaf children whose hearing parents and siblings, particularly hearing mothers, sign with them demonstrate language expressiveness and theory of mind on a par with hearing children of the same age (Spencer 1993, Schick et al. 2007).
 - (4) More research needs to be done on second language learning, especially in a second modality. Second language learning is difficult for adults (Krashen 1981 and later work by many), perhaps even more so when the new language is in a different modality. Hearing relatives of a deaf child are going to need help in learning a sign language. Projects such as VL2 at Gallaudet University, for example, should be adequately funded.
 - (5) Deaf children should be brought into contact with deaf signing children and adults frequently. The family of a deaf child should not feel the burden of being good sign language models for the child. The important point is that family members engage in frequent, direct language interaction with the deaf child, but the family must understand that their own efforts will not be enough. Parents of deaf children should help them find other deaf children to socialize with in a common language—a community of others like themselves—without continual adult intervention in that communication.
- Individual interpreters, who act as surrogate teachers or even parents in the classroom, often have little contact with the deaf community. As a result, deaf students can be limited to dyadic groups for communication, which do not approach the richness and complexity of language as used by a larger community. It appears the optimal way to ensure the needed exposure is to participate in

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group discourse.

Given this, medical advisors must inform the family that the deaf child needs to be brought into contact with a community of deaf signers so as to be exposed to consistent and multiple models of signing on a regular and frequent basis. Families need to become informed about the local culture of Deaf people and help their child (and the whole family) to participate in Deaf events. There are good publications out there to help, like Lane et al. 1996, Padden & Humphries 2005, Bauman 2008, Bauman & Murray 2009, Marschark 2009, and Marschark & Spencer 2010, 2011, all of which provide substantial references.

(6) Advice from others outside the hearing sciences and medical profession must be better informed about pertinent language matters. These advisors include spiritual leaders, particularly since the risk of depression or other psychosocial stress on the part of deaf children and their parents may bring them to these leaders for guidance (Spahn et al. 2003, Turner et al. 2007, Mellon 2009, Kushalnagar et al. 2011). So schools of theology should include information on first language acquisition particularly as it pertains to deaf children in their curriculum. Others in counseling professions need to be similarly informed.

(7) Make sign language accessible to hearing parents and their deaf child. If a family of a deaf child does not have easy access to a signing community, they must take a very strong active role in providing their child with a sign language. First, the family must try to learn a sign language in the best way possible, which may require driving a substantial distance to classes. If the local community is small, the family can enlist the whole community in the effort to learn a sign language and to communicate with the deaf child in that sign language. A community might want to advertise for and hire a sign language teacher to come and stay in their community for an extended period of time, teaching everyone who is willing to learn. There are also multiple online sites and DVDs to help someone learn a sign language (see the websites of Dawn Sign Press in the United States, Forest Books in the United Kingdom, or Karin Kestner Verlag in Germany, for example2).

Second, the family should find out about camps for deaf children, where sign language is used and deaf children learn about and get welcomed into Deaf culture. Many such camps exist: in the United States they are scattered across the states; in Germany the German Deaf Youth Association and German Deaf Association of Hard-of-Hearing annually organize camps for Deaf and hard-of-hearing children and youth. Some have scholarships available. Some are for the entire family. There are various websites with up-to-date information on such camps (in the US: Summer Camps for Deaf and Hard of Hearing Children and Teens;3 in Germany: Bundeselternverband gehörloser Kinder e.V.4).

Third, the family must be resourceful. Since it is important that others sign with the deaf child, the family could start a sign language class with parents and children who are not deaf. If the family has relatives in a city with a thriving Deaf community, visiting or even arranging to spend time there may be a significant act that makes a world of difference to the child's development. The family might want to get online (using current video technology: Skype, FaceTime, gChat, ooVoo, Facebook, etc.) with someone who knows many people in the Deaf community to see if a Deaf family might like to come visit them for extended periods. The deaf child in one's home makes the home eligible to obtain a videophone setup from a video relay service. Alternatively, one can install videophone



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software in a home computer. With this setup, the family and the deaf child can talk in sign language directly via video to deaf people whom they meet and form stronger relationships. Sign language tutoring via videophone might even be arranged. These setups often cost nothing to the family except an internet connection. If the family has opportunities to live in an urban area that has a Deaf community, now might be the time to realize those opportunities.

