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# **A paediatric English linguistics intervention on spoken language for English-speaking parents of deaf children having hearing problems**

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**Abstract**---Background: This research aimed to find internet information about hearing loss, hearing technology, and spoken language acquisition for Pakistani English-speaking families of deaf or hard-of-hearing children (DHH). Methods: The existence or lack of parent education material on various websites was investigated using an exploratory, descriptive methodology. The research looked at the many Internet resources available. Results: Many websites with information for parents of DHH children acquiring spoken communication were found to be international. Each website was examined in fifteen different content categories. These websites featured English content. According to the present research findings, internet resources for Pakistani English-speaking parents with DHH students struggling with spoken dialect are typically less and less and not deeply involved. Conclusion: A Paediatric English Linguistics Mediation on Spoken Language for Parents of Deaf Children with Hearing Problems in Pakistani English internet alternatives for Pakistani English-speaking parents of DHH children who are having difficulty with spoken dialect are becoming fewer and more uninvolved.

**Keywords**---Technology, hearing, website, sources, children, Pakistani.

## **Introduction**

According to Caselli, Pyers, and Lieberman (2021), hearing loss in early life is common, and 95 percent of deaf or hard of hearing (DHH) children have hearing parents who want their kid to acquire spoken language. For many parents, learning that their child has hearing loss alters their vision of their child's future and their confidence in their ability to support their child's development and overcome obstacles that may limit their access to or understanding of pertinent information about their child's diagnosis. Rezaei, Rashedi, Borhaninejad, and Nurian (2021) have found that parents frequently seek information about hearing loss (e.g., cause, type, degree) and hearing technology (e.g., hearing aids, cochlear implants, assistive technology) when their child is diagnosed with DHH. Many parents are unfamiliar with available services and have financial questions or concerns. Furthermore, many families need social and emotional assistance, including access to parent-to-parent contacts.

Alkhatani (2021) discovered children's developmental outcomes might be improved when hearing loss is recognized and early assistance is offered. Children with early and consistent audibility with hearing aids had higher language results than children who did not have access to regular intervention. On the other hand, parents face numerous obstacles in daily learning how to secure and manage hearing technology and language intervention. Research has shown that hearing aid usage among young children varies significantly, a factor that may affect spoken language development. Parents confront a high learning curve when it comes to intervention. Having access to information (e.g., numerous Internet sites) may help them learn what they need to know (Ariapooran & Khezeli, 2021). Professional practice guidelines Kobosko et al. (2021) have emphasized the need for culturally and linguistically family-centered services for successful intervention, which includes providing information in the home language of families. Immigrants and U.S.-born minorities are expected to account for 82 percent of population increase in the United States by 2050, with Hispanics being one of the fastest-growing groups. Based on these figures, the total number of prospective Spanish speakers in the United States would be over 62 million. Yu, Stanzione, Wellman, and Lederberg (2021) have discussed that in a society where English is the primary language, it is critical to guarantee that all families have access to health care regardless of their native tongue information. A language barrier may lead to restricted access to information and services, limiting a person's ability to grasp information critical to entirely making informed healthcare choices. In addition, parents may have difficulty obtaining information and assistance from qualified professionals. State Early Hearing Detection and Intervention (EHDI) coordinators in the United States have reported severe pediatric audiology shortages. Hidalgo et al. (2021) have said that deaf educators and speech-language pathologists with hearing and spoken language skills are also in limited supply. Furthermore, hearing loss is a rare occurrence, and many families are spread out throughout the country. These variables compound the difficulties for Spanish-speaking families in the United States (Xie et al., 2021).

According to studies, Holt, Bruggeman, and Demuth (2021) have said that people turn to the internet for information when presented with a new diagnosis, such as hearing loss, according to studies (Rice, 2006). Ninety percent of adults aged 25 and over in the United States currently use the internet as their primary source of information. Having access to precise and thorough information through the internet may assist DHH parents in better understanding and managing their child's hearing loss, support their child's developmental growth, and identify appropriate emotional and financial support services (Grote, Izagaren, & O'Brien, 2021).

