

A New Community-Based Tele-practice Model (SRESHT model) of Care for Children with Hearing Loss and Communication Disorders

FINAL DISSEMINATION REPORT

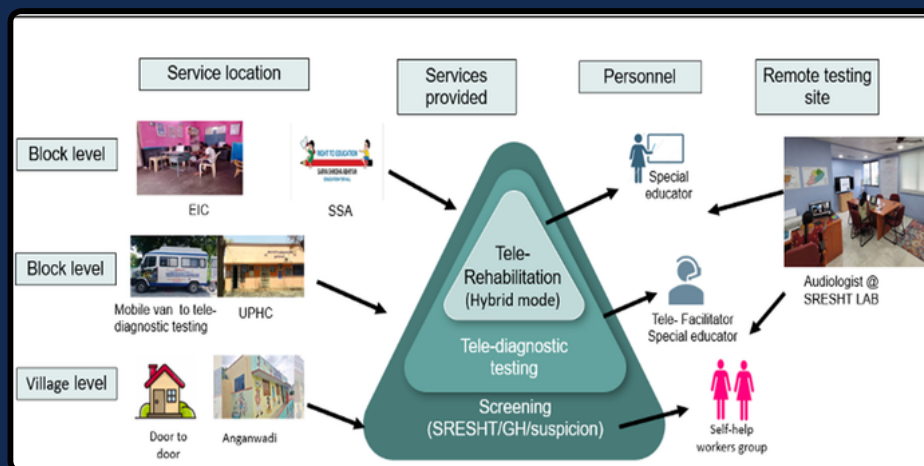
Dissemination Level: Restricted [RE]
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Access to early hearing and speech-language services has been a challenge for young children in rural areas. This project focused on developing and evaluating the feasibility of a comprehensive tele-practice model for screening, identification, and rehabilitation of children below 6 years of age with hearing and speech-language disorders in the Perambalur district of Tamil Nadu.

SRESHT Model



KEY OUTCOMES :

Expanded early screening of hearing and communication disorders

- Hearing and speech language screening at the community-level (supported by Anganwadi centres and schools) using mobile app (Hear Kids) facilitated the early identification of hearing and speech-language concerns among older children (beyond birth stage) in rural communities
- Training and dissemination about hearing and speech language screening, both using a mobile app and using symptoms, was provided to nurses (through DHS), to SSA teachers (through SSA) and to SHGs (through Rural development)
- The maximum coverage for screening was obtained when community-level screening was done with the help of self help group workers in comparison to providing screening services at PHC (by nurses), or SSA block resource centre (by special educators)
- Trained self-help group workers screened 4538 children for communication disorders and 4396 children for hearing loss in the age range of 6 months to 5 years, covering the four blocks of Perambalur district between June 2023 to August 2025

- The SRESHT model extends hearing screening for benchmark disability to children up to 6 years old, enabling access to social welfare programs and early rehabilitation beyond newborn screening. It overcomes limitations tied to OAE dependence by using a mobile app with noise monitoring
- Additionally, it addresses the gap in the lack of early screening for communication disorders
- The mobile app-based, community-level screening conducted by self-help group workers was trusted and accepted by families due to the credibility of the workers
- Screening in the community was perceived as a means to raise parental awareness about normal developmental milestones in speech and hearing

Faster Diagnosis Closer to the Community

- The SRESHT model shows a substantially higher follow-up rate for tele-diagnosis of hearing loss (49%) and 65% of children who followed up were diagnosed with hearing loss, 75% received HA/CI, and 63% attended rehabilitation
- Tele-diagnostic confirmation of hearing and communication disorders was effectively carried out at the block level, using the mobile van of the DDAWO office. This reduced travel time and financial burdens despite added procedural layers due to the use of technology, and some issues were reported, such as a lack of suitable air conditioning during testing in mobile vans

Better Hearing and Communication Rehabilitation closer to the community

- The SRESHT model shows a substantial rehabilitation follow-up rate for speech language therapy (49%)
- Eight children who attended 12 or more therapy sessions showed significant improvement, with their average scores in hearing and communication improving by 28 points, indicating better outcomes after treatment. Therefore, rehabilitation combining teletherapy by an audiologist/speech therapist, along with parent-guidance based therapy, was useful in helping children's progress in rehabilitation.
- Parents express skepticism about parent-guided therapy via teleconferencing, preferring therapist-led direct intervention and are concerned about caregiving burden