These family responsibilities can be costly in a number of ways beyond money and time. Knoors and Marschark (2012) argue that using sign language can hinder family dynamics and that learning a sign language can be beyond the abilities of some family members, particularly older ones. We would suggest that, regardless of whether family members learn a sign language, a deaf child born into a hearing family always impacts family dynamics simply by virtue of the fact that the child is deaf. Further, every deaf child is entitled to be recognized and accepted as deaf and to develop their own identity as a deaf person. The United Nations Convention on the Rights of Persons with disabilities (2006) calls upon states to protect the rights of deaf children by 'facilitating the learning of sign language and the promotion of the linguistic identity of the deaf community' and by ensuring that their education 'is delivered in the most appropriate languages and modes and means of communication for the individual, and in environments which maximize academic and social development'. Knoors and Marschark (2012) point out further that bilingual education for deaf children has not had uniform success. However, the questions of how to ensure access to language in the early years of life and how to educate deaf children are distinct. Many and complex educational issues arise regardless of which kind of program a child enters (whether one of the various kinds of mainstreaming programs or one of the various kinds of bilingual/bicultural programs; see Ramsey 1997, Stinson & Liu 1999, Oliva 2004, Marschark 2009, and many others). We are confident that present and future efforts (including more research) will lead to better-qualified teachers using more appropriate and efficacious methods and materials (see Humphries 2013).

The fact remains, however, that the cognitive factor that correlates best to literacy among deaf children is a foundation in a first language. Much earlier work shows this, and the most recent findings continue to confirm it: Davidson and colleagues (2014) show that children with CIs who also sign perform better in standardized language testing than children with CIs who do not have exposure to a sign language. (Again, we choose not to interrupt the flow of the argument with a long list of earlier works, so instead mark the relevant references with three asterisks in the bibliography.)

(8) Government sources must fund sign language instruction for these families. Every human has a right to language (as we argue in Humphries et al. 2013). Therefore, instruction in a sign language should be funded by federal and state governments for all deaf children and their families. This funding should continue at least until the age of twelve.

(9) The current risks associated with CIs need to be reduced. The risks of harm associated with CIs should be more widely understood, and the current high risk of linguistic consequences due to using CIs only as a response to deafness in the family needs to be alleviated greatly by the use of sign language along with CIs. Cochlear implants run a host of risks beyond linguistic deprivation. All surgeries come with risks, and surgeries involving the brain may be particularly troubling. With CI surgery, many complications arise, including injury to the facial nerve, necrosis and breakdown of the flap, injury to hair follicles, improper electrode

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placement, postsurgery infection under the flap and in the middle ear, and meningitis (Cohen & Roland 2006, McJunkin & Jeyakumar 2010, Rubin & Papsin 2010, Thom et al. 2013). There is also a huge risk (40% to 74% of patients) of vertigo that can last for years (Steenerson et al. 2001, Walker 2008). The apparatus can fail, requiring repeated surgery with all of the same associated risks (Borkowski et al. 2002, Marlowe et al. 2010). Since many CI surgeries disable the cochlea (O'Reilly et al. 2008), the implanted ear loses whatever residual hearing it had; so if the CI does not offer language access to the child, then the surgery has, in fact, had a result contrary to its very intention. The harms of cochlear implant surgery are increasing as the popularity of binaural implantation goes up (Snow & Wackym 2009), while the claimed benefits have yet to be established (and see the results in Tyler et al. 2010). Further, some deaf and hard-of-hearing children are implanted even when they already recognize up to 30% of sentence material with or without a hearing aid (Tobin 1995), which is a better recognition rate than many children have post implantation. These children actually might be losing ground with respect to speech skills. And, finally, hearing aids do not present the surgical risks of CIs and may well offer comparable or better advantages with respect to speech development, depending on the particular needs of individual children (Figueras et al. 2008). We therefore believe that no child should be implanted unless implantation is accompanied by sign language, and there is a very strong chance that the child will have excellent oral communication skills as a result of the child's curiosity and motivation for speaking, the child's bias toward auditory learning style, and the child's neural response to implantation.

IMPLICATIONS

The implications of this study ensure that by following our recommendations, educators, parents, government agencies, students and so on can make great developments overall academically, socially and emotionally. Our recommendations cover all aspects of deaf education, therefore, it is an important source for all in deafness studies.

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