There is a need for Internet resources in Spanish to support parent learning related to spoken language development for children who are DHH, given the dispersed population, challenges accessing professionals with specialized expertise in paediatric hearing loss, and the rise in Spanish-speaking families in the United States. For these reasons, this research was carried out to see what information is accessible electronically through the Internet to Spanish-speaking parents of DHH children who communicate via spoken language (Porter & Edirippulige, 2007).

## **Method**

The evaluation included websites from national, state, and parent support organizations worldwide that handle paediatric hearing loss if the breadth of their website covered themes relevant to intervention for spoken language acquisition in DHH children (Taylor, Hine, Brasier, Chiveralls, & Morris, 1975). The research eliminated websites from private clinics and hospitals and those that exclusively dealt with neonatal hearing screening (Visram, Jones, Kelly, & Munro, 2021). The researcher and his assistant completed the website review in a continuous assessment with the help of their friends during the Covid-19 spread time with a lot of difficulties.

## **Procedures & Content Areas**

Phase 1 includes a comprehensive Internet search of Pakistan's national, state, and parent support groups using the Google Chrome search engine. Global EHDI websites with information on intervention for spoken language development after a hearing loss diagnosis were also included. Links incorporated inside the original web pages, as well as links to other websites, were assessed (Kamel et al., 2021). Table 1 below is about the websites. An iterative method was used to select the content area themes considered significant for families seeking information about hearing loss, hearing equipment, and spoken language intervention (Wright et al., 2021). Main subjects were discovered and added to a list when websites were assessed. As new themes were found, previously estimated websites were re-examined to determine whether the topic area had been missed during the first content evaluation (Nittrouer & Lowenstein, 2021). The sites were combed for the existence or lack of content regions, and 15 were discovered in table 1 given below.

Table 1: Websites

Additional disabilities	FM systems	Financial assistance
A general assistive technology	Social emotions	Otolaryngology
Glossary	Early intervention	Glossary
Parent to parent support	Cochlear implants	Hearing assessment
Hearing aids	Hearing education	Knowledge about hearing loss

### Website features and social media

The presence or absence of several social media and website components were noticed. An iterative procedure was used to define the characteristics. While reviewing websites, features (such as newsletters, blogs, and videos) and social media were discovered, they were added to a list. As new features and social media platforms became available, previously examined websites were double-checked to determine whether the feature had been missed during the first inspection.

Table 2: Website Features &amp; social media

Distance education	Twitter	Facebook
Pinterest	Blog	RSS
YouTube	Chat	Google
Newsletter	LinkedIn	Instagram
Newsletter	Twitter	Reddit

Twelve characteristics and social media possibilities were discovered, as indicated in table 2. Phase 2 comprised a thorough examination of the textual material of websites with Spanish-language content. Websites from Phase 1 that solely featured English-language content were not included. The first author and the study assistant appraised the English language material for each website using a 3-point scale (1 = no information; 2 = some information; 3 = factual information). Rather than determining precise distinctions across websites, this scale was utilized to identify them generally. For example, Google provides in-depth information (e.g., hearing aids and cochlear implants) in English with Urdu translation options only in Pakistan, and was classified as having extensive knowledge, whereas <http://www.parentcenterhub.org/repository/auditive> provided basic descriptions on some topics (e.g., Early Intervention and educational considerations) and was classified as having some information.

### Analysis

This study's researchers input ratings into an Excel spreadsheet. For Phase 1, a code was assigned to each content area to indicate whether it was present or not. The assistant noted if the material was in English, Urdu, or both English and Urdu when it was present. For Phase 2, the same content categories which were already shown in Table 1 were examined for websites that offered information in

English using a 3-point Likert scale. The Phase 2 ratings data was also included in the spreadsheet. The frequency and patterns reported across the web pages were identified using descriptive statistics.