- The model's reliance on parent-led rehabilitation may need restructuring to fit rural community capacities and resources

Cost implications

- Hearing loss screening in the SRESHT model costs approximately INR 227–293 per additional child screened compared to usual care
- Cost-effectiveness is high for tele-diagnosis at a very low willingness-to-pay (WTP) threshold because the SRESHT model achieves cost savings despite fewer diagnoses
- The hybrid - rehabilitation by audiologist and speech therapist for hearing loss was cost-effective at additional cost per child rehabilitated to be Rs. 15000/-, since no audiologist /speech therapist-based rehabilitation exists currently in the early intervention centers

Implementation and Scaling

- Block-level diagnosis and rehabilitation services and screening at community-level are identified as more convenient and cost-efficient alternatives by the parents
- Parents also perceived good continuity of care from screening to diagnosis to rehabilitation
- The model features multi-level integration with multiple stakeholders and departments, requiring continuous training and supervision to maintain fidelity during scale-up
- Future implementation should evaluate outcomes when operated by local operational teams rather than research teams, with appropriate capacity transfer frameworks
- Policymakers and system stakeholders view SRESHT as aligned with existing government programs (e.g., TN Rights, OSC) and ready for policy translation
- Long-term sustainability and formal government scale-up protocols remain unclear and require exploration
- Strengthening pre-screening parental sensitization and community advocacy is critical to overcoming denial and stigma

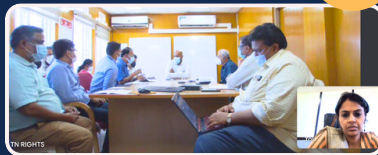
Aug 2021 :
Situational Analysis

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2022: State
commissionerate
meeting



5

Oct 2023: Parent empowerment



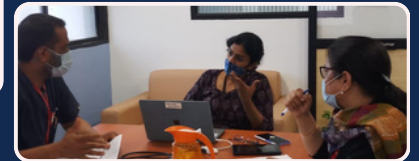
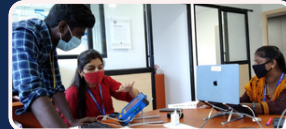
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2023: Camp



Jan - Sep 2021: Development of mobile-based
speech, language & hearing screening

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June 2022: Training grass root
workers



Dec 2023: Parent training program

6



2023: Public dissemination on childhood speech & hearing disabilities & planned intervention (SRESHT Model)

9



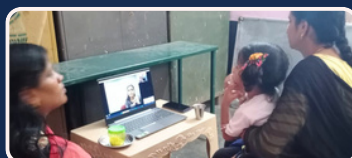
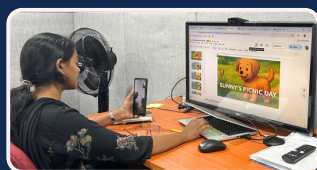
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2022-2025: Speech, Language & Hearing Screening



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2023-2025: Teletherapy & Parent guidance



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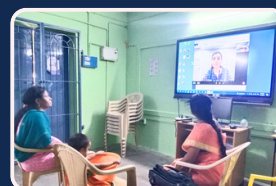
2023: Art Connect: Awareness to address hearing loss in rural communities

communities



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2023-2025: Tele Diagnosis & Counselling



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July 2025: Cochlear Implant Troubleshooting



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Non-Government Organizations



ANBAGAM
An Initiative by TERDOD



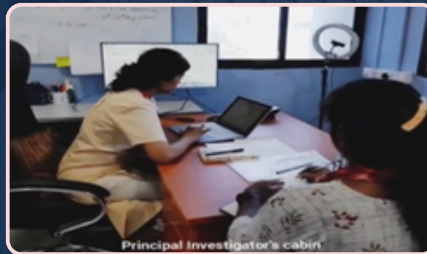
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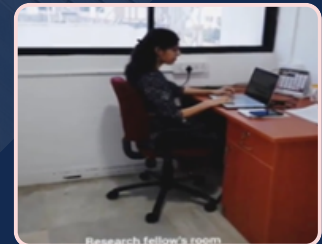
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