## Results

A total of 50 websites with information regarding hearing loss, hearing technology, and spoken language intervention were found throughout the internet review. Cochlear implants, essential information (e.g., hearing loss, causes of hearing loss), early intervention, hearing aids, and hearing evaluation were five of the 15 content topics stated in Table 1 above featured on more than 50% of the websites.

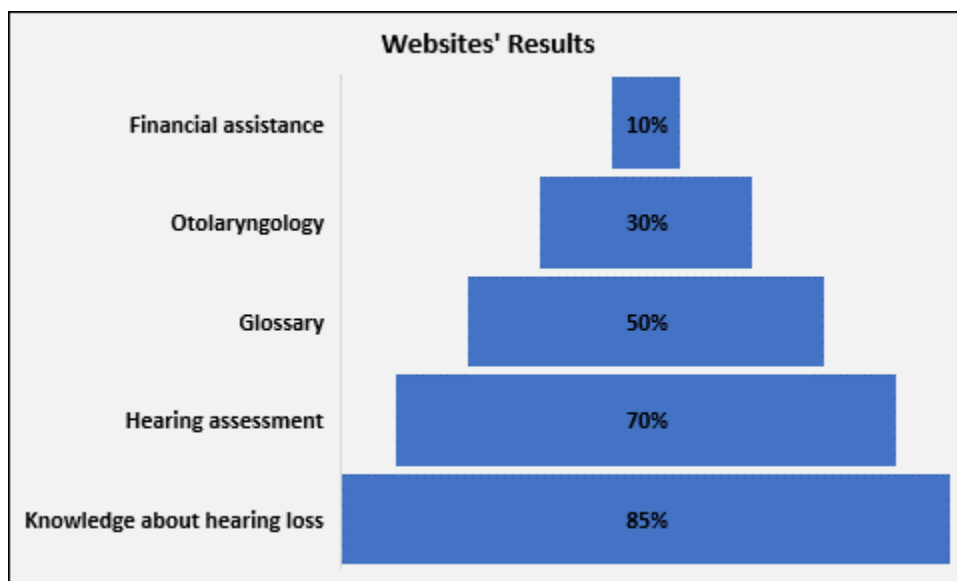


Chart 1: Website Results

As indicated in Chart 1, more than 10% of the websites targeted financial aid. The 50 websites' website characteristics (for example, otolaryngology) were reviewed to determine whether they were present or not (see Figure 2). Contact information, a Facebook link, and a Twitter account link were found on more than 5% of the websites. A newsletter was available on almost 20% of the websites. YouTube, Pin interest, and Web of Science were among the websites that provided educational distance education. In at least one of the 15 content categories, 25 of the 50 websites contained material in both Urdu and English (see Chart 3). Google, Instagram, Pin interest, and RSS were among the websites that provided information in English. On the following eight content areas, more than half of the websites had some info in Urdu but more information in English: foundational knowledge, cochlear implants, early intervention, hearing aids, hearing assessment, Frequency Modulated (FM) systems, assistive technology, and advocacy/education. A third of the websites contained many materials in three areas: essential knowledge, hearing aids, and a lexicon. Only a few knew a lot about parent-to-parent support, parent-professional cooperation, extra impairments, and FM systems in Urdu.

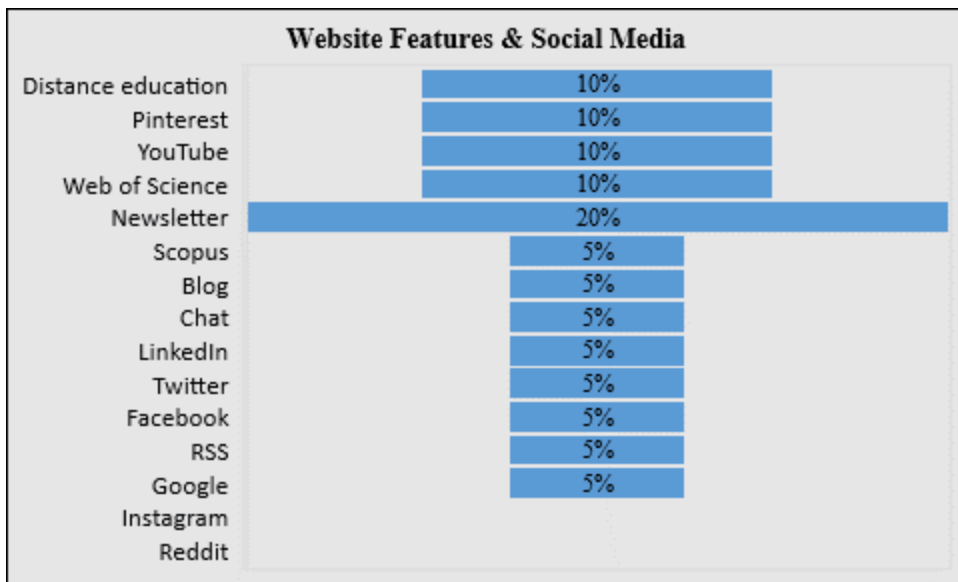


Chart 2 Website Features &amp; social media

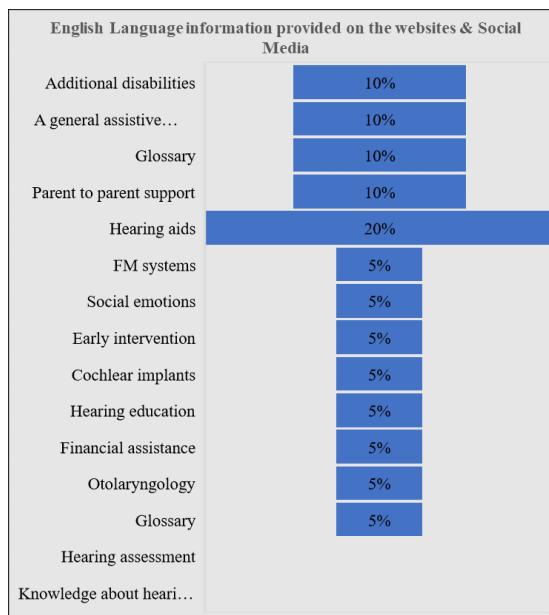


Chart 3 English Language information on the websites and Social Media

## Discussion

The scope of healthcare information on hearing loss, hearing technology, and spoken language intervention accessible for families of DHH children who talk in Urdu language but can also use the English language in a spoken way was studied using a website study. According to the findings of this investigation, 50 websites provide healthcare information in English and/or Urdu medium in

Pakistan. Only 25 of the websites offered material in Urdu, and only a handful provided comprehensive information for parents (Karakoc & Mujdeci, 2021). On several websites, information was fragmented, with just a few topic sections as in Table 1 revealed. When websites supplied information in both English and Urdu, the material in Urdu was often more restricted than the information in English; for example, Facebook profiles were frequently only in English, and videos were frequently only in English. The lack of Urdu-language internet resources makes it much more difficult for parents to get the information they need to aid their children (Nittrouer & Lowenstein, 2021).

Pisoni and Kronenberger (2021) have already pointed out that it might be difficult for parents to identify their child's hearing loss and then intervene. Parents and other caregivers are confronted with the challenge of acquiring new knowledge and abilities and figuring out how to use what they have learned in their everyday lives. Long, Attuquayefio, and Hudson (2021) have found that to make matters worse, if English is not the dominant language in the houses of these parents and their children, parents may need an interpreter while speaking with them the audiologist and other intervention specialists. Access to health information in various forms (e.g., verbal, written, demonstration, video) may help patients and their families retain knowledge and build good self-management skills. Both mothers and dads of DHH children seek information in various media (verbal, written, and video). That access to reliable information is critical for learning to integrate new abilities into everyday routines with their children (McDaid, Park, & Chadha, 2021). Pakistani parents have requested more tangible services for young children who have DHH.

Additionally, to the mother, children often have other caregivers, such as the father, grandparents, other family members, and day-care providers. Audiologists like Alothman (2021) have stated that they most commonly teach mothers how to use hearing aids ( $n = 332/343$ ; 97 percent); however, mothers have also indicated that other people look after their DHH children throughout the day. Other caregivers are often advising the mother on how to handle the child's hearing equipment and auditory surroundings. Internet resources may help other caregivers learn, encourage parent learning, and allow parents to acquire confidence in their new skills and knowledge (Borradori, Fawer, Buclin, & Calame, 1997).

Zarei and Norasteh (2021) have found results for the research on access to reliable information in the parents' primary language through the internet provides a flexible approach for supporting parent learning that may reinforce and enhance information offered by the audiologist and other intervention providers. Further, Pluta et al. (2021) stated that factors such as health literacy, computer access, readability of material on other devices (e.g., smart phones), and cultural sensitivity that might impact how successfully information reaches the target audience should be addressed when making information available for learning. More study is required to understand better the elements that affect Pakistani parents' internet access, how it may need to be modified to match their access requirements, and how information delivery might give action-oriented learning assistance (Fulcher et al., 2021).

## Conclusions

According to the results of this study, online resources for Urdu-speaking parents who are using English with DHH children who are learning spoken English are often fragmented and in-depth. The material in the hearing healthcare categories chosen for this study is mainly supported by current English-language resources accessible in Pakistan via parent organizations and overseas websites. The recent results highlight the need for more comprehensive, in-depth information to enhance parent learning and increase parent confidence in effectively managing their children's hearing loss daily (Hassanzadeh, 2012). Parents need complete and reliable information regardless of their native Urdu language to speak English with their Deaf children with hearing loss effectively. Moreover, being a former British colony, Pakistan was a part of the sub-continent. After being ruled by the Englishmen, this nation is well versed linguistically to speak either Urdu or English in spoken form.

## References

- Alkhatani, B. (2021). Parents' Perspectives on Cochlear Implantation Results for Deaf Children or Children With Hearing Loss in Saudi Arabia. *American Annals of the Deaf*, 165(5), 510-526.
- Alothman, A. A. (2021). Language and Literacy of Deaf Children. *Psychology and Education*, 58(1), 799-819.
- Ariapooran, S., & Khezeli, M. (2021). Symptoms of anxiety disorders in Iranian adolescents with hearing loss during the COVID-19 pandemic. *BMC psychiatry*, 21(1), 1-5.
- Borradori, C., Fawer, C.-L., Buclin, T., & Calame, A. (1997). Risk factors of sensorineural hearing loss in preterm infants. *Neonatology*, 71(1), 1-10.
- Caselli, N., Pyers, J., & Lieberman, A. M. (2021). Deaf children of hearing parents have age-level vocabulary growth when exposed to American Sign Language by 6 months of age. *The Journal of Pediatrics*, 232, 229-236.
- Fulcher, A., Sargeant, A., de Rosnay, M., Hopkins, T., Neal, K., & Davis, A. (2021). Communication That Leads to Successful Social Inclusion For Children With Hearing Loss: Are Excellent Speech and Language Skills Sufficient? *Australasian Journal of Special and Inclusive Education*, 45(2), 108-121.
- Grote, H., Izagaren, F., & O'Brien, V. (2021). How to communicate with patients who are D/deaf or have hearing loss. *bmj*, 373.
- Hassanzadeh, S. (2012). Outcomes of cochlear implantation in deaf children of deaf parents: comparative study. *The Journal of Laryngology & Otology*, 126(10), 989-994.
- Hidalgo, C., Zécri, A., Pesnot-Lerousseau, J., Truy, E., Roman, S., Falk, S., . . . Schön, D. (2021). Rhythmic abilities of children with hearing loss. *Ear and Hearing*, 42(2), 364-372.
- Holt, R., Bruggeman, L., & Demuth, K. (2021). Children with hearing loss can predict during sentence processing. *Cognition*, 212, 104684.
- Kamel, R. M., Mehrem, E. S., Mounir, S. M., Essa, M. M., Fergany, L. A., & Elbedewy, M. A. (2021). Sensorineural hearing loss imprint on fine motor skills: A pediatric and adolescent innovative study. *NeuroRehabilitation*, 48(3), 285-292.



- Karakoc, K., & Mujdeci, B. (2021). Evaluation of balance in children with sensorineural hearing loss according to age. *American Journal of Otolaryngology*, 42(1), 102830.
- Kobosko, J., Ganc, M., Paluch, P., Jedrzejczak, W. W., Fludra, M., & Skarzynski, H. (2021). Developmental outcomes of young deaf children and the self-perceived parental role of their hearing mothers. *International Journal of Pediatric Otorhinolaryngology*, 141, 110517.
- Long, J., Attuquayefio, T., & Hudson, J. L. (2021). Factors associated with anxiety symptoms in Australian deaf or hard of hearing children. *The Journal of Deaf Studies and Deaf Education*, 26(1), 13-20.
- McDaid, D., Park, A.-L., & Chadha, S. (2021). Estimating the global costs of hearing loss. *International Journal of Audiology*, 60(3), 162-170.
- Nittrouer, S., & Lowenstein, J. H. (2021). When language outgrows them: Comprehension of ambiguous sentences in children with normal hearing and children with hearing loss. *International Journal of Pediatric Otorhinolaryngology*, 141, 110514.
- Pisoni, D. B., & Kronenberger, W. G. (2021). Recognizing spoken words in semantically-anomalous sentences: Effects of executive control in early-implanted deaf children with cochlear implants. *Cochlear Implants International*, 22(4), 223-236.
- Pluta, A., Krysztofiak, M., Zgoda, M., Wysocka, J., Golec, K., Wójcik, J., . . . Haman, M. (2021). False Belief Understanding in Deaf Children With Cochlear Implants. *Journal of deaf studies and deaf education*, 26(4), 511-521.
- Porter, A., & Edirippulige, S. (2007). Parents of deaf children seeking hearing loss-related information on the internet: The Australian experience. *Journal of deaf studies and deaf education*, 12(4), 518-529.
- Rezaei, M., Rashedi, V., Borhaninejad, V., & Nurian, Z. S. (2021). Pragmatic Skills in Children with Hearing Loss: Comparison Between Cochlear Implants and Hearing Aids Users. *Indian Journal of Otolaryngology and Head & Neck Surgery*, 1-5.
- Taylor, I., Hine, W., Brasier, V., Chiveralls, K., & Morris, T. (1975). A study of the causes of hearing loss in a population of deaf children with special reference to genetic factors. *The Journal of Laryngology & Otology*, 89(9), 899-914.
- Visram, A., Jones, L., Kelly, C., & Munro, K. J. (2021). Improving Early Years and Outcomes for Children with Hearing Loss. In (Vol. 74, pp. 6): LWW.
- Wright, B., Phillips, H., Allgar, V., Sweetman, J., Hodkinson, R., Hayward, E., . . . Le Couteur, A. (2021). Adapting and validating the Autism Diagnostic Interview-Revised for use with deaf children and young people. *Autism*, 13623613211029116.
- Xie, L., Qiu, Y., Jin, Y., Xu, K., Bai, X., Liu, X.-Z., . . . Sun, Y. (2021). Hearing Screening Combined with Target Gene Panel Testing Increased Etiological Diagnostic Yield in Deaf Children. *Neural plasticity*, 2021.
- Yu, C.-L., Stanzione, C. M., Wellman, H. M., & Lederberg, A. R. (2021). Theory-of-mind development in young deaf children with early hearing provisions. *Psychological Science*, 32(1), 109-119.
- Zarei, H., & Norasteh, A. A. (2021). Effects of core stability training program on trunk muscle endurance in deaf children: a preliminary study. *Journal of Bodywork and Movement Therapies*, 28, 6-12.